Ordinance on Industrial Safety and Health
(Appended Tables 2, 5 and 9: up to the revision of Ordinance of the Ministry of Health, Labour and Welfare No. 23 of 2009)

(Ordinance of the Ministry of Labour No. 32 of September 30, 1972)

Based on the Industrial Safety and Health Act (Act No. 57 of 1972) and the Enforcement Order of Industrial Safety and Health Act (Cabinet Order No. 318 of 1972) and in order to enforce the said Act, the Ordinance on Industrial Safety and Health shall be enacted as follows.

Table of Contents

Part I General Rules
  Chapter I General Provisions (Article 1)
  Chapter II System for Safety and Health Management
    Section 1 General Safety and Health Manager (Articles 2 to 3-2)
    Section 2 Safety Officer (Articles 4 to 6)
    Section 3 Health Officer (Articles 7 to 12)
    Section 3-2 Safety and Health Promoter and Health Promoter (Articles 12-2 to 12-4)
    Section 4 Industrial Physician, etc. (Articles 13 to 15-2)
    Section 5 Operations Chief (Articles 16 to 18)
    Section 6 Overall Safety and Health Controller, Principal Safety and Health Supervisor, Site Safety and Health Supervisor, and Safety and Health Controller (Articles 18-2 to 20)
    Section 7 Safety Committee and Health Committee, etc. (Articles 21 to 23-2)
    Section 8 Publication of Guidelines (Article 24)
    Section 8-2 Guidelines for Promotion of Voluntary Activities (Article 24-2)
  Chapter II-2 Measures Relating to the Relief and Protection of Workers (Articles 24-3 to 24-9)
  Chapter II-3 Publication of Technical Guidelines (Article 24-10)
  Chapter II-4 Investigation, etc., of Danger or Harm, etc. (Articles 24-11 and 24-12)
  Chapter III Regulations Concerning Machines, etc., and Dangerous and Toxic Substances
    Section 1 Regulations Concerning Machines, etc. (Articles 25 to 29-2)
    Section 2 Regulations Concerning Dangerous and Toxic Substances (Articles 30 to 34-21)
  Chapter IV Safety and Health Education (Articles 35 to 40-3)
Chapter V Restriction on Employment (Articles 41 and 42)

Chapter VI Measures for Maintaining and Promoting Workers' Health
  Section 1 Working Environment Measurement (Articles 42-2 and 42-3)
  Section 1-2 Medical Examinations (Articles 43 to 52)
  Section 1-3 Face-to-Face Guidance, etc. (Articles 52-2 to 52-8)
  Section 2 Personal Health Record (Articles 53 to 60)
  Section 3 Prohibition of Employment of the Sick (Article 61)
  Section 4 Publication of Guidelines (Article 61-2)

Chapter VI-2 Measures for the Establishment of a Comfortable Working Environment (Article 61-3)

Chapter VII License, etc.
  Section 1 License (Articles 62 to 72)
  Section 2 Practical Training (Articles 73 to 77)
  Section 3 Skills Training Course (Articles 78 to 83)

Chapter VIII Safety and Health Improvement Plan (Article 84)

Chapter IX Inspection, etc. (Articles 84-2 to 98-3)

Chapter X Miscellaneous Provisions (Articles 99 and 100)

Part II Safety Standards

Chapter I Prevention of Dangers Due to Machines
  Section 1 General Standards (Articles 101 to 111)
  Section 2 Machine Tool (Articles 112 to 121)
  Section 3 Woodworking Machine (Articles 122 to 130)
  Section 4 Press Machine and Shearing Machine (Articles 131 to 137)
  Section 5 Centrifugal Machines (Articles 138 to 141)
  Section 6 Crushing Machine and Mixer (Articles 142 and 143)
  Section 7 Rolling Mill, etc. (Articles 144 to 148)
  Section 8 High Speed Rotating Body (Articles 149 to 150-2)
  Section 9 Industrial Robot (Articles 150-3 to 151)

Chapter I-2 Material Handling Machine, etc.
  Section 1 Vehicle Type Material Handling Machine, etc.
    Subsection 1 General Provisions (Articles 151-2 to 151-15)
    Subsection 2 Forklift (Articles 151-16 to 151-26)
    Subsection 3 Shovel-Loader, etc. (Articles 151-27 to 151-35)
    Subsection 4 Straddle Carrier (Articles 151-36 to 151-42)
    Subsection 5 Transporting Vehicle on Rough Terrain (Articles 151-43 to 151-58)
    Subsection 6 In-yard Transporting Machine (Articles 151-59 to 151-64)
    Subsection 7 Truck (Articles 151-65 to 151-76)
  Section 2 Conveyor (Articles 151-77 to 151-83)

Chapter II Construction Machine, etc.
  Section 1 Vehicle-type Construction Machine
Subsection 1 Structure (Articles 152 and 153)
Subsection 2 Prevention of Dangers Pertaining to the Use of a Vehicle-type Construction Machine (Articles 154 to 166)
Subsection 3 Periodical Self-inspections, etc. (Articles 167 to 171)
Subsection 4 Concrete Pump Vehicle (Articles 171·2 and 171·3)
Subsection 5 Breaker (Article 171·4)

Section 2 Pile Driver, Pile Drawer, and Boring Machine (Articles 172 to 194·3)
Section 2·2 Jack-Type Lifting Machine (Articles 194·4 to 194·7)
Section 2·3 Vehicle for Work at Height (Articles 194·8 to 194·28)

Section 3 Railway Equipment and Hand Cart
Subsection 1 General Provisions (Article 195)
Subsection 2 Rail Track, etc. (Articles 196 to 207)
Subsection 3 Vehicle (Articles 208 to 214)
Subsection 4 Winching System (Articles 215 to 218)
Subsection 5 Prevention of Dangers Pertaining to the Use of Railway Equipment (Articles 219 to 227)
Subsection 6 Periodical Self-inspections, etc. (Articles 228 to 233)
Subsection 7 Hand Cart (Articles 234 to 236)

Chapter III Concrete Form Shoring
Section 1 Material, etc. (Articles 237 to 239)
Section 2 Measures in the Case of Assembling, etc. (Articles 240 to 247)

Chapter IV Prevention of Explosion, Fire, etc.
Section 1 Prevention of Explosion, Fire, etc., Due to Molten High-Temperature Substance, etc. (Articles 248 to 255)
Section 2 Handling of Dangerous Substances, etc. (Articles 256 to 267)
Section 3 Chemical Facilities, etc. (Articles 268 to 278)
Section 4 Control of Fires, etc. (Articles 279 to 292)
Section 5 Industrial Dryer (Articles 293 to 300)
Section 6 Acetylene Welding Equipment and Gas Welding Equipment Using Manifold
Subsection 1 Acetylene Welding Equipment (Articles 301 to 307)
Subsection 2 Gas Welding Equipment Using Manifold (Articles 308 to 311)
Subsection 3 Management (Articles 312 to 317)
Section 7 Blasting Work (Articles 318 to 321)
Section 7·2 Concrete Breaking Work (Articles 321·2 to 321·4)
Section 8 Miscellaneous Provisions (Articles 322 to 328·5)

Chapter V Prevention of Dangers Due to Electricity
Section 1 Electric Machine and Appliance (Articles 329 to 335)
Section 2 Wiring and Movable Electric Cable (Articles 336 to 338)
Section 3 Power Cut Operation (Articles 339 and 340)
Section 4 Live Line Work and Work Close to Live Line (Articles 341 to 349)
Section 5 Management (Articles 350 to 353)
Section 6 Miscellaneous Provisions (Article 354)
Chapter VI Prevention of Dangers in Excavating Work, etc.
Section 1 Open-Cut Excavating Work
  Subsection 1 Time and Procedure of Excavating Work, etc. (Articles 355 to 367)
  Subsection 2 Shoring (Articles 368 to 375)
  Subsection 3 Operation in Caissons, etc. (Articles 376 to 378)
Section 2 Construction Work of Tunnels, etc.
  Subsection 1 Investigation, etc. (Articles 379 to 383-5)
  Subsection 1-2 Prevention of Dangers Due to Cave-in, Collapse of Natural
    Ground, etc. (Articles 384 to 388)
  Subsection 1-3 Prevention of Explosions, Fires, etc. (Articles 389 to 389-6)
  Subsection 1-4 Evacuation, etc. (Articles 389-7 to 389-11)
  Subsection 2 Tunnel Shoring (Articles 390 to 396)
  Subsection 3 Tunnel Concrete Form Shoring (Articles 397 and 398)
Section 3 Quarrying Work
  Subsection 1 Investigation, Quarrying Work Plan, etc. (Articles 399 to 406)
  Subsection 2 Prevention of Dangers Due to Collapse of Natural Ground, etc.
    (Articles 407 to 412)
  Subsection 3 Prevention of Dangers Due to Transporting Machines, etc.
    (Articles 413 to 416)
Chapter VII Prevention of Dangers in Cargo Handling Works, etc.
Section 1 Freight Handling Work, etc.
  Subsection 1 Loading and Unloading, etc. (Articles 417 to 426)
  Subsection 2 Making and Breaking Cargo Piles, etc. (Articles 427 to 448)
Section 2 Stevedoring Work
  Subsection 1 Facilities, etc., for Passage (Articles 449 to 454)
  Subsection 2 Loading and Unloading of Cargo (Articles 455 to 464)
  Subsection 3 Handling of Cargo Lifting Appliance (Articles 465 to 476)
Chapter VIII Prevention of Dangers in Tree Felling Work, etc.
Section 1 Tree Felling, Logging, etc. (Articles 477 to 484)
Section 2 Log Conveying Work by Wooden Sleigh and Snow Sledge (Articles
  485 to 497)
Section 3 Skyline Logging Cable Crane and Logging Cableway (Articles 498
  to 517)
Chapter VIII-2 Prevention of Dangers in Erection, etc., of Steel Frame of
Buildings, etc. (Articles 517-2 to 517-5)
Chapter VIII-3 Prevention of Dangers in Installing, etc. of Steel Bridges
  (Articles 517-6 to 517-10)
Chapter VIII-4 Prevention of Dangers in Erection, etc., of Wooden Buildings (Articles 517-11 to 517-13)

Chapter VIII-5 Prevention of Dangers in Demolishing, etc., of Concrete Structures (Articles 517-14 to 517-19)

Chapter VIII-6 Prevention of Dangers in Installing, etc., of Concrete Bridges (Articles 517-20 to 517-24)

Chapter IX Prevention of Dangers Due to Falls, Flying Objects, Collapse, etc.
  Section 1 Prevention of Dangers Due to Falls, etc. (Articles 518 to 533)
  Section 2 Prevention of Dangers Due to Flying Objects and Collapse (Articles 534 to 539)

Chapter X Passage, Scaffolding, etc.
  Section 1 Passage, etc. (Articles 540 to 558)
  Section 2 Scaffolding
    Subsection 1 Materials, etc. (Articles 559 to 563)
    Subsection 2 Prevention of Dangers in Assembling, etc. of Scaffolding (Articles 564 to 568)
    Subsection 3 Log Scaffolding (Article 569)
    Subsection 4 Steel Pipe Scaffolding (Articles 570 to 573)
    Subsection 5 Hanging Scaffolding (Articles 574 and 575)
  Chapter XI Working platform (Articles 575-2 to 575-8)

Chapter XII Prevention of Dangers Due to Debris Flow (Articles 575-9 to 575-16)

Part III Health Standards
  Chapter I Harmful Working Environment (Articles 576 to 592)
  Chapter I-2 Work Pertaining to Incineration Facilities of a Waste Material (Articles 592-2 to 592-7)
  Chapter II Personal Protective Equipment, etc. (Articles 593 to 599)
  Chapter III Cubic Volume of Air and Ventilation (Articles 600 to 603)
  Chapter IV Lighting and Illumination (Articles 604 and 605)
  Chapter V Temperature and Humidity (Articles 606 to 612)
  Chapter VI Rest (Articles 613 to 618)
  Chapter VII Cleanliness (Articles 619 to 628)
  Chapter VIII Dining Hall and Kitchen (Articles 629 to 632)
  Chapter IX First-aid Kit (Articles 633 and 634)

Part IV Special Regulations
  Chapter I Special Regulations Concerning Specified Principal Employer, etc. (Articles 634-2 to 664)
  Chapter II Special Regulations Concerning Machine Lessor, etc. (Articles 665 to 669)
  Chapter III Special Regulations Concerning Building Lessors (Articles 670 to 678)
Supplementary Provisions

Part I General Rules

Chapter I General Provisions

(Joint Venture)

Article 1 (1) The appointment of a representative pursuant to the provision of paragraph (1) of Article 5 of the Industrial Safety and Health Act (hereinafter referred to as "the Act") shall be made by taking into account the extent of responsibilities in carrying out the work undertaken, such as the person's ratio investment.

(2) The person who intends to make a notification pursuant to the provision of paragraph (1) of Article 5 of the Act shall submit the notification document in accordance with Form No. 1 to the Director of the Prefectural Labour Bureau which exercises jurisdiction over the place where the work pertaining to the said report is carried out, 14 days prior to the date on which the said work is to commence.

(3) The person who intends to make a notification pursuant to the provision of paragraph (3) of Article 5 of the Act shall, without delay after there has been a change in the representative, submit such notification by Form No. 1 to the Director of the Prefectural Labour Bureau of the preceding paragraph.

(4) The submission of the notification document pursuant to the provision of the preceding two paragraphs shall be made through the Chief of the Labour Standards Inspection Office, which exercises jurisdiction over the place where the said work is carried out.

Chapter II System for Safety and Health Management

Section 1 General Safety and Health Manager

(Appointment of General Safety and Health Manager)

Article 2 (1) The appointment of a general safety and health manager pursuant to the provision of paragraph (1) of Article 10 of the Act shall be made within 14 days of the date when reasons for appointing a general safety and health manager have arisen.

(2) The employer shall, when having appointed a general safety and health manager, submit a report in accordance with Form No. 3 without delay to the Chief of the Labour Standards Inspection Office who exercises jurisdiction over the place where the workplace concerned is located (hereinafter referred to as the "Chief of the competent Labour Standards Inspection Office").

(Substitute General Safety and Health Manager)
Article 3 The employer shall, when the general safety and health manager is unable to execute his/her duties due to absence for travel, illness, and accident or for any other inevitable reason, appoint a substitute.

(Work generally managed by General Safety and Health Manager)

Article 3-2 The work prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (v) of paragraph (1) of Article 10 of the Act shall be as follows:
(i) Matters relating to the pronouncement of a safety and health policy;
(ii) Matters relating to the investigation of danger or harm, etc., set forth in paragraph (1) of Article 28-2 of the Act, and the measures to be taken based on the results of the said investigation;
(iii) Matters relating to the formulation, implementation, evaluation and improvement of a safety and health plan.

Section 2 Safety Officer

(Appointment of a Safety Officer)

Article 4 (1) The appointment of the safety officers pursuant to the provision of paragraph (1) of Article 11 of the Act shall be made as prescribed below:
(i) To appoint within 14 days of the date when the grounds necessitating appointment of a safety officer have arisen;
(ii) To appoint a person who is exclusively assigned to the workplace. However, in that or more safety officers are to be appointed and persons listed in item (ii) of the next Article are included in those safety officers, this provision shall not apply to one of the said persons;
(iii) For the workplace falling under the following categories, to appoint the necessary number of safety officers to always supervise the technical matters pertaining to the safety among those works set forth in each item of paragraph (1) of Article 10 of the Act during the operation of a production facilities unit designated by the Director of the Prefectural Labour Bureau having the jurisdiction over the district where the said workplace is located (hereinafter referred to as "Director of the competent Prefectural Labour Bureau"): (a) The workplace where, among the chemical facilities (meaning the chemical facilities listed in item (i) of Article 9-3 of the Enforcement Order of Industrial Safety and Health Act (hereinafter referred to as the "Order"), the same shall apply hereinafter), the one such as a reactor, etc., in which the exothermal reaction arises or due to the similar abnormal conditions that explosions, fires, etc. is possible to arise (due to excluding piping; hereinafter referred to as "special chemical facilities"); (b) The special chemical facilities designated by the Director of the competent Prefectural
Labour Bureau (hereinafter referred to as "designated workplaces").

(iv) For the workplace regularly employing workers of number or more listed in the right column of the following table corresponding to categories of industry listed in the medium column of the same table, to appoint at least one as a fulltime safety officer among those appointed to supervise the technical matters concerning the safety among those works set forth in each item of paragraph (1) of Article 10 of the Act. However, in the case of industries falling under category 4 in the same table, this shall be limited only to a workplace in which there have been exceeding 100 cases which have compelled workers to be absent from their work for one day or more due to industrial accidents in the past three years.

<table>
<thead>
<tr>
<th></th>
<th>Industry</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Construction Organic chemical product manufacturing Petroleum product manufacturing</td>
<td>300</td>
</tr>
<tr>
<td>2</td>
<td>Inorganic chemical product manufacturing Chemical fertilizer manufacturing Land transportation Port cargo transportation</td>
<td>500</td>
</tr>
<tr>
<td>3</td>
<td>Paper and pulp manufacturing Iron and steel industry Shipbuilding industry</td>
<td>1000</td>
</tr>
<tr>
<td>4</td>
<td>Industry prescribed in item (i) and (ii) of Article 2 of the Order (excluding industries prescribed in 1 to 3)</td>
<td>2000</td>
</tr>
</tbody>
</table>

(2) The provisions of paragraph (2) of Article 2 and Article 3 shall apply mutatis mutandis to safety officers.

(Qualifications of Safety Officer)

Article 5 A person who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 11 of the Act shall be as follows:

(i) A person who falls under any of the following categories and who completed a training course provided by the Minister of Health, Labour and Welfare that provides the knowledge necessary to supervise technical matters pertaining to safety among the works listed in each item of paragraph (1) of Article 10 of the Act.

(a) A person who has completed and graduated from the regular course of science line of a university or a technical college accredited under the School Education Act (Act No. 26 of 1947) (including the long term course of the Human Resource Development and Promotion University accredited under the Human Resource Development and Promotion Act (Act No. 64 of 1969), the same shall apply hereinafter) and has business experiences having engaged in the industrial safety service for two years or longer.
thereafter.  
(b) A person who has completed and graduated from the regular course of science line of a senior high school or a secondary education school accredited under the School Education Act and has business experiences having engaged in industrial safety service for four years or longer.  
(ii) Industrial safety consultants.  
(iii) In addition to those listed in the preceding two items, a person who is provided by the Minister of Health, Labour and Welfare.

(Inspection by the Safety Officer and Authorization)
Article 6  
(1) The safety officer shall inspect workshops, etc., and immediately take necessary measures to prevent dangers when there are indications of such dangers in facilities and/or working methods, etc.
(2) The employer shall grant the safety officer the authority to take measures concerning safety.

Section 3 Health Officer

(Appointment of Health Officer)
Article 7  
(1) The appointment of health officers pursuant to the provision of paragraph (1) of Article 12 of the Act shall be made as prescribed below:
(i) To appoint within 14 days of the date when grounds necessitating appointment of a health officer arisen.
(ii) To appoint a person who exclusively assigned to the workplace. However, in the case that two or more health officers are to be appointed and persons listed in item (iii) of Article 10 are included in those health officers, this provision shall not apply to one of the said persons.
(iii) To appoint among those listed in the following items, corresponding to the categories of industry:
(a) In the industries of agriculture, forestry, livestock raising, fisheries, mining, construction, manufacturing (including processing), electric power, gas supply, water supply, heating supply, transport, automobile servicing, machine servicing, medical repairing services, and cleaning: those having the class-1 health officer's license, the health officer's license on industrial hygiene or those listed in each item of Article 10.
(b) In other industries: those having the class-1 health officer's license, the class-2 health officer's license, the health officer's license on industrial hygiene or those listed in the items of Article 10.
(iv) To appoint health officers the number or more shown on the right of the following table corresponding to the size of each workplace shown on the left of the same table.
<table>
<thead>
<tr>
<th>Size of Workplace (Number of Regular Employees)</th>
<th>Number of Health Officers</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 or more and 200 or less</td>
<td>1</td>
</tr>
<tr>
<td>Exceeding 200 and 500 or less</td>
<td>2</td>
</tr>
<tr>
<td>Exceeding 500 and 1,000 or less</td>
<td>3</td>
</tr>
<tr>
<td>Exceeding 1,000 and 2,000 or less</td>
<td>4</td>
</tr>
<tr>
<td>Exceeding 2,000 and 3,000 or less</td>
<td>5</td>
</tr>
<tr>
<td>Exceeding 3,000</td>
<td>6</td>
</tr>
</tbody>
</table>

(v) For the workplaces falling under the following categories shall appoint at least one full-time health officer:
(a) Those workplaces regularly employing exceeding 1,000 workers.
(b) Those workplaces regularly employing exceeding 500 workers, of which 30 or more workers are engaged in mineshaft work or work designated in the items of Article 18 of the Enforcement Ordinance of the Labour Standards Act (Ministry of Health and Welfare Ordinance No. 23 of 1947).
(vi) In those workplaces regularly employing exceeding 500 workers, of which 30 or more workers are engaged in mineshaft work or work listed in item (i), item (iii) to (v) or item (ix) of Article 18 of the Enforcement Ordinance of the Labour Standards Act, to appoint one health officer who has obtained a health officer's license on industrial hygiene.

(2) The provisions of paragraph (2) of Article 2 and Article 3 shall apply mutatis mutandis to health officers.

(Special Provision of the Appointment of Health Officers)
Article 8 The employer may be excepted from the obligation as pursuant to the provision of paragraph (1) of the preceding Article in the case where there should be some unavoidable reason whereby the employer is unable to appoint a health officer under that provision and when the employer has obtained the permission of the Director of the competent Prefectural Labour Bureau.

(Appointment of a Common Health officer)
Article 9 The Director of the Prefectural Labour Bureau may, when the Director finds it necessary, recommend the appointment of a common health officer for those two or more workplaces where the appointment of a health officer for one workplace is not necessary and the two or more such workplaces are located in the same area, through the deliberation by the Local Labour Council.

(Qualifications of Health Officers)
Article 10 A person who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 12 of the Act shall be as follows:
(i) Physicians;
(ii) Dentists;
(iii) Industrial health consultant;
(iv) In addition to those listed in the preceding three items, those provided by
the Minister of Health, Labour and Welfare.

(Periodical Inspection by the Health Officer and Authorization)
Article 11 (1) The health officer shall inspect workshops, etc., at least once a
week and promptly take necessary measures to prevent the impairment of
workers' health when there should be a risk of harmful effects due to the
design of the facilities, working methods or in health conditions of such
workshops.
(2) The employer shall grant the health officer the authority to take measures
necessary to prevent health impairment as previously described.

(Administration of Industrial Health Engineering Matters)
Article 12 The employer shall have a health officer appointed pursuant to the
provision of item (vi) of paragraph (1) of Article 7 supervise the works relating
to industrial health engineering among those technical matters pertaining to
industrial health set forth in each item of paragraph (1) of Article 10 of the Act.

Section 3-2 Safety and Health Promoter and Health Promoter

(Workplace Subject to Appoint Safety and Health Promoter, etc.)
Article 12-2 The workplaces of scale prescribed by the Ordinance of the Ministry
of Health, Labour and Welfare set forth in paragraph (2) of Article 12-2 of the
Act shall be those regularly employing 10 or more but not more than 50
workers.

(Appointment of Safety and Health Promoter, etc.)
Article 12-3 The appointment of the safety and health promoter or the health
promoter (hereinafter referred to as "safety and health promoter, etc.")
pursuant to the provision of Article 12-2 of the Act shall be made, from among
those who are deemed to have the ability to take charge of the works set forth
in each item of paragraph (1) of Article 10 of the Act (for the health promoter,
limited to the works pertaining to industrial health), prescribed below:
(i) To appoint within 14 days from the day the appointment becomes necessary.
(ii) To appoint a person who is exclusively assigned to the workplace as a
safety and health promoter. However, this shall not apply to where the said
safety and health promoter is to be appointed from among the industrial
safety consultants, industrial health consultants or others who are provided
Section 4 Industrial Physician, etc.

(Appointment of an Industrial Physician)
Article 13 (1) The appointment of the industrial physician pursuant to the provision of paragraph (1) of Article 13 of the Act shall be prescribed as follows:

(i) To appoint within 14 days from the date when a reason necessitating appointment of an industrial physician have arisen.

(ii) For the workplace where 1,000 workers or more are regularly employed or 500 workers or more are regularly engaged in the work listed as follows, to appoint a person exclusively assigned to the said workplace:

(a) The work handling a large quantity of high-temperature substances or the work in extremely hot places.

(b) The work handling a large quantity of low-temperature substances or the work in extremely cold places.

(c) The work in which workers are exposed to radium rays, X-rays and other harmful radiation.

(d) The work at the place where extreme air-borne dust or power of soil and stone or animal hair, etc., are flying.

(e) The work under an extraordinary atmospheric pressure.

(f) The work exposing the bodies of workers to extremely vibrations due to the use of a rock drill, a riveting machine, etc.

(g) The work handling of heavy material.

(h) The work in places of boiler manufacturing, etc., where sending extremely noise.

(i) The work in a pit.

(j) The work including midnight work.

(k) The work handling mercury, arsenic, yellow phosphorus, hydrofluoric acid, hydrochloric acid, nitric acid, sulfuric acid, prussic acid, caustic alkali, carbolic acid and other substances as harmful as these substances.

(l) The work in places exuding gas, vapor, dusts of lead, mercury, chromium, arsenic, yellow phosphorus, hydrogen fluoride, chlorine, hydrochloric acid, nitric acid, sulfurous acid, sulfuric acid, carbon monoxide, carbon disulfide,
prussic acid, benzene, aniline and other substances as harmful as these substances.

(m) The work is liable to extreme contamination by pathogens.

(n) Other work provided by the Minister of Health, Labour and Welfare.

(iii) For the workplace where exceeding 3,000 workers are regularly employed, to appoint two or more industrial physicians.

(2) The provisions of paragraph (2) of Article 2 shall apply mutatis mutandis to industrial physicians. However, this shall not apply to those school physicians who have been appointed or entrusted pursuant to the provision of Article 16 of the School Health Act (Act No. 56 of 1958) to perform the duties of an industrial physician for the school concerned.

(3) The provisions of Article 8 shall apply mutatis mutandis to industrial physicians. In this case, the term "paragraph (1) of the preceding Article" in the same Article shall be deemed to be replaced with "paragraph (1) of Article 13."

(Duties, etc. of an Industrial Physician or Industrial Dentist)

Article 14 (1) The matters prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 13 of the Act shall be of the following matters, those requiring the specialized knowledge of medicine:

(i) Matters relating to the implementation of medical examinations and face-to-face guidance, etc. (meaning face-to-face guidance prescribed by paragraph (1) of Article 66-8 of the Act (hereinafter referred to as "face-to-face guidance") and necessary measures prescribed by Article 66-9 of the Act) and measures to be taken based on their results to maintain workers' health.

(ii) Matters relating to the maintenance and control of the working environment.

(iii) Matters relating to control of the work.

(iv) In addition to what is listed in the preceding three items, matters relating to the health care of the workers.

(v) Matters relating to health education, health counseling and other measures for maintaining and promoting workers' health.

(vi) Matters relating to health education.

(vii) Matters relating to investigation of the causes of the impairment of workers' health and measures for preventing its recurrence.

(2) A person who is in possession of the qualification prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 13 of the Act shall be as follows:

(i) A person who completed a training course provided by the Minister of Health, Labour and Welfare that provides the necessary medical knowledge to carry out health care, etc., for workers, prescribed by paragraph (1) of Article
13 of the Act (hereinafter referred to as "health care, etc. for workers").

(ii) A person who has completed and graduated from regular medical courses established for the purposes of developing industrial physicians in universities of industrial health or other universities designated by the Minister of Health, Labour and Welfare, and who completed the practical training provided by the Minister of Health, Labour and Welfare.

(iii) A person who has passed the industrial health consultant’s examination in the category of health and hygiene.

(iv) A person who is working as a professor, associate professor or lecturer (limited to full-time employees) covering the subjects related to industrial health at a university accredited under the School Education Act or the one who is formerly working as such.

(v) In addition to those listed in the preceding each item, a person who is the Minister of Health, Labour and Welfare.

(3) The industrial physician may make recommendations to the general safety and health manager and give guidance or advice to the health officer(s) about the matters specified in each item of paragraph (1).

(4) The employer shall not dismiss or otherwise disadvantage the industrial physician by reason of recommendations made by said industrial physician pursuant to the provision of paragraph (3) of Article 13 of the Act or recommendations, guidance or advice given pursuant to the provision of the preceding paragraph.

(5) The employer shall, as regards workplaces where 50 workers or more are regularly employed to perform the work set forth in paragraph (3) of Article 22 of the Order, obtain the opinion of the industrial dentist on the condition of workers' teeth or their supporting tissues among the matters listed in each item of paragraph (1).

(6) The industrial dentist who has conducted a medical examination set forth in paragraph (3) of Article 66 of the Act on workers who work in workplaces set forth in the preceding paragraph may recommend measures necessary for preventing the impairment of workers' health (limited to health impairment related to teeth and their supporting tissues) to the employer or the general safety and health manager of the workplace concerned.

(Periodical Inspection by Industrial Physician and Authorization)

Article 15 (1) The industrial physician shall inspect workshops, etc., at least once a month and promptly take the necessary measures to prevent the impairment of workers' health when there should be a risk of harmful effects due to working methods or sanitary conditions of such workshops.

(2) The employer shall grant the industrial physician the authority necessary to perform the duties prescribed by paragraph (1) of the preceding Article.
Article 15-2 (1) A person prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in Article 13-2 of the Act shall be an industrial nurse who is on the list of persons with the necessary knowledge to conduct health care, etc., to workers in order that the State implements consultation, information providing, and other supportive activities on the work pertaining to health care, etc. to workers (referred to as "Regional Industrial Health Center Activities" in the next paragraph) which are conducted as the State's supports prescribed by Article 19-3 of the Act and which are entrusted for implementation to a medical association which is a judicial person established pursuant to the provision of Article 34 of the Civil Act (Act No. 89 of 1896) with physicians in a municipal area as its members.

(2) The employer shall, as regards a workplace other than the one covered by the provision of paragraph (1) of Article 13 of the Act, when having a person prescribed by Article 13-2 of the Act conduct all or a part of the health care, etc. for workers, endeavor to appoint a physician prescribed by the same Article who carries out the health care, etc. for workers or to utilize regional industrial health center activities, etc.

Section 5 Operations Chief

(Appointment of Operations Chief)

Article 16 (1) The appointment of the operations chief pursuant to the provision of Article 14 of the Act shall be made from those who are in possession of the qualifications listed in the middle column of Appended Table 1 corresponding to the type of work listed in the left column of the same Table. The names of the respective operations chief(s) shall be as described in the right column of the same Table.

(2) The employer may, as regards work handling the class-1 pressure vessels which are subject to the High Pressure Gas Safety Act (Act No. 204 of 1951), Gas Utility Act (Act No. 51 of 1954) or the Electric Utility Act (Act No. 170 of 1964) among the types of work prescribed in item (xvii) of Article 6 of the Order, notwithstanding the provision of the preceding paragraph, appoint an operations chief of the work handling the class-1 pressure vessels from among those who have obtained a license for operations chief of the work handling the specified class-1 pressure vessels as provided for by the Ordinance on Safety of Boilers and Pressure Vessels (Ordinance of the Ministry of Labour No. 33 of 1972, hereinafter referred to as the "Boiler Ordinance").
(Sharing of Duties by an Operations Chiefs)

Article 17  The employer shall, in the case carrying out a work listed in the right column of Appended Table 1 at the same place and when having appointed two or more operation chiefs pertaining to the said duty, define their each sharing of duties.

(Dissemination of the Names of Operations Chief)

Article 18  The employer shall, when having appointed the operation chief, make the name of the said operation chief known to the workers concerned by posting his/her name at a readily visible location in the workshop, etc.

Section 6 Overall Safety and Health Controller, Principal Safety and Health Supervisor, Site Safety and Health Supervisor and Safety and Health Controller

(Place prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Item (i) of Paragraph (2) of Article 7 of the Order)

Article 18-2  The Place prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (i) of paragraph (2) of Article 7 of the Order shall be those on or abutting on roads, or on or abutting on rail tracks of railways where the population is concentrated.

(Appointment of Principal Safety and Health Supervisor)

Article 18-3  The appointment of the principal safety and health supervisor pursuant to the provision of paragraph (1) of Article 15-2 of the Act shall be made by appointing a person who is exclusively assigned to the workplace concerned.

(Qualifications of Principal Safety and Health Supervisor)

Article 18-4  A person who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 15-2 of the Act shall be as follows:

(i) A person who has completed and graduated from the regular course of science line of a university or a technical college accredited under the School Education Act and has business experiences having engaged in the field of safety and health in the execution of construction work for three years or longer.

(ii) A person who has completed and graduated from the regular courses of a senior high school or a secondary education school accredited under the School Education Act and has business experiences having engaged in the field of safety and health in the execution of construction work for five years
or longer.
(iii) In addition to those listed in the preceding two items, a person who is provided by the Minister of Health, Labour and Welfare.

(Authorization)
Article 18-5 The employer shall grant the principal safety and health supervisor the authority to take various measures necessary for preventing industrial accidents which may be caused by the fact that workers and related subcontractor’s workers work together at the same place.

(Number of Workers, etc., Pertaining to Appointment of a Site Safety and Health Supervisor)
Article 18-6 (1) The number of workers prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) and (2) of Article 15-3 of the Act shall be the number set forth in the following items corresponding to the respective item of the work category:
(i) The work set forth in item (i) of paragraph (2) of Article 7 of the Order or construction work where the main structures are steel frames or steel reinforced concrete structures: regularly 20
(ii) The work other than the preceding item: regularly 50.
(2) An employer carrying out the work related to the construction industry who appoints a person to perform the work of an overall safety and health controller in the workplace as prescribed by paragraph (2) of Article 15 of the Act and has said person carry out the direction and overall supervision set forth in paragraph (1), (3) and (4) of the same Article, and also appoints a person to perform the work of a principal safety and health supervisor from among persons who are in possession of the qualifications set forth in paragraph (1) of Article 15-2 of the Act and has said person supervise the matters set forth in the same paragraph (limited to employer who has the obligation to appoint a site safety and health supervisor pursuant to the provision of paragraph (1) and (2) of Article 15-3 of the Act) may be regarded as one who fulfills the legal obligation that he/she shall appoint a site safety and health supervisor pursuant to the provision of paragraph (1) and (2) of Article 15-3 of the Act and has said person carry out the matters set forth in paragraph (1) or (2) of the same Article.

(Qualifications of the Site Safety and Health Supervisor)
Article 18-7 A person who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) and (2) of Article 15-3 of the Act shall be as follows:
(i) A person who has graduated from a university or technical college
accredited under the School Education Act, and has business experience having engaged in the field of safety and health in the execution of construction work for three years or longer.

(ii) A person who graduated from a senior high school or a secondary education school accredited under the School Education Act and has business experiences having engaged in the field of safety and health in the execution of construction work for five years or longer.

(iii) A person who has business experience having engaged in the field of safety and health in the execution of construction work for eight years or longer.

(iv) In addition to those listed in preceding three items, a person who is provided by the Minister of Health, Labour and Welfare.

(Duties of the Site Safety and Health Supervisor)

Article 18-8 Matters prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) and (2) of Article 15-3 of the Act shall be as follows:

(i) To inspect the place where a worker carrying out the work as provided for by paragraph (1) and (2) of Article 15-3 of the Act at least once a month.

(ii) To take tabs on the types or other circumstances of the work carried out by the worker set forth in paragraph (1) and (2) of Article 15-3 of the Act.

(iii) To participate as needed in the meetings of the consultative organization set forth in item (i) of paragraph (1) of Article 30 of the Act.

(iv) To confirm that the measures set forth in item (v) of paragraph (1) of Article 30 of the Act pertaining to the plan provided for by the same item are taken.

(Duties of Safety and Health Controller)

Article 19 Matters prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 16 of the Act shall be as follows:

(i) To liaise with the overall safety and health controller.

(ii) To liaise with those concerned on matters notified by the overall safety and health controller.

(iii) To supervise the implementation of the matters pertaining to the said contractor of those notified by the overall safety and health controller set forth in the preceding item.

(iv) In the case where the said contractor prepares plans related to the implementation of work by the subcontractor's workers, to coordinate with the overall safety and health controller to ensure consistency with plans prepared under item (v) of paragraph (1) of Article 30 of the Act by a designated principal employer.
(v) To check on the presence of dangers pertaining to industrial accidents set forth in paragraph (1) of Article 15 of the Act occurring due to the work carried out by the said sub-contractor's workers and the work carried out by persons other than the said workers.
(vi) In the case where the said sub-contractor gives a contract of part of the work to a further sub-contractor, to liaise and coordinate with the safety and health controller of said further sub-contractor.

(Substitute of the Overall Safety and Health Controller, etc.)

Article 20 The provisions of Article 3 shall apply mutatis mutandis to the overall safety and health controllers, principal safety and health supervisors, site safety and health supervisors, and safety and health controllers.

Section 7 Safety Committee, Health Committee, etc.

(Matters to Be Discussed by the Safety Committee)

Article 21 The important matters relating to the prevention of workers from dangers set forth in item (iii) of paragraph (1) of Article 17 of the Act shall include the following matters:
(i) Matters relating to preparation of rules for industrial safety.
(ii) Matters pertaining to safety of investigations of the danger or harm, etc., set forth in paragraph (1) of Article 28-2 of the Act, and the measures to be taken based on the results of the said investigations.
(iii) Matters relating to the formulation, implementation, evaluation and improvement of safety and health plans (limited to the parts pertaining to safety).
(iv) Matters relating to the formulation of plans for the implementation of safety education.
(v) Those matters relating to the prevention of workers from dangers of the matters designated through written orders, instructions, recommendations or guidance by the Minister of Health, Labour and Welfare, the Director of the Prefectural Labour Bureau, the Chief of the Labour Standards Inspection Office, the Labour Standards Inspector, or the Expert Officer in Industrial Safety.

(Matters to Be Discussed by the Health Committee)

Article 22 The important matters relating to the prevention of worker health impairment, maintaining and promoting workers' health set forth in item (iv) of paragraph (1) of Article 18 of the Act shall include the following matters:
(i) Matters relating to establishing of rules for industrial health.
(ii) Matters relating to health of investigations of the danger or harm, etc., set
forth in paragraph (1) of Article 28-2 of the Act, and the measures to be taken based on the results of the said investigations.

(iii) Matters relating to the formulation, implementation, evaluation and improvement of safety and health plans (limited to the parts pertaining to health).

(iv) Matters relating to the formulation of plans for the implementation of health education.

(v) Matters relating to the investigation of the toxicity of the substances to be conducted pursuant to provision of paragraph (1) of Article 57-3 and paragraph (1) of Article 57-4 of the Act and the establishment of countermeasures based on the results of the investigation.

(vi) Matters relating to the results of working environment measurement to be made pursuant to the provision of paragraph (1) or paragraph (5) of Article 65 of the Act and the establishment of necessary measures based on the evaluation of the measurement results.

(vii) Matters relating to the results of the periodical medical examinations, the non-periodical medical examinations to be conducted pursuant to the provision of paragraph (4) of Article 66 of the Act, voluntary medical examination to be conducted pursuant the provision of Article 66-2 of the Act and other medical diagnoses, check-ups and treatments by physicians or surgeons to be conducted pursuant to the provision of other ministerial ordinances pursuant to the Act, and the establishment of the necessary measures to be established depending on the results of such medical examination, diagnosis, checkup and treatment.

(viii) Matters relating to formulation of the implementation plan of measures for the maintenance and promotion of the health of workers.

(ix) Matters relating to the establishment of measures for preventing the impairment of workers' health that may be caused by long hours of work.

(x) Matters relating to the establishment of measures for maintaining and improving workers' mental health.

(xi) Matters relating to the measures for preventing the impairment of workers' health among those matters designated through written orders, instructions, recommendations or guidance by the Minister of Health, Labour and Welfare, Director of the Prefectural Labour Bureau, Chief of the Labour Standards Inspection Office, the Labour Standards Inspector or the Expert Officer in the Industrial Health.

(Meeting of Committees)

Article 23 (1) The employer shall hold meeting(s) of the safety committee, health committee or the safety and health committee (hereinafter referred to as "the committee") once or more a month.
(2) In addition to the one prescribed by the preceding paragraph, matters necessary in regard to the management of respective committees shall be decided by the committee concerned.

(3) The employer shall promptly notify workers of an outline of the proceedings discussed at every committee meeting by using any of the following methods:
   (i) To post or place a notice at a readily visible place at any time in each workshop.
   (ii) To distribute a written notice to workers.
   (iii) To record a notice on magnetic tapes, magnetic discs or other similar devices, and to install instrument in each workshop with which workers can see the said notice at any time.

(4) The employer shall make a record pertaining to important proceedings discussed at each committee meeting and preserve the records for three years.

(Hearing of Opinions of the Workers Concerned)

Article 23-2 The employer who does not establish the committee shall endeavor to provide opportunities to hear opinions of the workers concerned on the matters related to safety and health.

Section 8 Publication of Guidelines

Article 24 The publication of the guidelines pursuant to the provision of paragraph (2) of Article 19-2 of the Act shall be made by publishing the title and purport of the guidelines in the official gazette, as well as by offering these to the public perusal at the Labour Standards Bureau of the Ministry of Health, Labour and Welfare and the Prefectural Labour Office.

Section 8-2 Guidelines for Promotion of Voluntary Activities

Article 24-2 The Minister of Health, Labour and Welfare may make public the necessary guidelines to promote the following voluntary activities, to be carried out by based on a series of processes determined by the employer for the purpose upgrading the standards of workplace safety and health.
   (i) Publication of safety and health policies.
   (ii) Investigation of the danger or harm, etc., set forth in paragraph (1) of Article 28-2 of the Act, and the measures to be taken based on the results of the said investigations.
   (iii) Establishment of targets of safety and health.
   (iv) Formulation, implementation, evaluation and improvement of safety and health plans.
Chapter II-2 Measures Relating to the Relief and Protection of Workers

(Machines, etc., Required for Relief and Protection)
Article 24-3 (1) The employer prescribed by paragraph (1) of Article 25-2 of the Act (hereinafter referred to as the "employer" in this Chapter) shall provide the machines, instruments and other listed in the following each item (hereinafter referred to as "machines, etc."). However, this shall not apply to the measuring instruments pertaining to methane and hydrogen sulfide listed in item (ii) below when it is unlikely to cause generation of methane or hydrogen sulfide:

(i) Air respirators or oxygen respirators (referred to as "air respirators, etc." in paragraph (3)).

(ii) Necessary measuring instruments for measuring the concentration of methane, hydrogen sulfide, carbon monoxide, and oxygen.

(iii) Flashlights or other portable illumination apparatuses.

(iv) In addition to what is listed in the preceding three items, machines, etc., required for the relief and protection of workers.

(2) The employer shall, as regard to the machines, etc., set forth in the preceding paragraph, provide them corresponding to the classifications set forth in the following each item by the time listed in the said each item:

(i) The work listed in item (i) of Article 9-2 of the Order: When work is being carried out at a place where a distance from the entrance is 1000 m or in a vertical shaft (limited to those used for passage) with a depth of 50 m.

(ii) The work listed in item (ii) of Article 9-2 of the Order: When work is being carried out by compressed air construction method under a gauge pressure of 0.1 MPa.

(3) The employer shall, as regard to the machines, etc., set forth in paragraph (1), always keep them properly maintained, and air respirators, etc. cleanly.

(Training Relating to Relief and Protection)
Article 24-4 (1) The employer shall conduct training on the matters listed in the followings:

(i) Matters relating to how to use machines, etc., set forth in paragraph (1) of the preceding Article.

(ii) Matters relating to the method of first aid resuscitation and other kinds of first aid.

(iii) In addition to what is listed in preceding two items, matters relating to the method of safety relief and protection.

(2) The employer shall, as regard to the training set forth in the preceding paragraph, conduct it, corresponding to the classification set forth in each item of paragraph (2) of the preceding Article, once by the time listed in the said each item, and once every period within a year thereafter.
(3) The employer shall, when having conducted the training set forth in paragraph (1), record the following matters and preserve the records for three years:

(i) The date of the training conducted.
(ii) The name of the person who has undergone the training.
(iii) The details of the training.

(Rules Relating to the Safety of Relief and Protection)
Article 24-5 The employer shall, corresponding to the classification set forth in each item of paragraph (2) of Article 24-3, establish the following matters related to the safety of relief and protection of workers by the time listed in the said each item:

(i) Matters relating to the relief and protection organization.
(ii) Matters relating to the inspection and maintenance of machines, etc., required for relief and protection.
(iii) Matters relating to the implementation of the training on relief and protection.
(iv) In addition to what is listed in preceding three items, matters relating to the safety of relief and protection.

(Confirmation of Personnel)
Article 24-6 The employer shall, corresponding to the classification set forth in each item of paragraph (2) of Article 24-3, and by the times listed in the said each item, take measures to be able to confirm at all times the numbers and names of the worker carrying out the work in the work carried out in tunnels, etc. (tunnels and pits other than vertical shafts excluding those for obtaining rocky materials prescribed by Article 2 of the Quarrying Act (Act No. 291 of 1950), the same shall apply hereinafter) or in compressed air chambers (work chambers or shafts having a pressure exceeding the atmospheric pressure owing to the caisson method and other compressed air methods).

(Appointment of Persons Responsible for Managing Technical Matters Relating to Relief and Protection)
Article 24-7 (1) The appointment of the person responsible for managing technical matters relating to relief and protection pursuant to the provision of paragraph (2) of Article 25-2 of the Act shall be made as prescribed below:

(i) To appoint, corresponding to the classification set forth in each item of paragraph (2) of Article 24-3, by the time listed in the said each item.
(ii) To appoint a person who is exclusively assigned at the workplace concerned.

(2) The provisions of Article 3 and 8 shall apply mutatis mutandis to those who are responsible for managing technical matters relating to relief and protection.
In this case, the term "paragraph (1) of the preceding Article" in the same Article shall be deemed to be replaced with "item (ii) of paragraph (1) of Article 24-7" and the term "the same paragraph" shall be deemed to be replaced with "the same item."

(Qualifications for Persons Responsible for Managing Technical Matters Relating to Relief and Protection)

Article 24-8 A person who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 25-2 of the Act shall be the one listed in the following each item corresponding to the classification in the said each item and who has completed the training provided by the Minister of Health, Labour and Welfare:

(i) Work listed in item (i) of Article 9-2 of the Order: A person who has experiences having engaged in the construction of tunnels, etc., for three years or longer

(ii) Work listed in item (ii) of Article 9-2 of the Order: A person who has the experiences having engaged in work including operation by the compressed air construction method for three years or longer.

(Authorization)

Article 24-9 The employer shall grant the person who is responsible for managing technical matters relating to relief and protection the authority to take measures necessary for the safety of relief and protection.

Chapter II-3 Publication of Technical Guidelines

Article 24-10 The provision of Article 24 shall apply mutatis mutandis to the publications of the technical guidelines or the guidelines for preventing the impairment of workers' health pursuant to the provision of paragraph (1) and (3) of Article 28 of the Act.

Chapter II-4 Investigation, etc., of Danger or Harm, etc.

(Investigation of Danger or Harm, etc.)

Article 24-11 (1) Investigation of the danger or harm, etc., set forth in paragraph (1) of Article 28-2 of the Act shall be carried out at the following timing:

(i) When a building is installed, relocated, altered or dismantled.

(ii) When a facilities or raw material, etc., is newly adopted or changed.

(iii) When working methods or working procedures are newly adopted or changed.
(iv) In addition to what is listed in the preceding three items, when a change has occurred or is liable to occur as regards danger or harm, etc., due to buildings, facilities, raw materials, gas, vapor, dust, etc., and those arising from work actions and other works.

(2) The categories of industry prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in the proviso of paragraph (1) of Article 28-2 of the Act shall be those listed in item (i) and (ii) of Article 2 of the Order (excluding manufacturing industry).

(Publication of Guidelines)
Article 24-12 The provision of Article 24 shall apply mutatis mutandis to the publication of guidelines pursuant to the provision of paragraph (2) of Article 28-2 of the Act.

Chapter III Regulations Concerning Machines, etc., Dangerous and Toxic Substances
Section 1 Regulations Concerning Machines, etc.

(Protective Measures for Projecting Parts, etc., of Moving Parts)
Article 25 The protective measures prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in Article 43 of the Act shall be as follows:
(i) To make projecting part of moving parts a sunken-head type, or to provide a cover;
(ii) To provide a cover or an enclosure for a power transmission or speed control sections.

(Gas Masks Subject to Fulfill Standards)
Article 26 Gas masks prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (5) of Article 13 of the Order shall be as follows:
(i) Gas masks for carbon monoxide;
(ii) Gas masks for ammonium;
(iii) Gas masks for sulfurous acid gas.

(Use of Machines, etc., Comply with Standards)
Article 27 The employer shall, as regards the machines, etc., listed in Appended Table 2 of the Act and machines, etc., listed in each item of paragraph (3) of Article 13 of the Order, not use the said machines, etc., unless they fulfill the standard or safety devices provided by the Minister of Health, Labour and Welfare set forth in Article 42 of the Act.
(Matters Subject to Notification)
Article 27-2 The matters prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in Article 43-2 of the Act shall be as follows:
(i) Matters relating to the identification of the machines, etc., to be notified;
(ii) Facts that machines, etc., fall under any of each item of Article 43-2 of the Act.

(Effective Maintenance of Safety Devices, etc.)
Article 28 The employer shall carry out the checkup and maintenance for a safety device, a cover, an enclosure, etc., provided pursuant to the Act and Ordinances based on the Act (hereinafter referred to as "safety device, etc.") so that they may be used in effective conditions.

Article 29 (1) A worker shall, as regards the safety device, etc., observe the following matters:
(i) Not to remove the safety device, etc., nor to lose their function;
(ii) When it is necessary to temporarily remove the safety device, etc., or to lose their function, to obtain in advance the permission by the employer;
(iii) When having removed the safety device, etc., or lost their functions by obtaining the permission of the preceding item, and after such necessity is over, to immediately restored to its original condition;
(iv) When having found that safety device, etc., have been removed or been lost their functions, to immediately report the facts to the employer.
(2) The employer shall promptly take appropriate measures when the report pursuant to the provision of item (iv) of the preceding paragraph has been made.

(Publication of Self-inspection Guideline)
Article 29-2 The provision of Article 24 shall apply mutatis mutandis to the publication of the guidelines for the self-inspection pursuant to the provision of paragraph (3) of Article 45 of the Act.

Section 2 Regulations Concerning Dangerous and Toxic Substances

(Dangerous and Toxic Substances Subject to Indicate Their Names, etc.)
Article 30 The substances to be prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (xxxix) of Article 18 of the Order shall be the preparations and other substances containing the substances listed in the left column of the Appended Table 2 (excluding those that containing amount of the substances listed in the same column is the values listed in the
right column of the same table and those listed in a reference column of the same table).

Article 31 The substances to be prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (xl) of Article 18 of the Order shall be as follows:

(i) Preparations and other substances which contain Dichlorobenzidine and its salts and the content of Dichlorobenzidine and its salts is 1% in weight (of these substances);

(ii) Preparations and other substances which contain α-Naphthylamine and its salts and the content of α-Naphthylamine and its salts is 1% in weight (of these substances);

(iii) Preparations and other substances which contain Chlorinated biphenyl (alias PCB) and the content of Chlorinated biphenyl is 0.1% or more and 1% or less in weight (of these substances);

(iv) Preparations and other substances which contain o-Tolidine and its salts o-Tolidine and its salts is 1% in weight (of these substances);

(v) Preparations and other substances which contain Dianisidine and its salts and the content of Dianisidine and its salts is 1% in weight (of these substances);

(vi) Preparations and other substances which contain Beryllium and its compounds and the content of Beryllium and its compounds is 0.1% or more and 1% or less of the weight of the said preparations and other substances (0.1% or more and 3% or less for alloy) (of these substances).

(vii) Preparations and other substances which contain Benzotrichloride and the content of Benzotrichloride is 0.1% or more and 0.5% or less in weight (of these substances).

(Labeling of Names, etc.)

Article 32 The labeling pursuant to the provision of paragraph (1) of Article 57 of the Act shall be made by printing matters listed in each item of the same paragraph (hereinafter referred to as "indication items" in this Article) on the container or package of the substance concerned or by affixing labels on which the indication items have been printed. However, in the case when printing all the indication items on the package or container or affixing a label on which all the indication items are printed is difficult, indication by binding a label printed with the indication items around the package or container of the substance concerned may be permitted as regards the matters listed in (a) to (c) of item (i) and item (ii) of the same paragraph.

Article 33 Matters prescribed by the Ordinance of the Ministry of Health,
Labour and Welfare set forth in (e) of item (i) of paragraph (1) of Article 57 of the Act shall be as follows:

(i) Name (for a juridical person, its name), address and telephone number of a person who provides the labeling pursuant to the provision of paragraph (1) of Article 57 of the Act;
(ii) Warning statements;
(iii) Stability and reactivity.

(Delivery of Documents)
Article 34 In the document pursuant to the provision of paragraph (2) of Article 57 of the Act shall be delivered in either of the cases of transfer or furnishing by other means than those as prescribed by paragraph (1) of the same Article. However, this shall not apply to the case where the said document is transferred or furnished continuously or repeatedly, and when the delivery of the said documents has been performed.

(Dangerous and Toxic Substances Subject to Notify Their Names, etc.)
Article 34-2 The substances to be prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item 634. of the Appended Table 9 of the Order shall be the preparations and other substances containing the substances listed in the left column of the Appended Table 2-2 (excluding those which contain the substances in the same column as designated in the right column and those listed in a reference column of the same table).

Article 34-2-2 The substances to be prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item 635. of the Attached Table 9 of the Order shall be as follows:

(i) Preparations and other substances which contain Dichlorobenzidine and its salts and the content of Dichlorobenzidine and its salts is 0.1% or more and 1% or less in weight (of these substances).
(ii) Preparations and other substances which contain α-Naphthylamine and its salts and the content of α-Naphthylamine and its salts is 1% in weight (of these substances).
(iii) Preparations and other substances which contain Chlorinated diphenyl (alias PCB) and the content of PCB is 0.1% or more and 1% or less in weight (of these substances).
(iv) Preparations and other substances which contain o-Tolidine and its salts and the content of o-Tolidine and its salts is 0.1% or more and 1% or less in weight (of these substances).
(v) Preparations and others which contain Dianisidine and its salts and the content of Dianisidine and its salts is 0.1% or more and 1% or less in weight
(of these substances).

(vi) Preparations and other substances which contain Beryllium and its compounds and the content of Beryllium and its compounds 0.1% or more and 1% in weight (0.1% or more and 3% or less for alloy) (of these substances).

(vii) Preparations and other substances which contain Benzotrichloride and the content of Benzotrichloride is 0.1% or more and 0.5% or less in weight (of these substances).

(Notification of Names, etc.)

Article 34-2-3 Methods prescribed by the Ordinance of the Ministry of Health, Labour and welfare set forth in paragraph (1) and (2) of Article 57-2 of the Act shall be the issue of magnetic disk, the transmission by facsimile device and other methods, and the person shall agree to accept those notifications by the said methods.

Article 34-2-4 Matters prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (vii) of paragraph (1) of Article 57-2 of the Act shall be as follows:

(i) Name (for a juridical person, its name), address and telephone number of a person who provides the notification pursuant to the provision of paragraph (1) of Article 57-2 of the Act;

(ii) Summary of danger or toxicity;

(iii) Stability and reactivity;

(iv) Applicable legislation;

(v) Other matters that serve as reference.

Article 34-2-5 The notification pursuant to the provision of paragraph (1) of Article 57-2 of the Act shall be performed by the time the notifiable substance in the same paragraph are transferred or provided. However, this shall not apply to the case where the notification has been performed, those substances which are transferred to and provided for continuously or repeatedly.

Article 34-2-6 The content of ingredients set forth in item (ii) of paragraph (1) of Article 57-2 of the Act shall be notified in percentage in weight of each of the substances listed in 1. to 7. of item (1) of Appended Table 3 of the Order and item (1) to (633) of Appended Table 9 of the Order respectively. The indication of percentages in this case may be made by figures within the range that fractions less than 10% rounded down and the said fractions rounded up.

(Investigation of Toxicity)
Article 34-3 (1) The investigation of toxicity pursuant to the provision of paragraph (1) of Article 57-3 of the Act shall be carried out prescribed as follows:

(i) Of a mutagenicity test, a test from which information equivalent to or better than that obtainable from a mutagenicity test or the carcinogenicity tests, to carry out any one of these tests.

(ii) To carry out at the testing laboratory, etc., to be deemed as having the technical basis to properly conduct toxicity investigation with respect to the organization, facilities, etc.

(2) The standards related to the organization, facilities, etc., to be provided at the testing laboratory set forth in the item (ii) of the preceding paragraph shall be provided by the Minister of Health, Labour and Welfare.

(Notification of Names of New Chemical Substances, Result, etc., of Investigations of the Toxicity Thereof)

Article 34-4 A person who intends to submit the notification pursuant to the provision of paragraph (1) of Article 57-3 of the Act shall submit the notification using Form No. 4-3 accompanied by the document showing the result of the toxicity test prescribed by paragraph (1) of the preceding Article for the new chemical substances prescribed by the same paragraph of the same Article of the Act pertaining to the said notification document (hereinafter referred to as "new chemical substance" in this Section), the document certifying that the said test has been carried out at the testing laboratory, etc., which satisfies the standard provided by the Minister of Health, Labour and Welfare set forth in paragraph (2) of the same Article and the document indicating designed methods of manufacturing and handling of the new chemical substance to the Minister of Health, Labour and Welfare.

(Application, etc., for Confirmation by the Minister of Health, Labour and Welfare to the Effect that Workers are not in Danger of Exposure to New Chemical Substances)

Article 34-5 A person who intends to receive the confirmation set forth in item (i) of paragraph (1) of Article 57-3 of the Act shall submit an application using Form No. 4-4 to the Minister of Health, Labour and Welfare by 30 days prior to the day when the new chemical substance is to be first manufactured or imported based on the said confirmation, accompanied by the documents indicating the designed method of manufacture or handling of the new chemical substance.

Article 34-6 The employer who has received the confirmation set forth in the preceding Article shall report to the Minister of Health, Labour and Welfare in
writing without delay when there should arise any change in the matters stated in the application form or documents set forth in the same Article.

Article 34-7 The Minister of Health, Labour and Welfare shall, when it has been deemed, based on the report pursuant to the provision of preceding Article or other reference, that workers are in danger of exposure to relevant new chemical substances after the confirmation set forth in item (i) of paragraph (1) of Article 57-3 of the Act has been granted, revoke the said confirmation and notify the employer concerned to that effect without delay.

(Application for Confirmation by the Minister of Health, Labour and Welfare to the Effect that New Chemical Substances Do Not Have Toxicity)

Article 34-8 A person who intends to receive the confirmation set forth in item (ii) of paragraph (1) of Article 57-3 of the Act shall submit the application document using Form No. 4-4 to the Minister of Health, Labour and Welfare by 30 days prior to the day when the new chemical substance is to be first manufactured or imported based on the said confirmation, accompanied by the document showing any knowledge, information, etc., of the effect that the new chemical substance concerned is free from toxicity as described by the next Article.

(Toxicity Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Item (ii) of Paragraph (1) of Article 57-3 of the Act)

Article 34-9 The toxicity prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (ii) of paragraph (1) of Article 57-3 of the Act shall be carcinogenicity.

(Application, etc., for Confirmation by the Minister of Health, Labour and Welfare Pertaining to Manufacture or Importation of New Chemical Substances in a Small Quantity)

Article 34-10 A person who intends to receive the confirmation set forth in Article 18-4 of the Order shall submit an application document using Form No. 4-4 to the Minister of Health, Labour and Welfare by 30 days prior to the day when the new chemical substance is to be first manufactured or imported based on the said confirmation.

Article 34-11 The confirmation set forth in Article 18-4 of the Order shall be valid for two years.

(Notification)

Article 34-12 The Minister of Health, Labour and Welfare shall, when having
received an application set forth in Article 34-5, 34-8 and 34-10, examine it and notify the applicant of the results of the said examination without delay.

(Case Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Item (iv) of Paragraph (1) of Article 57-3 of the Act)

Article 34-13 Cases prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (iv) of paragraph (1) of Article 57-3 of the Act shall be those in which workers will not be exposed to new chemical substances such as those in which workers are not obliged to do the work of subdividing or repacking the said chemical substance domestically.

(Publication of Names, etc., of the New Chemical Substances)

Article 34-14 (1) The publication of names of new chemical substances pursuant to the provision of paragraph (3) of Article 57-3 of the Act shall be made within a year after the receipt of the notification pursuant to the provision of paragraph (1) of the same Article or after the confirmation set forth in item (ii) of the same paragraph (or in the case that the application pursuant to the provision of paragraph (1) of Article 36 of the Patent Act (Act No. 121 of 1959) in regard to the said new chemical substances has been submitted, soon after the publication of application pursuant to the provision of paragraph (1) of Article 64 of the same Act or soon after the publication of patent application pursuant to the provision of paragraph (3) of Article 66 of the same Act has been made), as provided for by the next paragraph.

(2) The publication of names of new chemical substances shall be made periodically once every period within three months by publishing in official gazette.

(Hearing of Opinions of Persons of Learning and Experience)

Article 34-15 The Minister of Health, Labour and Welfare shall, when hearing opinions of persons learning and experience pursuant to the provision of paragraph (4) of Article 57-3 of the Act, nominate review members corresponding to the content of the subject to be reviewed, from among the candidate list of review members for the result of a mutagenicity test, etc., set forth in the next Article, and shall hear the opinions of such members.

(Candidates List of Review Members for the Results of Mutagenicity Test, etc.)

Article 34-16 The Minister of Health, Labour and Welfare shall entrust candidates of review member for the results of a mutagenicity test, etc., from those who have highly expert knowledge as regards the investigation of toxicity of chemical substances, and prepare and make public their name list.
(Report to the Central Labour Standards Council)
Article 34-17 The Minister of Health, Labour and Welfare shall, when having heard the opinion of persons of learning and experience on the results of investigation of the toxicity of new chemical substances pursuant to the provision of paragraph (4) of Article 57-3 of the Act, report the content of such opinions to the Labour Policy Council within a year after the names of the new chemical substances concerned are officially published pursuant to the provision of paragraph (3) of the same Article.

(Instructions to Investigate the Toxicity of Chemical Substances)
Article 34-18 Instructions pursuant to the provision of paragraph (1) of Article 57-4 of the Act shall be given in writing, indicating the names of chemical substances which are subject to the investigation of toxicity prescribed by the same paragraph, reasons for carrying out the said investigations, method of the said investigation and other necessary matters.

(Employers Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Paragraph (1) of Article 57-4 of the Act)
Article 34-19 Employers prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 57-4 of the Act shall be those who had manufactured, imported or used chemical substances that have the possibility of causing cancer or other serious impairment of workers' health.

(Application)
Article 34-20 The provisions set forth in Article 34-15 and 34-16 shall apply mutatis mutandis to the case in which opinions by persons of learning and experience are to be obtained pursuant to the provision of paragraph (3) of Article 57-4 of the Act. In this case, the clause reading "results of a mutagenicity test, etc." in these provisions shall instead be read as "the instruct regarding a carcinogenicity test".

(Report to the Central Labour Standards Council)
Article 34-21 The Minister of Health, Labour and Welfare shall, when having received from an employer a report regarding the results of investigations carried out on the toxicity of chemical substances based on the instructions given pursuant to the provision of paragraph (1) of Article 57-4 of the Act, report the content such a report to the Labour Policy Council within a year from the day such a report was received.

Chapter IV Safety and Health Education
(Education at the Time of Employment, etc.)

Article 35  (1) The employer shall, when having employed a new worker or changed the content of work assigned to a worker, give without delay education to the said worker on items, which are necessary as regards safety and health among the following matters. However, for a worker employed at a workplace falling under the categories of industry listed in item (iii) of Article 2 of the Order, the education on item (i) to (iv) may be omitted:

(i) Matters related to danger or toxicity of machines, etc., or raw materials, etc., and matters related to methods of handling thereof.
(ii) Matters related to performance of safety devices, harmful substance control devices, or of personal protective equipment and matters related to methods of handling thereof.
(iii) Matters related to operation procedures.
(iv) Matters related to inspection at the time of commencement of work.
(v) Matters related to the causes and prevention of diseases of which workers are susceptible related to the work concerned.
(vi) Matters related to housekeeping and maintenance of sanitary conditions.
(vii) Matters related to emergency measures and evacuation at the time of an accident.
(viii) In addition to what is listed in preceding each item, matters necessary for maintaining safety and health related to the said work.

(2) The employer may, as regards the workers who are deemed to have sufficient knowledge and skill related to all or part of the matters listed in each item of the preceding paragraph, omit education on the said matters.

(Work Necessitating Special Education)

Article 36  Dangerous or harmful work prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (3) of Article 59 of the Act shall be as follows:

(i) Work involving replacement of grinding wheels or their test runs at the time of replacement;
(ii) Work involving fitting, removal or adjustment of metal dies of a power-driven press machine (hereinafter referred to as "power press"), or of blades of shearing machines, or of safety devices or safety enclosures of power press or shearing machines;
(iii) Work involving welding or cutting of metals by arc welding equipment (hereinafter referred to as "arc welding, etc.");
(iv) Work involving installation, inspection, repairing or operation of charged circuits with high voltage (meaning circuits with voltages exceeding 750 V and 7000 V or less for DC or exceeding 600 V and 7,000 V or less for AC; the same shall apply hereinafter) or charged circuits with super-high voltage.
(meaning circuits with voltages exceeding 7,000 V) or their supports; the work involving installation or repairing of charged circuits with low voltage (meaning circuits with voltages 750 V or less for DC or 600 V or less for AC) (excluding voltages to the ground are 50 V or less or those for telegraphy or telephone with voltages not high enough to cause the danger of an electric shock); and the work involving operation of switches with exposed charging units in the low-voltage circuits installed in sectioned spaces such as switchboard rooms or substations (excluding voltages to ground are 50 V or less or those for telegraphy or telephone with voltages not high enough to cause the danger of electric shock);

(v) Work operating a forklift with a maximum load of less than 1 ton (excluding the case of travelling on the road defined by item (i) of paragraph (1) of Article 2 of the Road Traffic Act (Act No. 105 of 1960) (hereinafter referred to as "road");

(v)-2 Work operating a shovel loader or a fork loader with a maximum load of less than 1 ton (excluding the case of travelling on the road);

(v)-3 Work operating a transporting vehicle on rough terrain with a maximum loading capacity of less than 1 ton (excluding the case of travelling on the road);

(vi) Work operating a cargo lifting appliance with a limited capacity of less than 5 tons;

(vii) Work operating a skyline logging cable crane (meaning a yarder, cables, carriers, supports, fittings thereof and designed to lift and carry logs and firewood in the air utilizing power; the same shall apply hereinafter);

(viii) Work involving the felling of standing trees with a chest-height diameter of 70 cm or more, felling of standing trees with a chest-height diameter of 20 cm or more and with its center of gravity extremely deviated, felling of trees by such special methods as hang-up cutting, etc., or disposing of trees including a hanging tree with a chest-height diameter of 20 cm or more;

(viii)-2 Work utilizing a chain saw for the felling of a standing tree, disposing of a hanging tree, or logging (excluding the work listed in the preceding item);

(ix) Work operating a machine listed in item (1), (2), (3) or (6) of Appended Table 7 of the Order with the base machine weight of less than 3 tons, equipped with power-driven system and capable of self-propelling to unspecified places (excluding the case of travelling on the road);

(ix)-2 Work operating of a machine listed in item (3) of Appended Table 7 of the Order, those equipped with power-driven system and other than those capable of self-propelling to unspecified places;

(ix)-3 Work operating of the working attachment of a machine listed in item (3) of Appended Table 7 of the Order, those equipped with power-driven system
and capable of self-propelling to unspecified places (excluding operation in the operator's seat on the body):
(x) Work operating a machine listed in item (4) of Appended Table 7 of the Order, those equipped with power-driven system and capable of self-propelling to unspecified places (excluding the case of travelling on the road);
(x)-2 Work operating the working attachment of a machine listed in item (5) of Appended Table 7 of the Order;
(x)-3 Work operating a boring machines;
(x)-4 Work involving adjustment or operation of jack-type lifting machines (meaning machines equipped with multiple holding mechanisms (meaning mechanisms which hold a load by tightening a wire rope, etc.; the same shall apply hereinafter) that lift a load up and down with wire rope, etc., by opening and closing the holding mechanisms alternately to expand and contract the distance between such holding mechanisms using power; the same shall apply hereinafter), in the case of carrying out construction work;
(x)-5 Work operating (excluding the case of travelling on the road) a vehicle for work at height (meaning the vehicle set forth in item (iv) of Article 10 of the Order) with the working floor of less than 10m in height (meaning the height set forth in item (iv) of Article 10 of the Order);
(xi) Work operating a hoist with power-driven system (excluding electric hoists, air hoists and other hoists pertaining to gondolas);
(xii) (Deleted);
(xiii) Work involving operation of the machines, etc. (excluding a winching system) listed in item (viii) of paragraph (1) of Article 15 of the Order;
(xiv) Work handling a small sized boiler (meaning a small-sized boiler set forth in item (iv) of Article 1 of the Order, hereinafter the same);
(xv) Work operating a crane listed as follows (excluding a mobile crane [meaning a mobile crane set forth in item (viii) of Article 1 of the Order, the same shall apply hereinafter]):
(a) A crane having a lifting capacity of less than 5 tons;
(b) A telpher having a lifting capacity of 5 tons or more;
(xvi) Work operating a mobile crane with a lifting capacity of less than 1 ton (excluding the case of travelling on the road);
(xvii) Work operating a derrick with a lifting capacity of less than 5 tons;
(xviii) Work operating a lift for construction work;
(xix) Work involving the sling work for a crane, mobile crane or derrick with a lifting capacity of less than 1 ton;
(xx) Work operating a gondola;
(xx)-2 Work operating an air compressor for sending air to a work chamber or man lock;
(xxi) Work operating valves or cocks for adjusting the amount of air to be
delivered to work chambers pertaining to work in compressed air;

(xxii) Work operating valves and cocks for adjusting the amount of fresh air to be delivered to or air to be let out of a man lock;

(xxiii) Work operating valves and cocks for adjusting ventilation to diving workers;

(xxiv) Work operating a hospital lock;

(xxiv)-2 Work pertaining to work in compressed air;

(xxv) Work handling tetraalkyl lead, etc., listed in Appended Table 5 of the Order;

(xxvi) Work pertaining to the work at the place of an oxygen-deficient danger listed in Appended Table 6 of the Order;

(xxvii) Work involving operation, maintenance and repair of special chemical facilities (excluding maintenance work of the class-1 pressure vessels prescribed by item (v) of Article 20 of the Order);

(xxviii) Work involving radiography by using X-ray apparatus or gamma-ray irradiation apparatus;

(xxviii)-2 Work handling nuclear fuel substances (meaning nuclear fuel substances prescribed by item (ii) of Article 3 of the Atomic Energy Basic Act (Act No. 186 of 1955); the same shall apply hereinafter), spent nuclear fuel (meaning spent nuclear fuel prescribed by paragraph (8) of Article 2 of the Act for the Regulations of Nuclear Source Materials, Nuclear Fuel Materials and Reactors (Act No. 166 of 1957); the same shall apply hereinafter) or materials contaminated with those substances (including nuclear fission product; the same shall apply hereinafter) in the controlled area (meaning the controlled area prescribed by paragraph (1) of Article 3 of the Ordinance on Prevention of Ionizing Radiation Dangers (Ordinance of the Ministry of Labour No. 41 of 1972); the same shall apply hereinafter) such as the processing facilities (meaning the processing facilities prescribed by item (ii) of paragraph (2) of Article 13 of the Act for the Regulations of Nuclear Source Materials, Nuclear Fuel Materials and Reactors (Act No. 166 of 1957)), the reprocessing facilities (meaning the reprocessing facilities prescribed by item (ii) of paragraph (2) of Article 44 of the same Act) and facilities handling those substances (meaning the facilities prescribed by item (iii) of Article 53 of the same Act (limited to the facilities handling nuclear fuel substances prescribed by Article 41 of the Enforcement Order of the Act for the Regulations of Nuclear Source Materials, Nuclear Fuel Materials and Nuclear Reactors [Cabinet Order No. 324 of 1957]));

(xxviii)-3 Work handling nuclear fuel substances, spent nuclear fuel or materials contaminated with such substances in the controlled area of nuclear reactor facilities (meaning the facilities prescribed by item (v) of paragraph (2) of Article 23 of the Act for the Regulations of Nuclear Source
Materials, Nuclear Fuel Materials and Reactors);

(xxix) Work pertaining to the specified dust operation set forth in item (iii) of paragraph (1) of Article 2 of the Ordinance on Prevention of Dangers Due to Dust (Ordinance of the Ministry of Labour No. 18 of 1979, hereinafter referred to as the "Dust Ordinance") not including those jobs falling under the categories of work to be carried out by controlling the dust with oil or water to be supplied from the special equipment as specified in each item of Article 3 of the Dust Ordinance;

(xxx) Work pertaining to excavation of tunnel, etc. and its associated work such as muck-carrying work, material-carrying work and concrete placing work of tunnel lining those performed only within the tunnel concerned;

(xxxi) Work pertaining to instruction, etc. (meaning setting, altering or confirming the motion sequence, position or velocity of a manipulator for an industrial robot (a machine which is composed of manipulators and memory devices (including variable sequence control units and fixed sequence control units, the same shall apply in this item.) and capable automatically to perform the motions of manipulators such as telescopic, bending/stretching, raising/lowering, right/left, revolving motions, and their combines motions based on the information in the memory device, excluding the one research and development or others provided by the Minister of Health, Labour and Welfare), excluding those carried out while the power source of the said industrial robot is cut off, the same shall apply in this item.) for the said industrial robot within its movable range (meaning the maximum movable range in which manipulators and other moving parts of the said industrial robot are capable of moving based on the information in the memory device, hereinafter the same shall apply.) and pertaining to the operation of the apparatus for the said instruction, etc. carried out by a co-worker at outside of the movable range in cooperation with the worker who carries out the instruction, etc., within the movable range;

(xxxii) Work relating to inspection, repair or adjust (excluding those corresponding to instruction, etc.), or the confirmation of the result of these actions (hereinafter referred to as "inspection, etc." in this item) (limited to those carried out while the said industrial robot is in operation, the same shall apply in this item.), or relating to the operation of apparatus pertaining to the said inspection, etc. carried out by a co-worker at outside of the movable range in cooperation with the worker who carries out the instruction, etc. within the movable range;

(xxxiii) Among work involving the assembly of automobile tires (excluding those for two-wheeled automobiles), the work filling said tires with air using an air compressor;

(xxxiv) Work handling soot and dust, burnt ash and other burnt residues in
waste incineration facilities that have waste incinerators specified in item (5) of Appended Table 1 of the Enforcement Order of the Act on Special Measures for Prevention of Dioxin, etc. (Cabinet Order No. 433 of 1999) (hereinafter referred to as "waste incineration facilities" except for item (v)-3 of Article 90 of this Ordinance) (excluding the work listed in item (xxxvi) below):

(xxxv) Work of maintenance and inspection, etc., of equipment such as waste incinerator and dust collector, etc. installed in waste incineration facilities;

(xxxxvi) Work of dismantling, etc., of the equipment such as waste incinerators and dust collectors, etc., installed in waste incineration facilities, and work handling soot and dust, burnt ash and other burnt residues associated with such work;

(xxxvii) Work listed in each item of paragraph (1) of Article 4 of the Ordinance on Prevention of Health Impairment due to Asbestos (Ordinance of the Ministry of Health, Labour and Welfare No. 21 of 2005; hereinafter referred to as the "Asbestos Ordinance").

(Omission of Subject of Special Education Curricula)

Article 37 The employer may, for workers who are deemed to have sufficient knowledge and skill in regard to all or part of the curricula of the special education set forth in paragraph (3) of Article 59 of the Act (hereinafter referred to as "special education"), omit whole or a part of subjects of the special education curricula concerned.

(Preserving the Record of Special Education)

Article 38 The employer shall, when having given special education to workers, record the curricula and names of those who attended the said special education course and preserve the records for three years.

(Details of Special Education)

Article 39 In addition to what is prescribed by the preceding two Articles and Article 592-7, necessary matters in implementing special education pertaining to the work listed in item (i) to (xiii), (xxvii) and (xxx) to (xxxvi) of Article 36 shall be provided by the Minister of Health, Labour and Welfare.

(Education of Foremen, etc.)

Article 40 (1) Matters prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (iii) of Article 60 of the Act shall be as follows:

(i) Matters related to the investigation of the danger or harm, etc., as prescribed in paragraph (1) of Article 28-2 of the Act, and measures to be
taken based on the results of the said investigation:
(ii) Matters related to measures at the time of abnormalities, etc.;
(iii) Other matters and actions to be taken by site supervisor in regard to prevention of industrial accidents.

(2) The education for safety and health set forth in Article 60 of the Act shall be implemented for the matter listed in the left column of the following table and for the hours or longer listed in the corresponding right column of the same table.

<table>
<thead>
<tr>
<th>Matter</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matters listed in item (i) of Article 60 of the Act</td>
<td></td>
</tr>
<tr>
<td>(i) Method of deciding work procedures</td>
<td>2 hours</td>
</tr>
<tr>
<td>(ii) Method of appropriate arrangement of workers</td>
<td></td>
</tr>
<tr>
<td>Matters listed in item (ii) of Article 60 of the Act</td>
<td></td>
</tr>
<tr>
<td>(i) Method of guidance and education</td>
<td>2.5 hours</td>
</tr>
<tr>
<td>(ii) Method of supervising and instructing during work</td>
<td></td>
</tr>
<tr>
<td>Matters listed in item (i) of the preceding paragraph</td>
<td></td>
</tr>
<tr>
<td>(i) Method of investigation of the danger or harm, etc.</td>
<td>4 hours</td>
</tr>
<tr>
<td>(ii) Measures to be taken based on the results of the above investigation</td>
<td></td>
</tr>
<tr>
<td>(iii) Specific method of improvement for equipment, work, etc.</td>
<td></td>
</tr>
<tr>
<td>Matters listed in item (ii) of the preceding paragraph</td>
<td></td>
</tr>
<tr>
<td>(i) Measures to be taken at the time of abnormalities</td>
<td>1.5 hours</td>
</tr>
<tr>
<td>(ii) Measures to be taken at the time of accidents</td>
<td></td>
</tr>
<tr>
<td>Matters listed in item (iii) of the preceding paragraph</td>
<td></td>
</tr>
<tr>
<td>(i) Method of maintenance and management of the equipment and work place pertaining to work</td>
<td>2 hours</td>
</tr>
<tr>
<td>(ii) Method of maintaining worker interest in, and eliciting ideas from, workers for preventing industrial accidents</td>
<td></td>
</tr>
</tbody>
</table>

(3) The employer may, for a person who is deemed to have sufficient knowledge and skill of all or part of the matters listed in the left column of the table set forth in the preceding paragraph, omit the education concerning the said matters.

(Publication of Guideline)

Article 40-2 The provision of Article 24 shall apply mutatis mutandis to the publication of the guideline pursuant to the provision of paragraph (2) of Article 60-2 of the Act.

(Plans of Safety and Health Education at Designated Workplaces, etc., and Reports of Results of Their Implementation)

Article 40-3 (1) The employer shall, as regards designated workplaces or workplaces that the Director of the competent Prefectural Labour Bureau may designate in consideration of the ratio of occurrence of industrial accidents, etc.,
establish a definite plan of education for safety and health pursuant to the provision of Article 59 and 60 of the Act.

(2) The employer set forth in the preceding paragraph shall submit a report by Form No. 4-5 to the Chief of the competent Labour Standards Inspection Office by April 30 of each year, notifying the results of safety and health education implemented during the period of April 1 of the preceding year to March 31 of that year pursuant to the provision of Article 59 and 60 of the Act.

Chapter V Restriction on Employment

(Qualifications Regarding Restriction on Employment)
Article 41  A person who is eligible to engage in the work prescribed by paragraph (1) of Article 61 of the Act shall be a person listed in the right column of the Appended Table 3 corresponding to the type of work listed in the left column of the same Table.

(Special Provisions in Vocational Training)
Article 42  (1) The employer may, in the case of necessity to engage a worker who is to receive the approved vocational training pertaining to the accreditation set forth in paragraph (1) of Article 24 of the Human Resource Development and Promotion Act (hereinafter referred to as "trainee") for having the trainee obtain the necessary skills in works listed in item (ii), (iii), (v) to (viii) or (xi) to (xvi) of Article 20 of the Order, and when having taken following measures, have the said trainee engage in the said works after six months from the commencement of the vocational training (five months for a trainee of the training course with six months and who is to engage in item (ii), (iii), (v) to (viii) of Article 20 of the Order, three months for a trainee of the said training course and who is engaged in the work listed in item (xi) to (xvi)) notwithstanding the provision of paragraph (1) of Article 61 of the Act:

(i) To have the vocational training instructor advise the trainee on the matters necessary for preventing possible danger or health impairment from the work to be performed throughout the period during which the trainee is supposed to engage in such work.

(ii) To provide the trainee with prior education concerning the matters necessary for the maintenance of safety and health during the work to be performed.

(2) The employer may, in case of necessity to engage in the work listed in item (x) of paragraph (1) of Article 20 of the Order, and having taken the measures set forth in the preceding paragraph, notwithstanding the provision of paragraph (1) of Article 61 of the Act, have the said trainee engage in the said work immediately upon the commencement of the vocational training.
(3) The provisions of paragraph (2) of Article 61 of the Act shall not apply to the trainee in the cases set forth in the preceding two paragraphs.

Chapter VI Measures for Maintaining and Promoting Workers' Health

Section 1 Working Environment Measurement

(Publication of Working Environment Measurement Guideline)
Article 42-2 The provision of Article 24 shall apply mutatis mutandis to the publication of the guideline for the working environment measurement pursuant to the provision of paragraph (3) of Article 65 of the Act.

(Instructions for Working Environment Measurement)
Article 42-3 Instructions pursuant to the provision of paragraph (5) of Article 65 of the Act shall be given in writing, indicating workshop where working environment measurement is to be performed and other necessary matters.

Section 1-2 Medical Examinations

(Medical Examination at the Time of Employment)
Article 43 The employer shall, when employing a worker as a regular employee, provide the said worker with a medical examination by a physician as to following check-items. However, this shall not apply to the case of employing a person who has the medical examination by a physician within three months before the time of employment and the said person has submitted the document certifying the result of the medical examination, check-items corresponding to the said medical examination:
(i) Investigation of anamnesis and work history.
(ii) Examination of the presence of subjective and objective symptoms.
(iii) Examination of height, weight, eyesight, and hearing (hearing pertaining to sound levels of 1,000 HZ or 4,000 HZ, the same shall apply in item (iii) of paragraph (1) of the next Article).
(iv) Thoracic X-ray examination.
(v) Blood pressure measurement.
(vi) Examination of hemoglobin content and erythrocyte count (referred to as "anemia examination" in item (vi) of paragraph (1) of the next Article).
(vii) Examination of serum glutamic oxaloacetic transaminase (GOT), glutamic pyruvic transaminase (GPT) and gamma-glutamyl transpeptidase (GGT) (referred to as "examination of hepatic function" in item (vii) of paragraph (1) of the next Article).
(viii) Examination of total cholesterol level in blood serum, high-density lipoprotein cholesterol (HDL cholesterol) and triglyceride level in blood.
(Periodical Medical Examination)

Article 44  (1) The employer shall provide a regularly employed worker (excluding the worker prescribed by paragraph (1) of Article 45) with a medical examination by a physician as to the following check-items periodically once every period within a year:

(i) Investigation of anamnesis and work history.
(ii) Examination of the presence of subjective and objective symptoms.
(iii) Examination of height, weight, eyesight and hearing.
(iv) Thoracic X-ray examination and sputum examination.
(v) Blood pressure measurement.
(vi) Anemia examination.
(vii) Examination of hepatic function.
(viii) Examination of blood lipid levels.
(ix) Examination of blood sugar level.
(x) Urine analysis.
(xi) Examination by electrocardiogram.

(2) Check-items for the medical examination listed in following each item pertaining to the medical examination of the preceding paragraph shall be the items listed in the each item of the same paragraph (excluding item (iv)):

(i) The medical examination conducted, for a person who has not diagnosed as requiring continuous medical observation (meaning a person who was not diagnosed as having traces of a cured past disease which is considered to be tuberculosis from the results of the thoracic x-ray examination, and a person who was not diagnosed as being apt to be affected by tuberculosis by the physician in charge; the same shall apply in the next item) from the result of the medical examination conducted pursuant to the provision of the preceding Article or preceding paragraph in fiscal year (meaning the 12 months from April 1 through March 31; hereinafter the same shall apply in this paragraph and Articles 44-2 and 46) in which the person reached the ages of 16, in fiscal years in which the person reaches the ages of 17 and 18 respectively by the employer who conducted the said medical examination.

(ii) The medical examination that is conducted for a person who has not diagnosed as requiring continuous medical observation from the result of the
medical examination that had been conducted pursuant to the provision of the preceding Article in fiscal year in which the person reached the ages of 17, in fiscal years in which the person reaches the ages of 18, by the employer who conducted the said medical examination.

(3) Check-items listed in (iii), (iv), and (vi) to (xi) of paragraph (1) may be omitted when the physician deems them unnecessary, pursuant to the standards provided by the Minister of Health, Labour and Welfare.

(4) For a person who have received the medical examination set forth in the preceding Article, Article 45-2 or the former clause of paragraph (2) of Article 66 of the Act (including a person who have submitted the documents prescribed by the proviso of preceding Article), the medical examination set forth in paragraph (1) may be provided by omitting the check-items corresponding to those which have already been received only for a year from the date in which the said previous checkups have been received.

(5) The check-item listed in item (iii) of paragraph (1) (limited to the hearing test) may be substituted with a hearing test (excluding a hearing pertaining to sound levels of 1,000 Hz and 4,000 Hz) deemed appropriate by the physician for those under the age of 45 (excluding those who are 35 and 40) notwithstanding the provisions of the said paragraph.

(Special Provisions of Medical Examination for Those 15 Years Old and Under)
Article 44-2  (1) The employer may, notwithstanding the provisions of preceding two Articles, not provide the medical examination pursuant to these provisions (excluding the medical examination set forth in Article 43 pertaining to those who have graduated from the secondary education school accredited by School Education Act or the equivalent school) for those who are 15 years old or under in the fiscal year including the day on which the medical examination forest forth in the preceding two Articles is to be executed and have already received or are expected to receive the medical examination accredited under Articles 4 or 6 of the School Health Act.

(2) A person who is 15 years old or under in the fiscal year including the day on which the medical examination set forth in the preceding two Articles, and who do not fall under the category prescribed by the preceding paragraph, may be exempted from a whole or a part of check-items of the said medical examination, when the physician deems them unnecessary.

(Medical Examination for Those Engaged in Specified Work)
Article 45  (1) The employer shall provide the worker engaging regularly in works listed in item (ii) of paragraph (1) of Article 13 with a medical examination by a physician covering the check-items listed in the items of paragraph (1) of Article 44, at the time when the said worker is assigned to the
said work and periodically once every period within six months. In this case, the examination on the check-item set forth in item (iv) of the same paragraph may be provided once every period within a year.

(2) The medical examination set forth in the preceding paragraph (limited to the periodical ones) may be, when the physician deemed them unnecessary, notwithstanding the provision of the preceding paragraph, provided by omitting a whole or a part of check-items listed in item (vi) to (ix) and (xi) of paragraph (1) of Article 44 for a person who has received the previous medical examination as to the said check-items.

(3) The provisions of paragraph (3) and (4) of Article 44 shall apply mutatis mutandis to the medical examination set forth in paragraph (1). In this case, the term "for a year" in paragraph (4) of the same Article shall be deemed to be replaced with "for six months".

(4) Of the check-items of the medical examination set forth in paragraph (1) (limited to the periodical ones), the check-item (limited to hearing test) listed in item (iii) of paragraph (1) of Article 44 may be substituted by a hearing test deemed appropriate by the physician (excluding the hearing pertaining to the sound levels of 1,000 Hz or 4,000 Hz) for a person who has already received the said hearing test of the previous medical examination or a person who is under 45 years old (excluding those who are 35 and 40), notwithstanding the provisions of paragraph (1).

(Medical Examination for Workers Dispatched Overseas)

Article 45-2 (1) The employer shall, when intending a worker to dispatch overseas for six months or longer, provide in advance the said worker with a medical examination by a physician as regard matters listed in each item of paragraph (1) of Article 44 and the items deemed necessary by the physician from among those provided by the Minister of Health, Labour and Welfare.

(2) The employer shall, when having the worker who has been stationed abroad for six months or longer assign to a domestic position (excluding those to be assigned temporarily), provide the said worker with the medical examination by a physician as regards matters listed each item of paragraph (1) of Article 44 and the matters deemed necessary by the physician from among those provided by the Minister of Health, Labour and Welfare.

(3) The medical examination set forth in paragraph (1) for those who have undergone the medical examination provided for in Articles 43, 44 and the preceding Article or the former clause of paragraph (2) of Article 66 of the Act (including those who have submitted the documents prescribed by the proviso of paragraph (1) of Article 43) may omit the checkup items corresponding to those of the previously received medical examination for a period of six months from the day on which the said previous medical examination has been
received.

(4) The provisions of paragraph (3) of Article 44 shall apply mutatis mutandis to the medical examination set forth in paragraph (1) and (2). In this case, the term "item (iv), (vi) to (xi)" in paragraph (3) of Article 44 shall be deemed to be replaced with "and item (iv)."

(Tuberculosis Examination)

Article 46 The employer shall, for those workers who have been diagnosed to be vulnerable to tuberculosis through the medical examination prescribed by Articles 43, 44, 45 or the preceding Article (for the medical examination pertaining to workers other than those prescribed by paragraph (1) of Article 45, limited to those medical examination provided in the fiscal year after the fiscal year in which they reached 19 years of age), require such workers to receive a medical examination by a physician as to the following checkup items within six months from the said diagnosis, provided that checkups designated under item (ii) may be omitted if recognized to be unnecessary by the physician:

(i) Examination by taking direct X-ray picture and sputum examination.
(ii) Auscultation, percussion and other necessary examinations.

(Examination of Feces of a Food Supply Worker)

Article 47 The employer shall provide the worker engaging in the work of providing meals at a dining hall or a kitchen attached to the workplace with a feces examination at the time of employment or at the time of reassignment to the work concerned.

(Medical Examination by a Dentist)

Article 48 The employer shall provide the worker engaging regularly in the work set forth in paragraph (3) of Article 22 of the Order with a medical examination by a dentist at the time of employment or of reassignment to the work concerned and once every period within six months periodically after the said worker has been assigned to the said work.

(Instruction of Medical Examination)

Article 49 The instruction pursuant to the provision of paragraph (4) of Article 66 of the Act shall be given in writing, indicating the items to be examined, the extent of workers to undergo the medical examination and other necessary matters.

(Certificate of Medical Examination Provided by a Physician that a Worker Desired)
Article 50  The document set forth in proviso of paragraph (5) of Article 66 of the Act shall be the one indicating the result of each item of a medical examination the worker concerned has undergone.

(Voluntary Medical Examination)
Article 50-2  The requirements prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in Article 66-2 of the Act shall apply to the worker who is employed as a regular employee, and engage in the midnight work four times or more per month on average during six months prior to the date of voluntary medical examination in the same Article.

Article 50-3  A worker falling under the requirements provided for the preceding Article may submit to the employer the document certifying the result of a medical examination by a physician as regard all or part of the items listed in each item of paragraph (1) of Article 44 of the Act. However, this shall not apply to when having past 3 months from the day of the said medical examination.

Article 50-4  The document set forth in Article 66-2 of the Act shall be the one indicating the result of each item of a medical examination the worker concerned has undergone.

(Record of Results of Medical Examinations)
Article 51  The employer shall make medical examination cards (Form No. 5) for individual employees based on the results of the medical examination set forth in Article 43, 44 or 45 to 48, or medical examination executed pursuant to the provision of paragraph (4) of Article 66 of the Act (including the medical examination in the case set forth in the proviso of paragraph (5) of Article 66, referred to as "medical examination set forth in Article 43, etc." in the following Article) or the voluntary medical examination set forth in Article 66-2 of the Act and preserve such cards for five years.

(Hearing of Advice by Physician, etc., on Results of Medical Examination)
Article 51-2  (1) A hearing of the advice by a physician or a dentist pursuant to the provision of Article 66-4 of the Act, based on the result of medical examination set forth in Article 43, etc., shall be carried out as prescribed as follows:

(i) To carry out within three months on the day when the medical examination set forth in Article 43, etc., has been implemented (in the case of proviso of paragraph (5) of Article 66 of the Act, on the day that the said worker submitted the document certifying the results of the medical examination to
the employer).

(ii) To record the advice by the physician or dentist on the medical examination personal card.

(2) A hearing of the advice by a physician pursuant to the provision of Article 66-4 of the Act, based on the result of voluntary medical examination set forth in Article 66-2 of the Act shall be carried out as prescribed as follows:

(i) To carry out within two months on the day when employer received the document certifying the result of the said medical examination;

(ii) To record the advice heard from the physician on the medical examination personal card.

(Publication of Guidelines)

Article 51-3 The provisions of Article 24 shall apply mutatis mutandis to the publication of guidelines pursuant to the provision of paragraph (2) of Article 66-5 of the Act.

(Notification of the Result of the Medical Examination)

Article 51-4 The employer shall notify, without delay, a worker who has undergone a medical examination set forth in paragraph (4) of Article 66 of the Act, or Article 43, Article 44 or Article 45 to 48 of this Ordinance of the results of said medical examination.

(Report of Result of Medical Examination)

Article 52 The employer who regularly employs 50 workers or more shall submit, without delay, a report of the results of a periodical medical examination (Form No. 6) to the Chief of the competent Labour Standards Inspection Office, when having implemented a medical examination set forth in Articles 44, 45 or 48 (limited to periodical ones).

Section 1-3 Face-to-Face Guidance, etc.

(Requirement, etc., of Workers Subject to Face-to-Face Guidance)

Article 52-2 (1) Requirements prescribed by the Ordinance of Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 66-8 of the Act shall be the person whose working hours per week has exceeded 40 hours excluding break hours and the total working hours exceeding 40 hours per week has exceeded 100 hours per month, and who is deemed to have been suffering from accumulated fatigue. However, of a worker who has undergone face-to-face guidance within one month before the date set forth in the next paragraph or other workers with similar conditions, those diagnosed as having no need to undergo face-to-face guidance shall be excluded.
(2) The excess working hours set forth in the preceding paragraph shall be calculated once or more a month by designating a fixed date.

(Implementation Method, etc., of Face-to-Face Guidance)
Article 52-3 (1) Face-to-face guidance shall be provided at the request of workers who fall under the requirements set forth in paragraph (1) of the preceding Article.
(2) The request set forth in the preceding paragraph shall be made without delay after the date set forth in paragraph (2) of the preceding Article.
(3) The employer shall, when receiving a request set forth in paragraph (1) from a worker, provide face-to-face guidance without delay.
(4) The industrial physician may recommend the worker whose working conditions fall under the requirements set forth in paragraph (1) of the preceding Article to make the request set forth in paragraph (1).

(Matters to be confirmed in Face-to-Face Guidance)
Article 52-4 The physician shall, in providing face-to-face guidance, confirm the following matters for the worker who made a request set forth in paragraph (1) of the preceding Article:
(i) Working conditions of the worker concerned.
(ii) Conditions of accumulated fatigue of the worker concerned.
(iii) In addition to what is listed in the preceding item, mental and physical conditions of the worker concerned.

(Certification of Face-to-Face Guidance Provided by the Physician that a Worker Desired)
Article 52-5 The document set forth in the proviso of paragraph (2) of Article 66-8 of the Act shall indicate the following matters concerning face-to-face guidance provided for the worker:
(i) The date of guidance.
(ii) The full name of the said worker.
(iii) The full name of the physician who provided face-to-face guidance.
(iv) The conditions of accumulated fatigue of the worker concerned.
(v) In addition to what is listed in the preceding item, the mental and physical conditions of the said worker.

(Record of Results of Face-to-Face Guidance)
Article 52-6 (1) The employer shall record the results of the face-to-face guidance (including the case set forth in the proviso of paragraph (2) of Article 66-8 of the Act; the same shall apply in next Article) and preserve them for five years.
(2) The record set forth in the preceding paragraph shall indicate the matters
listed in each item of the preceding Article and the advices by the physician pursuant to the provision of paragraph (4) of Article 66-8 of the Act.

(Hearing of Advices by Physician on the Results of Face-to-Face Guidance)
Article 52-7 The hearing of advices by the physician based on the results of face-to-face guidance as pursuant to the provision of paragraph (4) of Article 66-8 of the Act shall be carried out without delay after the face-to-face guidance (after the worker submitted the certification document describing the results of face-to-face guidance in the case set forth in the proviso of paragraph (2) of Article 66-8 of the Act).

(Implementation of Necessary Measures Prescribed by Article 66-9 of the Act)
Article 52-8 (1) The necessary measures set forth in Article 66-9 of the Act shall be the implementation of face-to-face guidance or measures equivalent to face-to-face guidance.

(2) The necessary measures set forth in Article 66-9 of the Act shall be provided for the following persons:
   (i) A worker who deemed to have been suffering from accumulated fatigue or has health concerns due to long working hours.
   (ii) In addition to what is listed in the preceding item, workers who fall under the standard established in the workplace concerning necessary measures set forth in Article 66-9 of the Act.

(3) The necessary measures set forth in Article 66-9 of the Act for workers set forth in item (i) of the preceding paragraph shall be provided at the request of the said worker.

Section 2 Personal Health Record

(Issuance of a Personal Health Record)
Article 53 (1) A person who falls under the requirements prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 67 of the Act shall be the one who has engaged in the work listed in the left column of the following table and falls under the requirements listed in the right column of the same table corresponding to the work concerned, at the time of or after their retirement from their service, after the date of enforcement of the Labour Standards Act (Act No. 49 of 1947), or a person who falls under the requirements provided by the Minister of Health, Labour and Welfare.

<table>
<thead>
<tr>
<th>Work set forth in item (i), (ii) or (xii) of Article 23 of the Order</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have experiences having engaged in the work concerned for three months or longer</td>
<td></td>
</tr>
<tr>
<td>Work set forth in item (iii) of Article 23 of the Order</td>
<td>Pneumoconiosis supervision classification determined pursuant to the provision of paragraph (2) of Article 13 of the Pneumoconiosis Act (Act No. 30 of 1960) is No. II or III (including the cases where it is applied mutatis mutandis in paragraph (3) of Article 15, paragraph (2) of Article 16 and paragraph (2) of Article 16-2 of the said Act)</td>
</tr>
<tr>
<td>Work set forth in item (iv) of Article 23 of the Order</td>
<td>To have experience of having engaged in the work concerned for four years or longer</td>
</tr>
<tr>
<td>Work set forth in item (v) of Article 23 of the Order</td>
<td>To have experience of having engaged in the work concerned for five years or longer</td>
</tr>
<tr>
<td>Work set forth in item (vi) of Article 23 of the Order</td>
<td>To have experience of having engaged in the work concerned for five years or longer</td>
</tr>
<tr>
<td>Work set forth in item (vii) of Article 23 of the Order</td>
<td>To have experience of having engaged in the work concerned for three years or longer</td>
</tr>
<tr>
<td>Work set forth in item (viii) of Article 23 of the Order</td>
<td>To have tubercular shadow of a pervasive nature due to beryllium on both lungs</td>
</tr>
<tr>
<td>Work set forth in item (ix) of Article 23 of the Order</td>
<td>To have experience of having engaged in the work concerned for three years or longer</td>
</tr>
<tr>
<td>Work set forth in item (x) of Article 23 of the Order</td>
<td>To have experience of having engaged in the work concerned for four years or longer</td>
</tr>
<tr>
<td>Work set forth in item (xi) of Article 23 of the Order</td>
<td>To have irregular shadows on both lungs due to asbestos, or pleural thickening due to asbestos</td>
</tr>
</tbody>
</table>

(2) The personal health record (hereinafter referred to as "the record") shall be issued, based on the application by the person who falls under the requirement prescribed by the preceding paragraph, by the Director of the competent Prefectural Labour Bureau (for a person who falls under the requirements after the person's retirement from the service concerned, by the Director of the Prefectural Labour Bureau who exercises jurisdiction over the area where the person resides).

(3) A person who intends to make the application set forth in the preceding paragraph shall submit a Personal Health Record Issuance Application (Form No. 7) to the Director of the competent Prefectural Labour Bureau (for a person who falls under the requirements of paragraph (1) after the person's retirement from the service, to the Director of the Prefectural Labour Bureau who exercises jurisdiction over the area where the person resides) by attaching documents certifying the fact that the person who falls under the requirements of paragraph (1) (in cases where the said documents are not available, written...
statement about the said fact; including a thoracic direct X-ray picture or special X-ray picture in the case of a person who intends to make the application pertaining to the work set forth in item (viii) or (xi) of Article 23 of the Order).

(Form of the Record)
Article 54 The record shall be prepared by Form No. 8.

(Recommendation to Receive Medical Examinations)
Article 55 The Director of the Prefectural Labour Bureau shall, when issuing the record, recommend the person who receives the record to undergo the medical examinations provided by the Minister of Health, Labour and Welfare.

Article 56 The Director of the Prefectural Labour Bureau shall, when making the recommendation set forth in the preceding Article, inform the person who receives the record of the number of times and the method of medical examinations the person is to undergo and other matters necessary for the person to receive such examinations.

(Presentation, etc., of the Record)
Article 57 (1) A person who has received the record (hereinafter referred to as "the owner of the record") shall, when intending to receive a medical examination pertaining to the recommendation set forth in Article 55 (hereinafter referred to as "the medical examination" in this Article), present the record to the medical agency, which performs the medical examination.
(2) The medical agency set forth in preceding paragraph shall, when having performed the medical examination for the owner of the record, record the results of the examination in the record of the person.
(3) The medical agency set forth in paragraph (1) shall, when having performed the medical examination for the owner of the record, without delay, submit a report by Form No. 9 to the Director of the Prefectural Labour Bureau who exercises jurisdiction over the area where the said medical agency is located.

(Renewal of the Record)
Article 58 The owner of the record shall, when having changed the name or address, within 30 days, submit a personal health record renewal application (Form No. 10), attaching the record, to the Director of the Prefectural Labour Bureau who exercises jurisdiction over the area where the said owner resides, for the renewal of the record.

(Reissuance of the Record)
Article 59  (1) The owner of the record shall, when having lost or damaged the record, submit a personal health record reissuance application (Form No. 10) to the Director of the Prefectural Labour Bureau who exercises jurisdiction over the area where the said owner resides.
(2) The person who has damaged the record shall, when files an application set forth in the preceding paragraph, append the damaged record to the application form.
(3) The owner of the record shall, when found the record once lost after having received a record reissued, return the record once lost to the Director of the Prefectural Labour Bureau set forth in paragraph (1).

(Return of the Record)
Article 60  When the owner of the record has died, the heir or the statutory representative of the said owner of the record shall return said record, without delay, to the Director of the Prefectural Labour Bureau who exercises jurisdiction over the area where the said owner resided.

Section 3 Prohibition of Employment of the Sick

Article 61  (1) The employer shall prohibit a person who falls under any of the following each item from engaging in work. However, this shall not apply to a person who listed in item (i) in the case where infectious disease preventive measures were taken:
(i) A person who has contracted an infectious disease, which is liable to communicate infectious agents to other person.
(ii) A person who is suffering from such diseases as a heart disease, kidney disease or a lung disease which are anticipated to worsen the person's physical condition as a result of employment in work.
(iii) A person who suffers from similar diseases to the diseases set forth in the preceding each item provided by the Minister of Health, Labour and Welfare.
(2) The employer shall obtain in advance opinions of an industrial physician or other medical specialists, when intending to prohibit a person from engaging in work pursuant to the provision of the preceding paragraph.

Section 4 Publication of Guidelines

Article 61-2  The provision of Article 24 shall apply mutatis mutandis to the publication of the guideline pursuant to the provision of paragraph (1) of Article 70-2 of the Act.

Chapter VI-2 Measures for the Establishment of a Comfortable Working
Environment

Article 61-3 (1) The Director of the Prefectural Labour Bureau may, in the case that the employer has prepared and submitted the plans necessary to implement measures for the establishment of a comfortable work environment and it is deemed to appropriate in conjunction with the guidelines set forth in Article 71-3 of the Act, accredit the said plans.

(2) The Director of Prefectural Labour Bureau shall, in case giving the assistance set forth in Article 71-4 of the Act, pay the special consideration to the employer who obtained the accreditation set forth in the preceding paragraph.

Chapter VII License, etc.

Section 1 License

(Person Eligible to Obtain License)
Article 62 The person eligible to obtain the license set forth in paragraph (1) of Article 12, Article 14 or paragraph (1) of Article 61 of the Act (hereinafter referred to as "license") shall be the one listed in the right column of the Appended Table 4 corresponding to the type of license listed in the left column of the same Table.

(Disqualification for the License)
Article 63 The person prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (ii) of paragraph (2) of Article 72 of the Act pertaining to the licenses for the operations chief of gas welding, operations chief of forestry cableway, blasting expert or cargo lifting appliance operator shall be under 18 years of age.

(Prohibition of the License Acquisition in Duplicate)
Article 64 A person who has already been obtained any license shall not be allowed to obtain the same license in duplicate. However, this shall not apply to the cases that a person listed in the following each item obtains the license listed in the said each item.

(i) A person who has a crane/derrick operator's license that limits the type of machines that the person is permitted to operate pursuant to the provision of paragraph (1) of Article 224-4 of the Safety Ordinance for Cranes, etc. (Ordinance of the Ministry of Labour No. 34 of 1972: hereinafter referred to as the "Crane Ordinance") to floor-driving cranes (meaning the crane prescribed by item (iii) of Article 223 of the Crane Ordinance, the same shall apply hereinafter): A crane/derrick operator's license that does not limit the type of machines eligible to operate, or a crane/derrick operator's license
limited the type of machines eligible to operate to cranes pursuant to the provision of paragraph (2) of the same Article.

(ii) A person who has a crane/derrick operator's license limited the type of machines eligible to operate pursuant to the provision of paragraph (2) of Article 224-4 of the Crane Ordinance: A crane/derrick operator's license that does not limit the type of machines eligible to operate.

(Person Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Paragraph (3) of Article 72 of the Act)

Article 65 (1) The person prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (3) of Article 72 of the Act pertaining to the license for blasting experts shall be the one who can not appropriately operate the boring machine, feeder and firing machine, and can not appropriately inspect and treat the connection, charge for misfires and residual gunpowder in carrying out the work pertaining to the said license due to the mental or physical disability.

(2) The person prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (3) of Article 72 of the Act pertaining to the license for cargo lifting appliance operator shall be the one who can not appropriately carry out necessary operation of the cargo lifting appliance or confirmation of the situation around the cargo lifting appliance in carrying out the work pertaining to the said license due to the mental or physical disability.

(3) The person prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (3) of Article 72 of the Act pertaining to the license for operations chief of gas welding shall be the one who can not appropriately operate the welding apparatus in carrying out the work pertaining to the said license due to the mental or physical disability.

(Consideration of Measures, etc., to Cover Disability)

Article 65-2 The Director of the Prefectural Labour Bureau shall, in the case of having found that the applicant for the license for blasting expert, cargo lifting appliance operator, operations chief of gas welding falls under the person prescribed by paragraph (1), (2), or (3) of the preceding Article, and when going to decide whether or not grant the license to the said person, take into account the means covering disability which is utilized by the said person or conditions that the disability is covered or the level of disability is reduced due to the medical treatment which the said person is actually receiving.

(License with Conditions)

Article 65-3 (1) The Director of the Prefectural Labour Bureau may grant a license for blasting expert or operations chief of gas welding to a person who
has mental or physical disability with restrictions of type of work which the said person can operate, and with other necessary conditions concerning the operation.

(2) The Director of the Prefectural Labour Bureau may grant a license for cargo lifting appliance operator to a person who has mental or physical disability with restrictions of type of cargo lifting appliance, which the said person can operate, and with other necessary conditions concerning the operation.

(Revocation, etc., of License)
Article 66 The case prescribed in the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (v) of paragraph (2) of Article 74 of the Act shall be as follows:
(i) When the fraud at receiving the license examination or other fraud actions are committed;
(ii) When having transferred or lent the license to others.

(Issuance of License)
Article 66-2 (1) The license shall be granted by issuing a license certificate (Form No. 11). In this case, where two or more categories of licenses are granted to a person on the same day, one category of license certificate shall be issued covering all other categories of licenses concerned by stating matters related to the said other categories of licenses.

(2) When the license of a different category is to be granted to a person who has already been granted another license, matters pertaining to the previously granted license (excluding the matters pertaining to the lower qualifications than those of the license to be newly issued) shall be stated on the said new license and issued by replacing the previous license.

(3) When a person who already has a crane/derrick operator's license limited the type of machines eligible to operate pursuant to the provision of paragraph (1) of Article 224-4 of the Crane Ordinance to floor-driving cranes is to be granted a crane/derrick operator's license that does not limit the type of machines eligible to operate or a crane/derrick operator's license limited the type of machines eligible to operate to cranes pursuant to the provision of paragraph (2) of the same Article, or when a person who already has a crane/derrick operator's license limited the type of machines eligible to operate pursuant to the provision of the same paragraph to cranes is to be granted a crane/derrick operator's license that does not limit the type of machines eligible to operate, a certificate for a crane/derrick operator's license shall be issued in exchange for the certificate the person already has. In this case, when the said person already has a license other than the crane/derrick operator's license, matters related to the license that the person already has be stated on the certificate.
for a crane/derrick operator's license.

(Application Procedures for Obtaining the License)
Article 66-3 (1) A person who has passed the license examination and is to receive the license (excluding the one who falls under the next paragraph) shall submit the license application document (Form No. 12) for the grant of the license to the Director of the Prefectural Labour Bureau which has implemented the said license examination without delay after having passed the license examination concerned.

(2) A person who has passed the license examination which has been implemented by the designated testing institution set forth in Article 75-2 of the Act (hereinafter referred to as "the designated testing institution") and is to receive the license shall submit the license application document set forth in the preceding paragraph together with the document prescribed by Article 71-2 to the Director of the Prefectural Labour Bureau who exercises jurisdiction over the area where the office of the designated testing institution is located without delay after having passed concerned.

(3) A person other than the one who has passed the license examination but who intends to receive a license shall submit the license application document set forth in paragraph (1) to the Director of the Prefectural Labour Bureau who exercises jurisdiction over the area where the said person resides.

(Reissuance or Renewal of the License)
Article 67 (1) A person who has issued the license and being actually engaging in or intends to engage in the work related to the said license shall, when having lost or damaged the said license certificate, submit the applications document (Form No. 12) for the reissuance of the license to the Director of the Prefectural Labour Bureau who issued the license or to the Director of the Prefectural Labour Bureau having jurisdiction over the district in which the residence of the applicant is located.

(2) A person prescribed by the preceding paragraph shall, when having changed the permanent address or the name, submit the application document (Form No. 12) for a change of permanent address or name in the license to the Director of the Prefectural Labour Bureau who issued the license concerned or to the Director of the Prefectural Labour Bureau having jurisdiction over the district in which the residence of the applicant is located.

(Return of the License)
Article 68 (1) A person who has received a license cancellation punishment pursuant to the provision of Article 74 of the Act shall return the license without delay to the Director of the Prefectural Labour Bureau who has
cancelled the said license.

(2) The Director of the Prefectural Labour Bureau who has received the invalidated license returned from the holder of the license pursuant to the provision of the preceding paragraph shall, in case that matters related to the license other than the one to be cancelled are stated on the said license certificate, delete the matters pertaining to the cancelled license before reissue.

(License Examination)

Article 69 The classification of the license examinations prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 75 of the Act shall be as follows:

(i) License examination for category-1 health officer;
(ii) License examination for category-2 health officer;
(iii) License examination for operations chief of work in pressurized chamber;
(iv) License examination for operations chief of gas welding;
(v) License examination for special class boiler expert;
(vi) License examination for class-1 boiler expert;
(vii) License examination for class-2 boiler expert;
(viii) License examination for operations chief of radiography with X-rays;
(viii)-2 License examination for operations chief of radiography with gamma-rays;
(ix) License examination for blasting expert;
(x) License examination for cargo lifting appliance operator;
(xi) License examination for special class boiler welder;
(xii) License examination for ordinary class boiler welder;
(xiii) License examination for boiler maintenance technician;
(xiv) License examination for crane/derrick operator;
(xv) License examination for mobile crane operator;
(xvi) License examination for diver.

(Qualifications for Receiving Examination, Subjects of Examination, etc.)

Article 70 The qualifications and the subjects of examination in license examinations set forth in item (i), (i)-2, (iii), (iv), (ix) and (x) of the preceding Article, and a person who is exempt from some of the subjects of the license examination and subjects which may be exempted pursuant to the provision of paragraph (3) of Article 75 of the Act in these examinations shall be prescribed in Appended Table 5.

(Procedures for Receiving Examination)

Article 71 A person who intends to receive the license examination shall submit
a license examination application document (Form No. 14) to the Director of
the Prefectural Labour Bureau (to a designated testing institution for a person
who intends to receive a license examination that the designated testing
institution is to implement).

(Notification of Success in the Examination)
Article 71-2 The Director of the Prefectural Labour Bureau or the designated
testing institution shall inform in writing a person who have passed the
examination of that fact.

(Details of License Examination)
Article 72 In addition to what is prescribed by the preceding three Articles, such
details necessary for implementing a license examination listed in item (i), (i)-2,
(iii), (iv), (ix) and (x) of Article 69 shall be provided by the Minister of Health,
Labour and Welfare.

Section 2 Practical Training

Article 73 Deleted.

(Training Subjects)
Article 74 Training subjects of the cargo lifting appliance operation practical
training course shall be as follows:
(i) Basic operation of cargo lifting appliance.
(ii) Applied operation of cargo lifting appliance.
(iii) Basic requirement of signaling.

(Procedures for Receiving the Practical Training)
Article 75 A person who intends to receive a practical training set forth in
paragraph (3) of Article 75 of the Act (hereinafter referred to as "practical
training") shall submit an application document by Form No. 15 to a registered
training institution set forth in paragraph (3) of Article 77 of the Act where the
said training is provided (hereinafter referred to as the "registered training
institution").

(Issuance of Practical Training Completion Certificate)
Article 76 The registered training institution that has provided the practical
training shall, without delay, issue practical training completion certificates
(Form No. 16) to a person who has completed said training.

(Details of the Practical Training)
Article 77  In addition to what is prescribed by the preceding three Articles, details necessary for implementing a cargo lifting appliance operation practical training course, shall be provided by the Minister of Health, Labour and Welfare.

Section 3 Skills Training Course

Article 78  Deleted.

(Qualifications for Receiving Skill Training Courses and Training Subjects)
Article 79  The qualifications for receiving the skill training courses and training subjects listed in item (1) to (17) and (28) to (35) of Appended Table 18 of the Act shall be as prescribed in Appended Table 6 of this Ordinance.

(Procedures for Receiving the Training)
Article 80  A person who intends to receive the skill training course shall submit an application document for receiving the skill training course (Form No. 15) to the registered training institution which implements the said training.

(Issuance of the Skill Training Course Completion Certificate)
Article 81  The registered training institution, which has implemented the skill training course, shall issue skill training course completion certificates (Form No. 17) without delay to a person who has completed the said skill training course.

(Reissuance, etc., of the Skill Training Course Completion Certificate)
Article 82  (1) A person who has received a skill training course completion certificate and been actually engaging or intends to engage in the work pertaining to the said skill training shall, in the case of loss or damage of the certificate excluding a case prescribed by paragraph (3) below, submit an application document for the reissuance of the skill training course completion certificate (Form No. 18) to the registered training institution that issued the certificate, and thereby reacquire the skill training course completion certificate.

(2) A person prescribed by the preceding paragraph shall, when having changed the permanent address or, submit an application document for change of the skill training course completion certificate (Form No. 18) to the registered training institution that issued the certificate, and thereby revise the certificate excluding a case prescribed by paragraph (3).

(3) The person prescribed by paragraph (1) shall, in the case that the registered training institution from which the certificate issued has discontinued the
training service (including the case the said registration has been cancelled become invalid) and prescribed in the proviso of paragraph (1) of Article 24 of the Ordinance on Registered Inspection Agency, etc. (Ordinance of the Ministry of Labour No. 44 of 1972), and when having lost or damaged the said certificate or changed the permanent address or the name, shall submit an application document for the reissuance of the skill training course completion certificate (Form No. 18) to the institution designated by the Minister of Health, Labour and Welfare as prescribed in the proviso of the same paragraph, and thereby acquire a document that certifies completion of the relevant skill training course.

(4) In the case prescribed by the preceding paragraph, when the person who submitted the application for the issuance of the certificate set forth in the same paragraph has completed a skill training course other than those prescribed by the same paragraph, the institution designated by the Minister of Health, Labour and Welfare may issue the document set forth in the same paragraph that indicates the said person completed the said skill training course, upon receiving information pertaining to the said person's completion of the said skill training course from the registered training institution that provided the said skill training course.

(Application of Provisions When Director of Prefectural Labour Bureau Provides Service Relating to Skill Training Courses)

Article 82-2 In applying the provision of preceding three Articles in the case where the Director of the Prefectural Labour Bureau provides all or part of the service relating to the skill training courses pursuant to the provision of paragraph (1) of Article 53-2 of the Act as applied mutatis mutandis pursuant to paragraph (3) of Article 77 of the Act, the term "the registered training institution" in Articles 80 and 81 and paragraph (1) and (2) of the preceding Article shall be deemed to be replaced with "the Director of the Prefectural Labour Bureau or the registered training institution."

(Details of Skill Training Courses)

Article 83 In addition to what is prescribed in Article 79 up to the preceding Article, the matters necessary for implementing skill training courses listed in item (1) to (17) and item (28) to (35) of Appended Table 18 of the Act shall be provided by the Minister of Health, Labour and Welfare.

Chapter VIII Safety and Health Improvement Plan

Article 84 The instructions pursuant to the provision of paragraph (1) of Article 78 of the Act shall be given by the Director of the competent Prefectural
Labour Bureau by the form of the instruction for the formulation of a safety and health improvement plan (Form No. 19).

Chapter IX Inspection, etc.

(Makeshift Buildings, etc., Not Requiring Notification of Plan)
Article 84-2 Makeshift buildings or machine, etc., prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 88 of the Act shall be the buildings or machine, etc., removed within a period of less than six months (those within a period of less than 60 days from assembling to dismantling for temporary passages, suspended scaffolds or overhang scaffolds having a height and length of 10 m or more respectively, or scaffolds having a height of 10 m or more) and falling under below.
(i) Buildings in which machines equipped with motors having a total rated power output of less than 2.2 kW are to be installed.
(ii) Machines equipped with motors having a rated power output of less than 1.5 kW (excluding special machines, etc., set forth in paragraph (1) of Article 37 of the Act; the same shall apply in the following item and item (i) of Article 89).
(iii) Buildings or machines, etc., that are not used for the services listed in Appended Table 6-2.

(Notification, etc., of Plan)
Article 85 (1) A person who intends to make the notification pursuant to the provision of paragraph (1) of Article 88 of the Act shall submit the notification document by Form No. 20 to the Chief of the competent Labour Standards Inspection Office together with the following documents:
(i) Drawing(s) describing the situations of the surroundings and the relationship between the workplace and the circumference.
(ii) Drawing(s) showing the arrangement of buildings and major machines within the premises.
(iii) Documents indicating the outlines of the method of operation such as handling of raw materials or products, manufacturing, etc.
(iv) Floor plans and sectional plans of respective floors of each building (limited to the one where the work set forth in the preceding item is carried out) and documents or drawings describing the arrangement and outlines of major machines on the respective floors.
(v) Documents or drawings showing the outlines of the methods or devices designed to prevent industrial accidents in the building set forth in the preceding item or in other workshops.
(2) When a part of a building or machine, etc., is to be installed, moved or altered,
the notification pursuant to the provision of the preceding paragraph shall be regarded as sufficient if the notification of the said part is submitted.

Article 86 (1) When the employer who intends to install or move the machines, etc., listed in the right column of Appended Table 7 or to alter a major part thereof is to submit the notification pursuant to the provision of paragraph (1) of Article 88 of the Act, the said employer shall submit the said notification by Form No. 20 to the Chief of the competent Labour Standards Inspection Office together with documents indicating matters listed in the middle column of the same Table and drawings listed in the right column of the same Table, corresponding to the kind of machines, etc.

(2) In the case of submitting a notification pursuant to the provision of the preceding paragraph, the provision of paragraph (1) of the preceding Article shall be applied as follows:

(i) In the case of submitting a notification regarding machines listed in the left column of Appended Table 7 in conjunction with buildings or other machines, etc., pursuant to the provision of paragraph (1) of Article 88 of the Act, it is not required to include the overlapped portions with the descriptions in the notification, documents or drawings prescribed by the preceding paragraph in the descriptions in the notification and documents prescribed by paragraph (1) of the preceding Article.

(ii) In the case of submitting a notification pursuant to the provision of paragraph (1) of Article 88 of the Act only for machines, etc., listed in the left column of Appended Table 7, the provision of paragraph (1) of the preceding Article shall not apply.

(3) A notification pursuant to the provision of paragraph (1) of Article 88 of the Act shall not be required as regards the installation of machines, etc., listed in the left column of item (16) to (20) of Appended Table 7 (hereinafter referred to as "specified chemical facilities, etc.") by the person who made an application pursuant to the provision of paragraph (1) of Article 49 of the Ordinance on Prevention of Dangers Due to Specified Chemical Substances (Ordinance of the Ministry of Labour No. 39 of 1972; hereinafter referred to as the "Specified Chemical Ordinance").

(Measures Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in the Proviso of Paragraph (1) of Article 88 of the Act)

Article 87 Measures prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in the proviso (including the case where it is applied mutatis mutandis pursuant to paragraph (2) of Article 88) of paragraph (1) of Article 88 of the Act shall be the following measures:

(i) Investigation of the danger or harm, etc., set forth in paragraph (1) of
Article 28-2 of the Act, and measures to be taken based on the results of the said investigation.

(ii) In addition to what is listed in the preceding item, voluntary activities to be implemented by the employer in accordance with the guidelines set forth in Article 24-2.

(Unit of Accreditation)
Article 87-2 The accreditation pursuant to the provision of the proviso of paragraph (1) of Article 88 of the Act (including the case where it is applied mutatis mutandis pursuant to paragraph (2) of the same Article) (hereinafter referred to as "accreditation" in the next Articles up to Article 87-10) shall be implemented for each workplace by the Chief of the competent Labour Standards Inspection Office.

(Disqualification)
Article 87-3 A person who falls under any of the following conditions may not obtain the accreditation:

(i) A person who, having violated the provisions of the Act or orders thereunder (limited to those pertaining to the workplace for which accreditation is sought), was sentenced to a penalty heavier than a fine and for whom two years have not elapsed since the date when the execution of the sentence was completed or the date when the said person ceased be amenable to the execution of the sentence.

(ii) As regards the workplace for which accreditation is sought, a person whose accreditation was revoked pursuant to the provision of Article 87-9 and for whom two years have not elapsed since the date of revocation.

(iii) In the case of a corporation, one of its executive officers falls under either of the preceding two items.

(Accreditation Standards)
Article 87-4 The Chief of the competent Labour Standards Inspection Office shall implement the accreditation when the workplace intending to obtain accreditation conforms to all of the following requirements:

(i) To properly carry out the measures prescribed in Article 87;

(ii) To be recognized that the occurrence rate of industrial accidents is deemed to be lower than the average of the industry to which the relevant workplace belongs.

(iii) Fatal accidents or other serious industrial accidents have not occurred during the year preceding the application date.

(Application for Accreditation)
Article 87-5  (1) The employer who intends to apply for accreditation shall submit an application document for accreditation for exemption from plan notification (Form No. 20-2) for each workplace together with the following documents to the Chief of the competent Labour Standards Inspection Office:
  (i) A document explaining that the employer does not fall under any of the conditions listed in each item of Article 87-3.
  (ii) A document certifying the appropriate implementation of measures set forth in Article 87 as evaluated by two or more persons well versed in safety or health within three months before the application date, and a document indicating outline of said evaluation.
  (iii) A document certifying that the evaluation set forth in the preceding item is audited by one or more persons well versed in safety and one or more persons well versed in health.
  (iv) A document certifying that the workplace meets the requirements listed in item (ii) and (iii) of the preceding Article (a statement about the relevant fact in the case that the said document is not available).

(2) A person who is well versed in safety set forth in item (ii) and (iii) of the preceding paragraph refers to the one who falls under any of the following each item and who does not have interests in providing accreditation:
  (i) A person who has experiences having engaged as an industrial safety consultant for three years or longer, and has conducted three or more evaluations on the implementation of voluntary activities to be conducted by the employer by the guidelines set forth in Article 24-2.
  (ii) A person who is deemed to have ability equivalent to or greater than that of the person listed in the preceding item.

(3) A person who is well versed in health set forth in item (ii) and (iii) of paragraph (1) refers to the one who falls under any of the following each item and who does not have interests in providing accreditation:
  (i) A person who has experiences having engaged as an occupational health consultant for three years or longer, and who has conducted three or more evaluations on the implementation of voluntary activities to be conducted by the employer by the guidelines set forth in Article 24-2.
  (ii) A person who is deemed to have ability equivalent to or greater than that of the person listed in the preceding item.

(4) The Chief of the competent Labour Standards Inspection Office shall, when having accredited, issue a certificate by Form No. 20-3.

(Renewal of Accreditation)
Article 87-6  (1) Accreditation shall be renewed every three years and, if not renewed, shall cease to be effective after a lapse of the said period.

(2) The provisions of Article 87-3, Article 87-4 and paragraph (1) to (3) of the
preceding Article shall apply mutatis mutandis to the renewal of accreditation pursuant to the preceding paragraph.

(Report on Implementation Status)
Article 87-7 The employer who obtained the accreditation shall submit the report on the implementation status (Form No. 20-4) to the Chief of the competent Labour Standards Inspection Office together with a document indicating the results of an audit conducted to examine the implementation status of measures set forth in Article 87 for each workplace pertaining to the accreditation (hereinafter referred to as the "accredited workplace" in the next Article) once every period within a year.

(Cessation of Measures)
Article 87-8 The employer who obtained accreditation shall, when discontinued the measures set forth in Article 87 in the accredited workplace, submit a notification of such effect to the Chief of the competent Labour Standards Inspection Office without delay.

(Revocation of Accreditation)
Article 87-9 The Chief of the competent Labour Standards Inspection Office may revoke accreditation when the employer who obtained accreditation falls under any of the following each item:
(i) When item (i) or (iii) of Article 87-3 becomes applicable to the employer.
(ii) When the employer is deemed not to conform to item (i) or (ii) of Article 87-4.
(iii) When an industrial accident listed in item (iii) of Article 87-4 has occurred.
(iv) When the employer failed to submit the report and document specified in Article 87-7 in violation of the provision of the said Article or submitted the one containing a false statement.
(v) When the employer obtained or renewed accreditation by fraudulent means.

(Special Provisions for the Construction Industry)
Article 87-10 (1) Notwithstanding the provision of Article 87-2, as regards the employer who engages in work that is part of the construction industry, accreditation shall be implemented for each workplace where the contract for the relevant work is concluded.
(2) As regards the application of provisions listed in the left column of the following table concerning the accreditation listed in the preceding paragraph, the terms listed in the middle column of the table shall be deemed to be replaced with the terms listed in the right column.
Item (i) of Article 87-3

Workplace

Workplace where the contract pertaining to the work of undertaking of the construction industry is concluded and workplace where the work pertaining to the contract concluded in the said workplace is conducted (hereinafter referred to as the "site, etc.")

Article 87-4

Workplace

The industry to which the relevant workplace belongs.

Site, etc.

Construction industry

Article 87-7

Workplace pertaining to accreditation (hereinafter referred to as the "accredited workplace" in the next Article)

Site, etc. pertaining to accreditation

Article 87-8

Accredited workplace

Site, etc. pertaining to accreditation

(Machines, etc., Subject to the Notification of Plan)

Article 88  (1) Machine, etc., prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 88 of the Act shall be machine, etc., listed in the left column of Appended Table 7 (limited to the radiation apparatus for machine, etc., listed in the left column of item (21) of the same Table), in addition to what is prescribed by the other Ordinances pursuant to the Act.

(2) The provision of paragraph (1) of Article 88 of the Act shall apply mutatis mutandis to the case of submitting the notification pursuant to the provision of paragraph (1) of Article 88 of the Act, which is to apply mutatis mutandis in paragraph (2) of the same Article as regards the machine, etc., listed in the left column of Appended Table 7.

(3) A report pursuant to the provision of paragraph (1) of Article 88 of the Act applied mutatis mutandis in paragraph (2) of the same Article shall not be required as regards the installation of specified chemical facilities, etc., by a person who has made the application pursuant to the provision of paragraph (1) of Article 49 of the Specified Chemical Ordinance.

Article 89  Makeshift machines, etc., prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 88 of the Act as applied mutatis mutandis in paragraph (2) of the same Article shall be as follows:

(i) Machine, etc., other than a skyline logging cable cranes, logging cableways (meaning those consisting of cables, carriers, supporting poles and other...
items thereto and designed to carry logs or fuelwood for a certain distance in
the air, the same shall apply hereinafter), makeshift passages and
scaffoldings (excluding concrete form shoring set forth in item (xiv) of Article
6 of the Order; hereinafter referred to as "concrete form shoring") that are to
be removed within six months;
(ii) Skyline logging cable cranes, logging cableways, makeshift passages, or
scaffoldings, which are to be disassembled within 60 days after the
commencement of assembling.

(Scope of Work)
Article 89-2 The work prescribed by the Ordinance of the Ministry of Health,
Labour and Welfare set forth in paragraph (3) of Article 88 of the Act shall be
as follows:
(i) The construction work of a tower with a height of 300 m or more;
(ii) The construction work of a dam with a vertical height (meaning the height
between the foundation and the top) of 150 m or more;
(iii) The construction work of a bridge with a maximum span of 500 m or more
(1,000 m or more for a suspension bridge);
(iv) The construction work of tunnels, etc., with a length of 3,000 m or more;
(v) The construction work of tunnels, etc., with a length of 1,000 m or more but
less than 3,000 m where the depth of vertical shaft is 50 m or more (limited
to those used for passages);
(vi) The work involving operations using the compressed air method under a
gauge pressure of 0.3 MPa or more.

Article 90 The work prescribed by the Ordinance of the Ministry of Health,
Labour and Welfare set forth in paragraph (4) of Article 88 of the Act shall be
as follows:
(i) The work related to the construction, modification, dismantling or
demolition (hereinafter referred to as the "construction, etc.") of a building or
a structure exceeding 31 m in height (excluding bridges);
(ii) The work related to the construction, etc., of bridges with a maximum span
of 50 m or more;
(ii)-2 The work related to the construction, etc., of bridge superstructures with
a maximum span of 30 m or more and less than 50 m (limited to the work
carried out in places set forth in the provisions of Article 18-2);
(iii) The work related to the construction, etc., of tunnels (excluding tunnels
into which workers do not enter);
(iv) The work related to excavation of natural ground with excavation height or
depth of 10 m or more (excluding excavation of tunnels and for mining; the
same shall apply hereinafter) and excluding work utilizing excavating
machines but not requiring workers to enter under the excavation surface;
(v) The work involving operations using compressed air methods;
(v)-2 The work involving the removal of asbestos, etc. (meaning the asbestos, etc., prescribed by Article 2 of the Asbestos Ordinance; the same shall apply hereinafter) from the part on which asbestos are sprayed in fire-resistant buildings prescribed by item (ix)-2 of Article 2 of the Building Standards Act (Act No. 201 of 1950) (hereinafter referred to as "fire-resistant buildings" in Article 293) or semi-fire-resistant buildings prescribed by item (ix)-3 of Article 2 of the same Act (hereinafter referred to as "semi-fire-resistant buildings" in Article 293);
(v)-3 The work involving the dismantling, etc., of facilities such as waste incinerators or dust collectors, etc., installed in the waste incineration facilities having the waste incinerator listed in item (5) of appended Table 1 of the Enforcement Order of the Act on Special Measures for Prevention of Dioxin, etc. (limited to the waste incinerator for which the grate area is 2 m² or more and incineration capability is 200 kg/h or more.);
(vi) The work related to excavation for quarrying with excavation height or depth of 10 m or more;
(vii) The work related to excavation for quarrying using the underground excavation method.

(Notification of Plan Pertaining to Construction Industry)
Article 91  (1) A person who intends to notify the work related to the construction industry pursuant to the provision of paragraph (3) of Article 88 of the Act shall submit the notification document by Form No. 21 to the Minister of Health, Labour and Welfare together with the following, documents and a compressed air work statement (Form No. 21-2) in case of work pertaining to the work carried out by compressed air construction method. However, in the case where a compressed air work statement is submitted, the duplication of items covered by the compressed air work statement in the following documents shall not be required:
(i) Drawing(s) showing the condition of the surroundings and relationship between all the adjoining environments of the place to be carried out the work.
(ii) Drawing(s) describing the outline of buildings, etc., which the person intends to construct.
(iii) Drawing(s) showing the arrangement of machines, facilities, buildings, etc., used for the construction work.
(iv) Documents or drawings showing the outlines of the construction method.
(v) Documents or drawings showing the outlines of methods and devices designed to prevent industrial accidents.
(vi) Construction schedule charts.
(2) The provisions of the preceding paragraph shall apply mutatis mutandis to the notification pursuant to the provision of paragraph (4) of Article 88 of the Act. In this case the term "Minister of Health, Labour and Welfare" shall be deemed to be replaced with "Chief of the competent Labour Standards Inspection Office."

(Notification of Plan Pertaining to Quarrying Industry)
Article 92  A person who intends to notify the work related to the quarrying industry pursuant to the provision of paragraph (4) of Article 88 of the Act shall submit the notification document by Form No. 21 to the Chief of the competent Labour Standards Inspection Office together with the following documents:
(i) Drawings(s) describing the conditions of the surroundings of and relationship between the adjoining environments of the place to be carried out the work.
(ii) Drawing(s) showing the arrangement of machines, facilities, buildings, etc.
(iii) Documents or drawings showing the method of quarrying.
(iv) Documents or drawings showing the methods and outlines of devices designed to prevent industrial accidents.

(Scope of Work Pertaining to the Participation of Persons Who are in Possession of the Qualifications)
Article 92-2 (1) The work prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (5) of Article 88 of the Act shall be the work installing, or removing the machine, etc. listed in item (10) and (12) of the left column of Appended Table 7 or altering of their main components.
(2) The work prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (5) of Article 88 of the Act shall be the work listed in item (i) to (v) of Article 90 (limited to construction work, for work listed in item (i) to (iii) of the same Article).

(Qualifications for Persons Participating in the Formulation of Plans)
Article 92-3  A person who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (5) of Article 88 of the Act shall be persons listed in the right column of Appended Table 9 corresponding to the classification of the work listed in the left column of the same Table.

(Investigation from Technical Aspects)
Article 93  The Minister of Health, Labour and Welfare shall, when asking
opinions of persons of learning and experience, pursuant to the provisions of paragraph (2) of Article 89 of the Act, designate members of an investigation committee, corresponding to the contents of the investigation, from persons who are enrolled in the list of the names of candidates for an investigation committee set forth in the next Article.

(List of the Names of Candidates for an Investigation Committee)

Article 94  The Minister of Health, Labour and Welfare shall commission persons who have highly expert knowledge on safety and health, to be a candidate for investigation committees and make a list of the names of candidates for investigation committees and also make public the said list.

(Scope of Plans)

Article 94-2  Plans prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 89-2 of the Act shall be plans of the following works:

(i) The work constructing buildings of 100 m or more in height falling under any of followings:
   (a) The work is carried out in the vicinity where the underground installations or other underground structures (hereinafter referred to as "underground installation, etc." in Section 1 of Chapter VI of Part II and Article 634-2).
   (b) Such a peculiar work that the shape of buildings is cylindrical, etc.

(ii) The work constructing a dam with banks of 100 m or more in height and using vehicle type construction machine (meaning construction machines equipped with power-driven system and capable of self-propelling to unspecified places among those listed in the Appended Table 7 of the Order, the same shall apply hereinafter) on slopes where the said vehicle are liable to overturn or fall;

(iii) The work constructing bridges with a maximum span of 300 m or more and falling under any of the followings:
   (a) Where the girders of said bridge are curved;
   (b) Where the height beneath the girders of said bridge is 30 m or more.

(iv) The work constructing tunnels, etc., of 1,000 m or more in length and are deemed to be liable to cause dangers to workers due to cave-ins, inundations and gas explosions etc.:

(v) The work of excavation that the volume of excavated soil exceeds 200,000 m3 and falling under any of followings:
   (a) Where the said work is carried out at in a place of weak soil;
   (b) Where the said work is carried out in a confined place using vehicle type construction machines.
(vi) The work by the compressed air method with the gauge pressure of 0.2 MPa or more and falling under any of the followings:
(a) Where the said work is carried out in a place of weak soil;
(b) Where excavating work is carried out at the same time near to a place of said work.

(Exclusion from Investigation)
Article 94-3 Plans prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in the proviso of paragraph (1) of Article 89-2 of the Act shall be the plan of the work related to construction work projects ordered by the national government or local government or other public organizations as the original orderer prescribed by paragraph (2) of Article 30 of the Act shall be excluded.

(Investigation from Technical Aspects, etc.)
Article 94-4 The provisions of Article 93 and Article 94 shall apply mutatis mutandis to investigation set forth in paragraph (1) of Article 89-2 of the Act. In this case, the term "paragraph (2) of Article 89 of the Act" in Article 93 shall be deemed to be replaced with "paragraph (2) of Article 89 of the Act applied mutatis mutandis to paragraph (2) of Article 89-2."

(Chiefs of the Labour Standards Inspection Offices and Labour Standards Inspectors)
Article 95 (1) The Chief of the Labour Standards Inspection Office shall, in addition to what is prescribed by the Ordinances pursuant to the Act, take charge of affairs related to enforcement of the Act under the instruction and supervision of the Director of the Prefectural Labour Bureau.
(2) The Labour Standards Inspector shall take charge of the spot inspection pursuant to the Act, duties of juridical police officers or other affairs enforcing the Act.
(3) The identification card set forth in paragraph (3) of Article 91 of the Act shall be made by Form No. 18 of the Enforcement Ordinance of the Labour Standards Act.

(Term of a Medical Advisor in Occupational Health)
Article 95-2 (1) The term of a Medical Advisor in Occupational Health shall be for two years.
(2) When the term of a Medical Advisor in Occupational Health has terminated, the Medical Advisor in Occupational Health may execute his duties until a successor is designated.
(Identification Card for Officers Who Execute Spot Inspections)

Article 95-3 The identification card set forth in paragraph (3) of Article 91 of the Act to be applied mutatis mutandis in paragraph (5) of Article 96 of the Act shall be made by Form No. 21-2-2.

Article 95-3-2 The identification card set forth in paragraph (3) of Article 91 of the Act to be applied mutatis mutandis in the provision of paragraph (5) of Article 96-2 of the Act shall be made by Form No. 21-2-3.

(Training for Persons Engaged in Work to Prevent Industrial Accidents)

Article 95-4 (1) The subjects for training set forth in paragraph (1) of Article 99-2 of the Act (hereinafter referred to simply as "training" in this Article) shall be the following subjects:
(i) Problems and counter measures pertaining to the management relating to workplace safety and health.
(ii) Methods of management relating to workplace safety and health.
(iii) Related legislation on safety and health.
(iv) Industrial accident cases and their preventive measures.

(2) A person who intends to undergo training shall submit an application for training of person engaged in work to prevent industrial accidents in the prevention of the recurrence of industrial accidents (Form No. 21-3) to a person conducting training designated by the Director of the Prefectural Labour Bureau under the provisions of paragraph (1) of Article 99-2 of the Act (referred to as the "designated training institution" in the following paragraph).

(3) The designated training institution shall issue a person who has completed the training with a completion certificate of training of industrial accident prevention workers in the prevention of the recurrence of industrial accidents (Form No. 21-4) without delay.

(4) In addition to what is prescribed in the preceding three paragraphs, other matters necessary to the implementation of training shall be provided by the Minister of Health, Labour and Welfare.

(Training for Workers in Restricted Employment)

Article 95-5 (1) The subjects for training set forth in paragraph (1) of Article 99-3 of the Act (hereinafter referred to simply as "training" in this Article) shall be the following subjects.
(i) The structure of machine, facilities, etc., pertaining to work prescribed by paragraph (1) of Article 61 of the Act (hereinafter referred to as "restricted employment machines, etc.").
(ii) The function of safety device, etc., pertaining to restricted employment machines, etc.
(iii) The maintenance of restricted employment machines, etc.
(iv) Work method pertaining to restricted employment machines, etc.
(v) Relevant legislation on safety and health.
(vi) Industrial accident cases and their preventive measures.

(2) A person who intends to undergo training shall submit an application for training of restricted employment workers in the prevention of the recurrence of industrial accidents (Form No. 21-5) to a person conducting training designated by the Director of the Prefectural Labour Bureau set forth in paragraph (1) of Article 99-3 of the Act (referred to as the "designated training institution" in the next paragraph).

(3) The designated training institution shall issue a person who has completed the training with a completion certificate of training for restricted employment workers in the prevention of the recurrence of industrial accidents (Form No. 21-6) without delay.

(4) In addition to what is prescribed in the preceding three paragraphs, matters necessary for the implementation of training shall be provided by the Minister of Health, Labour and Welfare.

(Report of Work Exposed to Harmful Substances)

Article 95-6 The employer shall, at the workshop where the substance which is liable to cause health impairment to a worker and provided for by the Minister of Health, Labour and Welfare are manufactured or handled, and when having worker engage in the work that is liable to expose workers to gas, vapor or dust of the said substances, as provided for by the Minister of Health, Labour and Welfare, submit a report as regards the necessary matters for preventing exposure to the said substances to the Chief of the competent Labour Standards Inspection Office by Form No. 21-7.

(Reports on Accidents)

Article 96 (1) The employer shall, in the case of the following cases, submit a report by Form No. 22 without delay to the Chief of the competent Labour Standards Inspection Office:

(i) When any of the following accidents have occurred in the workplace or in any attached buildings:

(a) Fire or explosion (excluding the accidents set forth in the next item).
(b) Rupture of a centrifugal machine, or of a grinding wheel and other high speed rotating body.
(c) Cutoff of ropes or chains of skyline logging cable cranes, hoisting equipment or cableways.
(d) Collapse of a building, construction attached thereto, or a skyline logging cable crane, chimney, overhead tank, etc.
(ii) When an accident involving the rupture of a boiler set forth in item (iii) of Article 1 of the Order (excluding small sized boilers), the explosion of flue gas or the equivalent accident have occurred.

(iii) When an accident involving the rupture of a small sized boiler, a class-1 pressure vessel set forth in item (v) of Article 1 of the Order or a class-2 pressure vessel set forth in item (vii) of the same Article have occurred.

(iv) When any of the following accidents involving a crane (excluding cranes listed in item (i) of Article 2 of the Crane Ordinance) have occurred:
   (a) Runaway, collapse, falling or breaking of a jib.
   (b) Cutoff of a wire rope or a hoisting chain.

(v) When any of the following accidents involving a mobile crane (excluding mobile cranes listed in item (i) of Article 2 of the Crane Ordinance) have occurred:
   (a) Overturning, collapse, or breaking of a jib.
   (b) Cutoff of a wire rope or a hoisting chain.

(vi) When any of the following accidents involving a derrick (excluding derricks listed in item (i) of Article 2 of the Crane Ordinance) have occurred:
   (a) Collapse, or breaking of a boom.
   (b) Cutoff of a wire rope.

(vii) When any of the following accidents involving an elevator (excluding elevators listed in item (ii) of Article 2 of the Crane Ordinance) have occurred:
   (a) Collapse of an elevator step or falling of a load.
   (b) Cutoff of a wire rope.

(viii) When any of the following accident involving a construction lifts (excluding construction lifts listed in item (ii) of Article 2 of the Crane Ordinance) have occurred:
   (a) Collapse of an elevator step or falling of a load.
   (b) Cutoff of a wire rope.

(ix) When any of the following accidents involving a light capacity lift under the provisions of item (ix) of Article 1 of the Order (excluding light capacity lifts listed in item (ii) of Article 2 of the Crane Ordinance) have occurred:
   (a) Falling of a load.
   (b) Cut off of a wire rope or a hoisting chain.

(x) When any of the following accidents involving a gondola have occurred:
   (a) Runaway, overturning, falling or breaking of an arm.
   (b) Cutoff of a wire rope.

(2) In the case where a report pursuant to the provisions of paragraph (1) of the next Article is to be submitted together with a report set forth in the preceding paragraph, the duplication of the items to be filled in on said report pursuant to the provision of paragraph (1) of the following Article shall not be required.
(Reports of Worker Casualties)

Article 97 (1) The employer shall, when a worker was killed or suspended from work due to industrial accident or injury, suffocation or acute poisoning suffered during employment in work, or within the workplace or building attached thereto, submit a report by Form No. 23 to the Chief of the competent Labour Standards Inspection Office without delay.

(2) The employer shall, in the case set forth in the preceding paragraph, notwithstanding the provisions thereof, and when the number of days a worker or workers are suspended from the work concerned is less than four days, submit a report by Form No. 24 to the Chief of the competent Labour Standards Inspection Office by the end of the succeeding month of the last month of the respective quarterly periods of January-March, April-June, July-September and October-December, informing the Chief of the facts.

(Reports)

Article 98 The Minister of Health, Labour and Welfare, the Director of the Prefectural Labour Bureau or the Chief of the Labour Standards Inspection Office shall, when having an employer, workers or loaners of machine, etc., or buildings, report necessary matters or when issuing a summons pursuant to the provision of paragraph (1) of Article 100 of the Act, inform of the following matters:

(i) Reason(s) for ordering to present a report or to appear at the office.

(ii) Matters on which explanation or a statement of opinion are required in the case of a summons.

(Methods of Disseminating the Legislation)

Article 98-2 (1) The methods prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 101 of the Act shall be the methods listed in each item of paragraph (3) of Article 23.

(2) The methods prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 101 of the Act shall be the following methods:

(i) To post or place the notified matters in a readily visible location at each workshop where substances pertaining to the notified matters are handled;

(ii) To distribute the document to the worker handling substances pertaining to the notified matters;

(iii) To record the notified matters on magnetic tapes, magnetic disks or other similar devices and to install in each workshop where substances pertaining to the notified matters are handled to enable workers who handle the said substances to see the content of the said record at any time.
Article 98-3  The Minister of Health, Labour and Welfare shall, when having conducted an epidemiological survey set forth in paragraph (1) of Article 108-2 of the Act based on the same paragraph, report the result of the survey to the Labour Policy Council within a year after the survey has been finished.

Chapter X Miscellaneous Provisions

Article 99  The application for the permission, accreditation, inspection or examination, etc., (excluding the one of Form No. 12) prescribed by the Act and the orders based on the Act shall consist of one original and one copy.

Article 100  Forms prescribed by the Ordinances of the Ministry based on the Act (excluding Forms 3, 6, 11, 12, 21-2-2, 21-7, and 23, Form No. 3-2 of the Ordinance on Prevention of Organic Solvent Poisoning [Ordinance of the Ministry of Labour No. 36 of 1972, hereinafter referred to as "Organic Solvent Ordinance"], Form No. 3 of the Ordinance on Prevention of Lead Poisoning [Ordinance of the Ministry of Labour No. 37 of 1972, hereinafter referred to as "Lead Poisoning Ordinance"], Form No. 3 of the Ordinance on Prevention of Tetraalkyl Lead Poisoning [Ordinance of the Ministry of Labour No. 38 of 1972, hereinafter referred to as "Tetraalkyl Lead Poisoning Ordinance"], Form No. 3 of the Specified Chemical Ordinance, Form No. 2 of the Ordinance on Safety and Health of Work under High Pressure [Ordinance of the Ministry of Labour No. 40 of 1972, hereinafter referred to as "High Pressure Work Ordinance"], Form No. 2 of the Ordinance of Prevention of Ionizing Radiation Dangers [Ordinance of the Ministry of Labour No. 41 of 1972, hereinafter referred to as "Ionizing Radiation Ordinance"], and Form No. 3 of the Asbestos Ordinance) are aimed to define the minimum necessary items to be described, and the use of forms other than those mentioned herein is not prohibited.

Part II Safety Standards

Chapter I Prevention of Dangers Due to Machines

Section 1 General Standards

Article 101  (1) The employer shall provide an enclosure, a cover, a sleeve, an overbridge, etc., for a prime mover, a rotating shaft, a gear, a pulley, a belt,
etc., of a machine, which are liable to cause dangers to workers.

(2) The employer shall, as regards set-screws and other fixtures attached to a rotating shaft, a gear, a pulley, a flywheel, etc., use those of sunken head type or provide a cover.

(3) The employer shall not use a protruded fastener for joining a belt.

(4) The employer shall provide a handrail with the height of 90 cm or more for the overbridge set forth in paragraph (1).

(5) A worker shall use an overbridge when the overbridge is provided.

(Prevention of Dangers Due to Cutoff of a Belt)

Article 102 The employer shall provide an enclosure under the belt for those are located above a passage or a work place and having a distance between pulleys of 3 m or more, width of 15 cm or more and speed of 10 m/ sec or more.

(Power Cutoff Device)

Article 103 (1) The employer shall provide a power cutoff device of a switch, a clutch, or a belt shifter, etc., for each machine. However, this shall not apply to a series of machines having a common power cutoff device and not requiring manual supply or extraction of raw materials during the process of their operation.

(2) The employer shall, when the machine set forth in the preceding paragraph is the one for cutting, drawing, compressing, punching, bending or expressing, provide the power cutoff device set forth in the same paragraph at a place where a person engaging in the said processing work are able to operate it without moving from the work station.

(3) The employer shall, as regards a power cut-off device set forth in paragraph (1), provide the one, which is capable to be easily operated and is unlikely to be unexpectedly activated due to contact, vibration, etc.

(Signals for Starting Operation)

Article 104 (1) The employer shall, in the case where an operation of a machine is started, and when it is liable to cause dangers to workers, set fixed signals, designate a person who gives the signals and have the said person give the signals to the workers concerned.

(2) A worker shall follow the signals set forth in the preceding paragraph.

(Prevention of Dangers Due to Flying of Work Pieces, etc.)

Article 105 (1) The employer shall, when it is liable to cause dangers to workers due to flying of cut or broken work pieces, etc., provide a cover or an enclosure for the machine dispersing the said work pieces, etc. However, this shall not apply to the case where providing a cover or an enclosure is difficult due to the
nature of the work, and when having a worker use protective equipment.
(2) A worker shall, when having been instructed to use personal protective
equipment in the case set forth in the proviso of the preceding paragraph, use
it.

(Prevention of Dangers Due to Flying of Chips, etc.)
Article 106  (1) The employer shall, when it is liable to cause dangers to workers
due to flying, etc., of chips from machines, provide a cover or an enclosure for
the machine producing the said chips. However, this shall not apply to the case
where providing a cover or an enclosure is difficult due to the nature of the
work, and when having a worker use personal protective equipment.
(2) A worker shall, when having been instructed to use personal protective
equipment in the case set forth in the proviso of the preceding paragraph, use
it.

(Stoppage of Operation etc., in the Case of Cleaning, etc.)
Article 107  (1) The employer shall, in the case where works of cleaning,
lubrication, inspection or repairing of a machine (excluding blade parts) are
carried out, and when it is liable to cause dangers to workers, stop the
operation of the machine. However, this shall not apply to the case where the
work has to be carried out during operation, and when taking the measures of
providing a cover on dangerous part, etc.
(2) The employer shall, when stopped the operation of the machine pursuant to
the provision of the preceding paragraph, take the measures of locking the
starting device of the said machine, attaching a plate, etc., to prevent a person
other than the worker engaging in the work set forth in the same paragraph
operating the said machine.

(Stoppage of Operation, etc., in the Case of Cleaning, etc. of Blade Parts, etc.)
Article 108  (1) The employer shall, when carrying out the work cleaning,
inspecting, repairing, replacing, or adjusting of blade parts of a machine, stop
the operation of the machine. However, this shall not apply to when it is
unlikely to cause dangers to workers because of the structure of the machine.
(2) The employer shall, when stopped the operation of the machine pursuant to
the provision of the preceding paragraph, take the measures of locking the
starting device of the said machine and attaching a plate to prevent a person
other than the worker engaging in the work set forth in the same paragraph
operating the said machine.
(3) The employer shall, when removing chips or using cutting lubricants for the
blade part of a machine during operation, have a worker use a brush or other
appropriate tools.
(4) A worker shall, when having been instructed to use a tool set forth in the preceding paragraph, use it.

(Prevention of Dangers Due to a Take-Up Roll, etc.)
Article 109 The employer shall provide a cover or an enclosure, etc., for a take-up roll or a coil of a paper, a cloth and a wire rope, etc., which are liable to cause dangers to the workers.

(Wearing of a Work Cap, etc.)
Article 110 (1) The employer shall, when it is liable to hair or clothes of the worker during the work caught in a power-driven machine, have the said worker wear appropriate work cap or work clothes.
(2) A worker shall, when having been instructed to wear a work cap or work clothes set forth in the preceding paragraph, wear them.

(Prohibition of the Use of Gloves)
Article 111 (1) The employer shall, when it is liable to fingers of the worker during the work caught in rotating blades of a drilling machine or a chamfering machine, not have the worker wear gloves.
(2) A worker shall, when having been prohibited to wear gloves in the case set forth in the preceding paragraph, not wear them.

Section 2 Machine Tool

(Cover, etc., on Stroke Ends)
Article 112 The employer shall, when the stroke ends of the ram of a shaper, a table of a grinding machine or a planer, etc., are liable to cause dangers to workers, provide a cover, an enclosure or a railing.

(Cover, etc., on Work Pieces Protruding from Machine Tool)
Article 113 The employer shall, when a rotating work pieces protruding from a vertical lathe, a turret lathe, etc., which is liable to cause dangers to workers, provide a cover, an enclosure, etc.

(Cover, etc., on Teeth of a Band Saw)
Article 114 The employer shall provide covers or enclosures on the teeth of band saws (excluding woodworking band saws) other than the parts necessary for sawing and the band wheel.

(Teeth Contact Preventive Device of a Circular Saw)
Article 115 The employer shall provide a teeth contact preventive device for
circular saws, etc. (excluding woodworking circular saws).

(Prohibition of Riding on a Table of a Vertical Lathe, etc.)
Article 116 (1) The employer shall not allow a worker to ride on a table of a vertical lathe or a planer during operation. However, this shall not apply when a worker on the table or a worker placed for an operation panel is able to stop the machine immediately.

(2) A worker shall, excluding the case set forth in the proviso of the preceding paragraph, not ride on a table of a vertical lathe, a planer, etc., during operation.

(Cover on Grinding Wheel)
Article 117 The employer shall, when rotating grinding wheel, which is liable to cause dangers to workers, provide a cover. However, this shall not apply to a grinding wheel with a diameter less than 50 mm.

(Test Run of Grinding Wheel)
Article 118 The employer shall, as regards a grinding wheel, make a test run for one minute or longer before commencing the work for the day and for three minutes or longer when replacing a grinding wheel.

(Prohibition of Operation of a Grinding Wheel at Speeds Exceeding Maximum Allowable Speeds)
Article 119 The employer shall, as regards a grinding wheel, not operate it at speeds exceeding the maximum allowable speeds.

(Prohibition of Use of Side Surfaces of a Grinding Wheel)
Article 120 The employer shall not use the side surfaces of a grinding wheel except for a grinding wheel designed for use of their side surfaces.

(Cover on a Buff)
Article 121 The employer shall provide a cover on a buffing machine (excluding the one using a cloth buff or a cork buff) other than the parts necessary for polishing.

Section 3 Woodworking Machine

(Anti-Kickback Device for a Circular Saw)
Article 122 The employer shall provide a spreader or other anti-kickback device, etc., for a woodworking circular saw (excluding a cross cut circular saw and others are unlikely to cause dangers to workers due to kickback of the wood).
(Teeth Contact Preventive Device for a Circular Saw)
Article 123  The employer shall provide a teeth contact preventive device for a woodworking circular saw (excluding the one for lumber and the one with an automatic feeding device).

(Cover, etc., on Teeth or a Band Wheel of a Band Saw)
Article 124  The employer shall provide a cover or an enclosure on the teeth of a woodworking band saw other than the parts necessary for sawing and a band wheel.

(Cover, etc., on a Feeding Roller of a Band Saw)
Article 125  The employer shall provide a contact preventive device or a cover on a spiked or a toothed feeding roller of a woodworking band saw excluding the feeding side. However, this shall not apply to those equipped with a quick stop device, which an operator is able to stop the operation of spiked or toothed feeding rollers.

(Blade Contact Preventive Device of a Hand Feed Planer)
Article 126  The employer shall provide a blade contact preventive device for a hand feed planer.

(Cutters Contact Preventive Device of a Wood Shaper)
Article 127  (1) The employer shall provide a cutters contact preventive device for a wood shaper (excluding the one equipped with an automatic feeding device). However, this shall not apply to the case where providing a contact preventive device is difficult due to the nature of the work, and when having a worker use a jig or a tool.  
(2) A worker shall, in the case set forth in the proviso of the preceding paragraph, and when having been instructed to use a jig or a tool, use them.

(Prohibition of Entry)
Article 128  (1) The employer shall prohibit workers from entering the space between teeth and a log carriage of an automatic log carriage type band saw and display a notice to that effect at a readily visible location.
(2) A worker shall not enter a place where entry is prohibited pursuant to the provision of the preceding paragraph.

(Appointment of an Operations Chief of Woodworking Machines)
Article 129  The employer shall, as regards the work set forth in item (vi) of Article 6 of the Order, appoint an operations chief of woodworking machines
from the persons who have completed the skill training course for operations chief of woodworking machines.

(Duties of an Operations Chief of Woodworking Machines)
Article 130  The employer shall have an operations chief of woodworking machines carry out the following matters:
(i) To supervise directly the work handling woodworking machine.
(ii) To inspect a woodworking machine and its safety device.
(iii) To take necessary measures immediately when having found any abnormalities in a woodworking machine and its safety device.
(iv) To monitor the use of a jig or a tool during the operation.

Section 4 Press Machine and Shearing machine

(Prevention of Dangers Due to a Press Machine, etc.)
Article 131  (1) The employer shall, as regards a press machine and a shearing machine (hereinafter referred to as "press, etc."), take measures of providing a safety enclosure, etc., for preventing a part of a body of the worker carrying out the work using the said press, etc., from entering the dangerous zone. However, this shall not apply to press, etc., with mechanism to prevent dangers due to a slide or a blade.
(2) The employer shall, when it is difficult to comply with the provisions of the preceding paragraph due to the nature of the work, in order to secure the safety of a worker carrying out the work using the said press, etc., take such necessary measures as installation of safety devices as provided for in the followings:
(i) The safety device having a performance corresponding to the type of press, etc., pressure capability, strokes/min., length of strokes, and the method of work.
(ii) The safety device having a performance corresponding to the stopping performance of the press, etc., for the one with two-hand control system or with sensitive-response system.
(3) The measures set forth in the preceding two paragraphs shall, as regards press, etc., equipped with a processing stage changeover switch, an operation changeover switch or an operation station changeover switch or a safety device changeover switch, be taken in any condition when either one of the said switches is operated.

(Prevention of Dangers Due to Descent of a Slide)
Article 131-2  (1) The employer shall, in the case where the works of fitting, replacing or adjusting the dies of a power press are carried out, and when a
part of the body of the worker engaging in the said work enter a dangerous zone, take such measures as having the said worker use safety blocks, etc., in order to prevent the worker from dangers due to unexpected descent of the slide.

(2) The worker engaging in the work set forth in the preceding paragraph shall take measures of using a safety block, etc., set forth in the same paragraph.

(Adjustment of a Die)
Article 131-3 The employer shall, when operating a slide for adjusting a die of a press machine, carry out the operations by inching for the one with an inching mechanism or by manually operating for the one without an inching mechanism.

(Maintaining of the Functions of a Clutch, etc.)
Article 132 The employer shall maintain the functions of a clutch, a brake and other devices necessary for control of the press, etc., always in effective conditions.

(Appointment of an Operations Chief of Press Machines)
Article 133 The employer shall, as regards the work set forth in item (vii) of Article 6 of the Order, appoint an operations chief of press machines from the persons who have completed the skill training course for operations chief of press machines.

(Duties of an Operations Chief of Press Machines)
Article 134 The employer shall have an operations chief of press machines carry out the following matters:
(i) To inspect a press machine and its safety device.
(ii) To take necessary measures immediately when having found any abnormalities in a press machine and its safety device.
(iii) To take custody of a key when having equipped a press machine or its safety device with a changeover key switch.
(iv) To supervise directly the work of fitting, removing and adjusting a die.

(Custody, etc., of the Key of a Changeover Key Switch)
Article 134-2 The employer shall, in the case where works other than those set forth in item (vii) of Article 6 of the Order among works using a power press are carried out, and when providing a changeover key switch for the power press and its safety device, designate a person who takes custody of the key switch, and have the said person take custody of the said key.
(Periodical Self-inspections)

Article 134-3  (1) The employer shall, as regards a power press, carry out self-inspections for the following matters periodically once every period within a year. However, this shall not apply to the non-use period of a power press, which is not used for a period exceeding one year:

(i) Abnormalities in crankshafts, flywheels and other power transmission devices.
(ii) Abnormalities in a clutch, a brake and other controlling system.
(iii) Abnormalities in a one-stroke one-stop mechanism, a quick stop mechanism or emergency stop devices.
(iv) Abnormalities in a slide, a connecting rod or other slide-related parts.
(v) Abnormalities in a magnet valve, a pressure control valve or other air pressure system.
(vi) Abnormalities in a magnet valve, a hydraulic pump or other hydraulic systems.
(vii) Abnormalities in a limit switch, a relay or other electrical systems.
(viii) Abnormalities in a die cushion and its accessories.
(ix) Abnormalities in the mechanism for preventing dangers due to a slide.

(2) The employer shall, as regards the power press set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

Article 135  (1) The employer shall, as regards a power-driven shearing machine, carry out self-inspections for the following matters periodically once every period within a year. However, this shall not apply to the non-use period of a power-driven shearing machine, which is not used for a period exceeding one year:

(i) Abnormalities in a clutch and a brake.
(ii) Abnormalities in a sliding mechanism.
(iii) Abnormalities in one stroke one-stop mechanism, a quick stop mechanism, and an emergency stop device.
(iv) Abnormalities in a magnet valve, a pressure-reducing valve and a pressure gauge.
(v) Abnormalities in wiring and switches.

(2) The employer shall, as regards the shearing machine set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

(Record of Periodical Self-inspections)

Article 135-2 The employer shall, when having carried out the self-inspections set forth in the preceding two Articles, record the following matters and
preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The full name of the person who has carried out the inspection
(vi) When measures such as the repair have been taken based on the result of
the inspection, their contents.

(Specified Self-inspections)
Article 135-3  (1) The self-inspection prescribed by the Ordinance of the Ministry
of Health, Labour and Welfare set forth in paragraph (2) of Article 45 of the
Act pertaining to a power press (hereinafter referred to as the "specified self-
inspection") shall be the self-inspection prescribed by Article 134-3.
(2) The worker who is in possession of the qualifications prescribed by the
Ordinance of the Ministry of Health, Labour and Welfare set forth in
paragraph (2) of Article 45 of the Act pertaining to a power press shall be the
person who falls under any of the following each item:
(i) A person who falls under any of the following categories and has completed
the training course provided by the Minister of Health, Labour and Welfare:
(a) A person who has majored in and graduated from an engineering course
of a university or a technical collage accredited under the School Education
Act, and has experiences having engaged in the work of checkup or
maintenance of a power press for two years or longer or design or
manufacture of a power press for five years or longer.
(b) A person who has majored in and graduated from an engineering course
of a senior high school or a secondary education school accredited under
the School Education Act and has experiences having engaged in the work
of checkup or maintenance of a power press for four years or longer or
design or manufacture of a power press for seven years or longer.
(c) A person who has experiences having engaged in the work of checkup or
maintenance of a power press for seven years or longer or design or
manufacture of a power press for 10 years or longer.
(d) A person who has completed the skill training course for operations chief
of press machine listed in item (2) of Appended Table 18 of the Act and who
has experiences having engaged in the work using a power press for 10
years or longer.
(ii) Other persons provided by the Minister of Health, Labour and Welfare.
(3) As regards the application of the provision of the preceding Article in the case
when having a registered inspection agency set forth in paragraph (2) of Article
45 of the Act (hereinafter referred to as "the registered inspection agency")
implement the specified self-inspection pertaining to a power press, the term "the name of the person who has carried out the inspection" in item (v) of the same Article shall be deemed to be replaced with "the name of the registered inspection agency."

(4) The employer shall, when having carried out the specified self-inspection pertaining to a power press, affix an inspection sticker stating the month and year when the said specified self-inspection was carried out at a readily visible location of the said power press.

(Checkup before Commencing the Work)
Article 136 The employer shall, when carrying out the work using press, etc., check the following matters before commencing the work for the day:
(i) The function of a clutch and a brake.
(ii) The slackness of a bolt of a crankshaft, a flywheel, a slide, a connecting rod and a connecting screw.
(iii) The function of one-stroke one-stop mechanism, quick stop mechanism and emergency stop device.
(iv) The function of mechanism for preventing dangers due to a slide or a blade.
(v) The conditions of a die and a bolster for a press machine.
(vi) The conditions of a blade and a table for a shearing machine.

(Repair of Press, etc.)
Article 137 The employer shall, when having found any abnormalities in the case when having carried out the self-inspection set forth in Article 134-3 or 135, or the checkup set forth in the preceding Article, immediately repair or take other necessary measures.

Section 5 Centrifugal Machine

(Fitting of a Lid)
Article 138 The employer shall provide a lid on a centrifugal machine.

(Stoppage of Operation in the Case of Taking Contents Out)
Article 139 The employer shall, when taking the contents out of a centrifugal machine (excluding the one constructed so that the content is automatically taken out), stop the said machine.

(Prohibition of Use at Speeds Exceeding Maximum Allowable Rotation)
Article 140 The employer shall, as regards a centrifugal machine, not use them at speeds exceeding their maximum allowable rotating speeds.
(Periodical Self-inspections)
Article 141  (1) The employer shall, as regards a power-driven centrifugal machine, carry out self-inspections for the following matters periodically once every period within a year. However, this shall not apply to the non-use period of a centrifugal machine, which is not used for a period exceeding one year:
(i) Abnormalities in rotor.
(ii) Abnormalities in bearing parts of main shafts.
(iii) Abnormalities in a brake.
(iv) Abnormalities in an outer frame.
(v) The slackness of a bolt used in the parts listed in the preceding each item.
(2) The employer shall, as regards the centrifugal machine set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the use.
(3) The employer shall, when having carried out the self-inspections set forth in the preceding two paragraphs, record the following matters and preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.
(4) The employer shall, when having found any abnormalities in the case when having carried out the self-inspection set forth in paragraph (1) or (2), immediately repair or take other necessary measures.

Section 6 Crushing Machine and Mixer

(Prevention of Dangers of Falling, etc.)
Article 142  (1) The employer shall, when it is liable to cause dangers to workers due to falling from the opening of a crushing machine or a mixer, provide a lid, an enclosure, a railing with a height of 90 cm or higher, etc. However, this shall not apply to the case where providing a lid, a cover or a railing, etc., is difficult due to the nature of the work, and when having taken measures of having the worker use a safety belt (meaning the safety belt set forth in item (xxviii) of paragraph (3) of Article 13 of the Order; the same shall apply hereinafter), etc., for preventing dangers of falling.
(2) The employer shall, when it is liable to cause dangers to workers due to contacting with moving part from the opening set forth in the preceding paragraph, provide a lid, an enclosure, etc.
(3) A worker shall, when having been instructed to use a safety belt and other lifelines (hereinafter referred to as "safety belt, etc.") in the case set forth in the proviso of paragraph (1), use them.

(Stoppage of Operation in the Case of Taking Contents Out)

Article 143  (1) The employer shall, when taking contents out of a crushing machine or a mixer (excluding the one constructed so that the content is automatically taken out), stop the said machines. However, this shall not apply to the case where taking out of contents after stoppage of the operations the said machine is difficult due to the nature of the work, and when having a worker use tools.

(2) A worker shall, when having been instructed to use a tool in the case set forth in the preceding paragraph, use it.

Section 7 Rolling Mill, etc.

(Enclosure, etc., of a Rolling Mill for Rolling Paper, etc.)

Article 144  The employer shall provide an enclosure, a guide roll, etc., for the parts of the rolling mill for passing through a paper, a cloth, a metal foil, etc., which are liable to cause dangers to workers.

(Shuttle Guard of a Weaving Machine)

Article 145  The employer shall provide a shuttle guard for a weaving machine equipped with a shuttle.

(Cover, etc., on a Drawing Block of a Wiredrawing Machine, etc.)

Article 146  The employer shall provide a cover, an enclosure, etc., for a drawing block of a wiredrawing machine or a cage of strand-twisting machine, which are liable to cause dangers to workers.

(Prevention of Dangers Due to an Injection Molding Machine, etc.)

Article 147  (1) The employer shall, when it is likely to cause a part of a body of a worker caught in an injection molding machine, a molding machine or a stamping machine, etc., (excluding those machines prescribed by Section 4 of this Chapter), provide a door, starting device with two-hand control and other safety devices.

(2) The door set forth in the preceding paragraph shall be of the construction that the machine does not operate unless the door is closed.

(Prevention of Dangers Due to Fans)

Article 148  The employer shall provide a net or an enclosure for fans of which
blades are liable to cause dangers to workers.

Section 8 High Speed Rotating Body

(Prevention of Dangers During a Rotating Test)
Article 149 The employer shall, when carrying out a rotating test of a high speed rotating body (meaning the rotor of a turbine rotor, a basket of a centrifugal separator, etc., having the circumferential speed exceeding 25 m/sec.; hereinafter the same shall apply in this Section), carry out the test inside of a purpose-built sound building or at place isolated by sound barriers, etc., in order to prevent dangers due to the destruction of the rotating body. However, this shall not apply to the case where a rotating test of the high speed rotating body other than those set forth in the next Article is carried out, and when taking measures such as providing a sound cover in the testing facilities for preventing dangers due to destruction of the said rotating body.

(Non-Destructive Test of Rotating Shaft)
Article 150 The employer shall, when carrying out a rotating test of high speed rotating body (limited to the one having rotating shaft with weight exceeding 1 ton and circumferential speed exceeding 120 m/sec.), confirm in advance, that there is no defect, which is liable to cause destruction in its rotating shaft by carrying out non-destructive test corresponding to the material, shape, etc.

(Implementation Method of a Rotating Test)
Article 150-2 The employer shall, when carrying out a rotating test of a high speed rotating body, carry out by a method of remote control, etc., which are unlikely to cause dangers to the worker carrying out the work controlling, measuring, etc., of the said test due to destruction of the said high speed rotating body.

Section 9 Industrial Robot

(Teaching, etc.)
Article 150-3 The employer shall, when carrying out the work teaching, etc., as regards industrial robots within its movement range, take the following measures in order to prevent the dangers due to an unexpected activation or an operational error of the said industrial robots. However, this shall not apply to the measures set forth in the following item (i) and (ii) when the work carrying out with the power source of the industrial robot turned off.
(i) To establish rules for the following matters and have a worker carry out the work by the rules:
(a) The method and the procedure for the operation of the industrial robot.
(b) The speed of the manipulator in operation.
(c) The method of signals in the case when having more than one worker carries out the work.
(d) The measures for emergency.
(e) The measures for resuming the operation of the industrial robot after its emergency stop.
(f) The other necessary measures for preventing dangers due to an unexpected activation or an erroneous operation of the industrial robot.

(ii) To take measures in order to enable a worker who engages in the work and a person who oversees the said worker to immediately stop the operation of the industrial robot at emergency.
(iii) To take measures of posting a sign on a start switch, etc., of the industrial robot to indicate the industrial robot is in operation while carrying out the operation in order to prevent the persons other than the worker who engages in the operation from operating the said start switch, etc.

(Prevention of Dangers During Operation)

Article 150-4 The employer shall, in the case where an industrial robot is operated (excluding when operating the industrial robot for teaching, etc., and where the work prescribed by the next Article has to be carried out during operation), and when it is liable to cause dangers to workers due to contact with the said industrial robot, take necessary measures of providing a railing, an enclosure, etc., for preventing the said dangers.

(Inspection, etc.)

Article 150-5 The employer shall, when carrying out the work inspecting, repairing, adjusting (excluding those for teaching, etc.), cleaning or lubrication, or confirmation of these results for an industrial robot within its movement range, take measures of stopping the operation of the industrial robot, locking the start switch while carrying out the said work, posting a sign on a start switch of the said industrial robot to indicate the work is in progress in order to prevent the persons other than the worker who engages in the operation from operating the said start switch. However, this shall not apply to the case where the work has to be carried out during operation of the industrial robot, and when taking the following measures for preventing dangers due to an unexpected activation or an operational error of the industrial robot.

(i) To establish rules as to the following matters and to have workers carry out work by the said rules:
   (a) Method and procedure for the operation of the industrial robot.
   (b) Method for exchanging signals among the workers where the work has to
be carried out by more than one worker.
(c) Measures in an emergency.
(d) Measures for resuming the operation of the robot after the emergency stop.
(e) Other measures necessary for preventing dangers occurring due to unexpected activation or erroneous operation of the robot.

(ii) To take measures for enabling workers who engage in the work or a person who oversees the said workers to immediately stop the operation of the industrial robot in an emergency.
(iii) To take measures for preventing a person other than the workers who engage in work from touching the selector switch for changing the operating conditions of the robot during work such as posting a sign to indicate that the work are currently in progress to the said selector switch, etc.

(Checkup)
Article 151 The employer shall, when carrying out the work teaching, etc., (excluding the one carrying out with power source for the industrial robot is turned off) of the industrial robot within its movement range, check the following matters before commencing the work for the day, and immediately repair or take other necessary measures when having found any abnormalities:
(i) Damages to the insulation or sheath of an external cable.
(ii) Abnormalities in a manipulator.
(iii) Functions of a braking device and an emergency stop device.

Chapter I-2 Material Handling Machine, etc.
Section 1 Vehicle Type Material Handling Machine, etc.
Subsection 1 General Provisions

(Definitions)
Article 151-2 The term "vehicle type material handling machine, etc." as used in this Ordinance of Ministry shall mean those falling under any of the following each item:
(i) The forklift
(ii) The shovel-loader
(iii) The fork loader
(iv) The straddle carrier
(v) The transporting vehicle on rough terrain
(vi) The in-yard transporting vehicle (meaning the automobile constructed to exclusively transport cargoes [limited to the one with the length of 4.7 m or less, the width of 1.7 m or less and the height of 2.0 m or less] having the maximum speed of 15 km/h or less [excluding the one falling under the
(vii) The truck (meaning the automobile constructed to exclusively transport cargoes [excluding the one falling under the preceding two items]).

(Work Plan)
Article 151-3  (1) The employer shall, when carrying out the work using a vehicle type material handling machine, etc. (excluding the work travelling on the road using a transporting vehicle on rough terrain or a truck; the same shall apply hereinafter up to Article 151-7), establish in advance a work plan in conformity with the space and landform of the place pertaining to the said work, the type and capability of the said machine, and the type and shape of the cargo, and carry out the work by the said work plan.

(2) The work plan set forth in the preceding paragraph shall be the one describing the travelling route of the said machine, etc., and the method of the work by the said machine, etc.

(3) The employer shall, when having established the work plan set forth in paragraph (1), make the matters described pursuant to the provision of the preceding paragraph known to the workers concerned.

(Operation Leader)
Article 151-4  The employer shall, when carrying out the work using a vehicle type material handling machine, etc., designate a leader for the said work, and have the said leader direct the work based on the work plan set forth in paragraph (1) of the preceding Article.

(Speed Limit)
Article 151-5  (1) The employer shall, when carrying out the work using a vehicle type material handling machine, etc., (excluding the one having maximum speed of 10 km/h or less), in advance, set the appropriate speed limit for the vehicle type material handling machine, etc., corresponding to the landform and conditions of the ground, etc., of the place pertaining to the said work and carry out the work by the set speed limit.

(2) The operator of the vehicle type material handling machine, etc., set forth in the preceding paragraph shall not operate the vehicle type material handling machine, etc., at speeds exceeding the speed limit set forth in the same paragraph.

(Prevention of Falling, etc.)
Article 151-6  (1) The employer shall, when carrying out the work using a vehicle type material handling machine, etc., take necessary measures for the travelling route of the said machine, etc., such as maintaining the necessary
width, preventing uneven settling of the ground and collapse of shoulder in order to prevent workers from dangers due to overturning or falling of the said machine, etc.

(2) The employer shall, in the case where the work using a vehicle type material handling machine, etc., is carried out at road shoulder, inclined place, etc., and when it is liable to cause dangers to workers due to overturning or falling of the said machine, etc., arrange a guide, and have the said person guide the said machine, etc.

(3) The operator of the vehicle type material handling machine, etc., set forth in the preceding paragraph shall follow the instructions given by the guide set forth in the same paragraph.

(Prevention of Workers Being Hit)

Article 151-7  (1) The employer shall, when carrying out the work using a vehicle type material handling machine, etc., not allow a worker to enter a place, which is liable to cause dangers to workers due to being hit by the vehicle type material handling machine, etc., during operation or its cargo. However, this shall not apply to when arranging a guide and having the said person guide the said machine, etc.

(2) The operator of the vehicle type material handling machine, etc., set forth in the preceding paragraph shall follow the instruction given by the guide set forth in the proviso of the same paragraph.

(Signals)

Article 151-8  (1) The employer shall, when placing a guide for a vehicle type material handling machine, etc., set fixed signals and have the said guide give the signals.

(2) The operator of the vehicle type material handling machine, etc., set forth in the preceding paragraph shall follow the signals set forth in the same paragraph.

(Prohibition of Entry)

Article 151-9  (1) The employer shall, as regards a vehicle type material handling machine, etc., (excluding the one equipped with a device for preventing a fork, a shovel or an arm from unexpected descending because of its structure), not allow a worker to enter the place under its fork, shovel or arm, or cargo supported by them. However this shall not apply to the case where works repairing or checking, etc., are carried out, and when having the worker engaging in the said work use a safety prop or a safely block, etc., in order to prevent a worker from dangers due to unexpected descending of the fork, the shovel or the arm.
(2) The worker carrying out the work set forth in the proviso of the preceding paragraph shall use the safety prop, the safety block, etc., set forth in the proviso of the same paragraph.

(Loading of Cargo)

Article 151-10 The employer shall, when loading cargo on a vehicle type material handling machine, etc., comply with the following provisions:
(i) To load cargo in a manner to prevent uneven loading.
(ii) For a transporting vehicle on rough terrain, an in-yard transporting vehicle or a truck, to take such necessary measures as roping or sheeting cargoes, etc., in order to prevent workers from dangers due to collapsing or falling of cargo.

(Measures to be taken in the Case of Leaving the Operating Station)

Article 151-11 (1) The employer shall, when the operator of a vehicle type material handling machine, etc., leaves the operating station, have the said operator take the following measures:
(i) To place a cargo handling device of the fork, shovel, etc., at the lowest descending position.
(ii) To stop a prime mover and take measures of setting the brake securely to keep the machine in stopped condition, etc., in order to prevent a vehicle type material handling machine, etc., from breaking into a run.
(2) The operator set forth in the preceding paragraph shall take measures listed in each item of the same paragraph when leaving the operating station of the vehicle type material handling machine, etc.

(Transfer of a Vehicle Type Material Handling Machine, etc.)

Article 151-12 The employer shall, when using a loading plate, fills, etc., in the case where a vehicle type material handling machine, etc., is loaded to a truck, etc., or is unloaded from a truck, etc., by self-propelling or towing for transferring the said machine, comply with the following provisions in order to prevent dangers due to overturning, falling, etc. of the said machine:
(i) To load or unload at a level and firm place.
(ii) When using a loading plate, to use the one with a sufficient length, width and strength, and fix it securely with appropriate incline.
(iii) When using fills or a temporary stand, etc., to secure a sufficient width, strength and appropriate incline.

(Restriction on Ride)

Article 151-13 The employer shall, when carrying out the work using a vehicle type material handling machine, etc. (excluding a transporting vehicle
rough terrain and a truck), not allow a worker to ride on places other than the seat. However, this shall not apply to when having taken measures to prevent workers from dangers due to falling.

(Restriction on the Use for Other than Main Purpose)
Article 151-14 The employer shall not use a vehicle type material handling machine, etc., for other than its main purpose of lifting a load, raising or lowering a worker, etc. However, this shall not apply to when it is unlikely to cause dangers to workers.

(Repair, etc.)
Article 151-15 The employer shall, when carrying out the work repairing a vehicle type material handling machine, etc., or fitting or removing its attachments, designate a person to direct the said work and have the said person carry out the following matters:
(i) To decide a work procedure, and supervise the work directly.
(ii) To monitor the use of a safety prop, a safety block, etc., set forth in the proviso of paragraph (1) of Article 151-9.

Subsection 2 Forklift

(Front and Rear Lamps)
Article 151-16 The employer shall, as regards a forklift, not use the one without front and rear lamps. However, this shall not apply to the place maintaining necessary illumination for carrying out the work safely.

(Head Guard)
Article 151-17 The employer shall, as regards a forklift, not use the one without a head guard as provided for in the followings. However, this shall not apply to when it is unlikely to cause dangers to the operator of the forklift due to falling of cargo:
(i) To have the strength withstanding against the uniformly distributed static load equivalent to two times of the maximum load of the forklift (4 tons in a case that the value exceeds 4 tons).
(ii) To have the opening of the upper frame with the width or the length less than 16 cm.
(iii) To have the height from an upper surface of a driver's seat to the lower surface of an upper frame of a head guard of 95 cm or more for the forklift operated by a driver sitting on its driver's seat.
(iv) To have the height from the floor surface of the driver's seat to the lower surface of the upper frame of the head guard of 1.8 m or more for the forklift
operated by a driver standing.

(Backrest)
Article 151-18 The employer shall, as regards a forklift, not use the one without a backrest. However, this shall not apply to when it is unlikely to cause dangers to workers due to falling of cargo on the rear of the mast.

(Pallet, etc.)
Article 151-19 The employer shall, as regards a pallet or a skid used in the material handling work by a forklift, not use the one unless otherwise prescribed as follows:
(i) To have sufficient strength corresponding to the weight of cargoes to be loaded.
(ii) To be free from extremely damage, deformation and corrosion.

(Restriction of Use)
Article 151-20 The employer shall, as regards a forklift, not use it at conditions exceeding the allowable load (meaning the maximum load that can be burdened corresponding to its structure and material of the forklift and the center of the gravity of the load to be loaded on the fork, etc. [meaning a device for loading cargo such as a fork, a ram]) and other capabilities.

(Periodical Self-inspections)
Article 151-21 (1) The employer shall, as regards a forklift, carry out self-inspections for the following matters periodically once every period not exceeding one year. However, this shall not apply to the non-use period of a forklift, which is not used for a period exceeding one year:
(i) Abnormalities in compression pressure, valve clearance and other parts of a prime mover.
(ii) Abnormalities in a differential, a propeller shaft and other power transmission devices.
(iii) Abnormalities in a tire, a wheel bearing and other traveling devices.
(iv) Abnormalities in rotation angle of left and right steering wheels, a knuckle, a rod, an arm and other controlling devices.
(v) Abnormalities in braking capability, a brake drum, a brake shoe and other braking devices.
(vi) Abnormalities in a fork, a mast, chains, a chain wheel and other cargo handling devices.
(vii) Abnormalities in a hydraulic pump, a hydraulic motor, a cylinder, a safety valve and other parts of a hydraulic system.
(viii) Abnormalities in voltage, amperage and other parts of an electrical
(ix) Abnormalities in a body, a head guard, a backrest, a warning device, a direction indicator, a lightning device, a meter.

(2) The employer shall, as regards the forklift set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

Article 151-22 (1) The employer shall, as regards a forklift, carry out self-inspections for the following matters periodically once every period not exceeding one month. However, this shall not apply to the non-use period of a forklift, which is not used for a period exceeding one month:
(i) Abnormalities in a braking device, a clutch and a controlling device.
(ii) Abnormalities in a cargo handling device and a hydraulic system.
(iii) Abnormalities in a head guard and a backrest.

(2) The employer shall, as regards the forklift set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

(Record of Periodical Self-inspections)

Article 151-23 The employer shall, when having carried out the self-inspections set forth in the preceding two Articles, record the following matters and preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Specified Self-inspections)

Article 151-24 (1) The specified self-inspection pertaining to a forklift shall be the self-inspection prescribed by Article 151-21.

(2) The worker who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 45 of the Act pertaining to a forklift shall be the person who falls under any of the following each item:
(i) A person who falls under any of the following categories and has completed the training course provided by the Minister of Health, Labour and Welfare:
   (a) A person who has majored in and graduated from an engineering course of a university or a technical college accredited under the School Education
Act, and has experiences having engaged in the work of checkup or maintenance of a forklift for two years or longer or design or manufacture of a forklift for five years or longer.

(b) A person who has majored in and graduated from an engineering course of a senior high school or a secondary education school accredited under the School Education Act and has experiences having engaged in the work of checkup or maintenance of a forklift for four years or longer or design or manufacture of a forklift for seven years or longer;

(c) A person who has experiences having engaged in the work of checkup or maintenance of a forklift for seven years or longer or design or manufacture of a forklift for 10 years or longer;

(d) A person who has experiences having engaged in the work by a forklift for 10 years or longer.

(ii) Other persons provided by the Minister of Health, Labour and Welfare.

(3) The employer shall, as regards the forklift (limited to the one subject to paragraph (1) of Article 48 of the Road Transportation Vehicle Act [Act No. 185 of 1951]) used for the travelling prescribed by paragraph (5) of Article 2 of the same Act (hereinafter referred to as "travelling"), in the case when having checked pursuant to the provisions of the same paragraph, not be required to carry out the self-inspection set forth in Article 151-21 for the parts where the said checkup has been carried out.

(4) As regards the application of the provision of the preceding Article in the case when having a registered inspection agency implement the specified self-inspection pertaining to a forklift, the term "the full of the person who has carried out the inspection" in item (v) of the same Article shall be deemed to be replaced with "the name of the registered inspection agency."

(5) The employer shall, when having carried out the specified self-inspection pertaining to a forklift, affix an inspection sticker stating the month and year when the said specified self-inspection was carried out at a readily visible location of the said forklift.

(Repair, etc.)
Article 151-26  The employer shall, when having found any abnormalities in the case when having carried out the self-inspection set forth in Article 151-21 or 151-22, or the checkup set forth in the preceding Article, immediately repair or take other necessary measures.

Subsection 3 Shovel-Loader, etc.

(Front and Rear Lamps)
Article 151-27  The employer shall, as regards a shovel-loader or a fork loader (hereinafter referred to as "shovel-loader, etc."), not use the one without front and rear lamps. However, this shall not apply to the place maintaining necessary illumination for carrying out the work safely.

(Head Guard)
Article 151-28  The employer shall, as regards a shovel-loader, etc., not use the one without a sound head guard. However, this shall not apply to when it is unlikely to cause dangers to the operator of the shovel-loader, etc., due to falling of cargo:

(Loading of Cargo)
Article 151-29  The employer shall, as regards a shovel-loader, etc., load cargoes in such a manner that the loaded cargo does not obstruct the operator's view.

(Restriction of Use)
Article 151-30  The employer shall, as regards a shovel-loader, etc., not use it at the condition exceeding the maximum load and other capabilities.

(Periodical Self-inspections)
Article 151-31  (1) The employer shall, as regards shovel-loaders, etc., carry out self-inspections for the following matters periodically once every period not exceeding one year. However, this shall not apply to the non-use period of shovel-loaders, etc., which is not used for a period exceeding one year:
   (i) Abnormalities in a prime mover.
   (ii) Abnormalities in a power transmission device and a traveling device.
   (iii) Abnormalities in a braking device and a controlling device.
   (iv) Abnormalities in a cargo handling device and a hydraulic system.
   (v) Abnormalities in an electrical system, a safety device and meters.
(2) The employer shall, as regards the shovel-loader, etc. set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.
Article 151-32  (1) The employer shall, as regards a shovel-loader, etc., carry out self-inspections for the following matters periodically once every period not exceeding one month. However, this shall not apply to the non-use period of shovel-loaders, etc., which is not used for a period exceeding one month:
(i) Abnormalities in a braking device, a clutch and a controlling device.
(ii) Abnormalities in a cargo handling device and a hydraulic system.
(iii) Abnormalities in a head guard.
(2) The employer shall, as regards the shovel-loader, etc., set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

(Record of Periodical Self-inspections)
Article 151-33  The employer shall, when having carried out the self-inspections set forth in the preceding two Articles, record the following matters and preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Checkup)
Article 151-34  The employer shall, when carrying out the work using a shovel-loader, etc., check the following matters before commencing the work for the day:
(i) Functions of a braking device and a controlling device.
(ii) Functions of a cargo handling device and a hydraulic system.
(iii) Abnormalities in a wheel.
(iv) Functions of front and rear lamps, a direction indicator and a warning device.

(Repair, etc.)
Article 151-35  The employer shall, when having found any abnormalities in the case when having carried out the self-inspection set forth in Article 151-31 or 151-32, or the checkup set forth in the preceding Article, immediately repair or take other necessary measures.

Subsection 4 Straddle Carrier
(Front and Rear Lamps)
Article 151-36 The employer shall, as regards a straddle carrier, not use the one without front and rear lamps. However, this shall not apply to the place maintaining necessary illumination for carrying out the work safely.

(Restriction of Use)
Article 151-37 The employer shall, as regards a straddle carrier, not use it at the condition exceeding the maximum load and other capabilities.

(Periodical Self-inspections)
Article 151-38 (1) The employer shall, as regards a straddle carrier, carry out self-inspections for the following matters periodically once every period not exceeding one year. However, this shall not apply to the non-use period of a straddle carrier, which is not used for a period exceeding one year:
(i) Abnormalities in a prime mover.
(ii) Abnormalities in a power transmission device and a traveling device.
(iii) Abnormalities in a braking device and a controlling device.
(iv) Abnormalities in a cargo handling device and a hydraulic system.
(v) Abnormalities in an electrical system, a safety device and meters.
(2) The employer shall, as regards the straddle carrier set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

Article 151-39 (1) The employer shall, as regards a straddle carrier, carry out self-inspections for the following matters periodically once every period not exceeding one month. However, this shall not apply to the non-use period of a straddle carrier, which is not used for a period exceeding one month:
(i) Abnormalities in a braking device, a clutch and a controlling device.
(ii) Abnormalities in a cargo handling device and a hydraulic system.
(2) The employer shall, as regards the straddle carrier set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

(Record of Periodical Self-inspections)
Article 151-40 The employer shall, when having carried out the self-inspections set forth in the preceding two Articles, record the following matters and preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Checkup)
Article 151·41 The employer shall, when carrying out the work using a straddle carrier, check the following matters before commencing the work for the day:
(i) Functions of a braking device and a controlling device.
(ii) Functions of a cargo handling device and a hydraulic system.
(iii) Abnormalities in a wheel.
(iv) Functions of front and rear lamps, a direction indicator and a warning device.

(Repair, etc.)
Article 151·42 The employer shall, when having found any abnormalities in the case when having carried out the self-inspection set forth in Article 151·38 or 151·39, or the checkup set forth in the preceding Article, immediately repair or take other necessary measures.

Subsection 5 Transporting Vehicle on Rough Terrain

(Front and Rear Lamps)
Article 151·43 The employer shall, as regards a transporting vehicle on rough terrain (excluding the one used for travelling), not use the one without front and rear lamps. However, this shall not apply to the place maintaining necessary illumination for carrying out the work safely.

(Restrictions of Use)
Article 151·44 The employer shall, as regards a transporting vehicle on rough terrain, not use it at the condition exceeding the maximum loading capability and other capacities.

(Raising and Lowering Equipment)
Article 151·45 (1) The employer shall, when loading cargoes on a transporting vehicle on rough terrain having the maximum loading capacity of 5 tons or more (including the work roping and sheeting) and unloading cargoes from a transporting vehicle on a rough terrain having the maximum loading capacity of 5 tons or more (including the work unroping and unsheeting), provide the equipment for the worker engaging the said work to go up and down safely between the floor surface and the upper surface of the cargoes on the loading platform in order to prevent workers from dangers due to falling.
(2) The worker engaging in the work set forth in the preceding paragraph shall, when going up and down between the floor surface and the upper surface of the cargoes on the loading platform, use the equipment for raising and lowering set forth in the preceding paragraph.

(Prohibition of the Use of an Inadequate Fibre Rope)
Article 151-46 The employer shall not use the fibre rope falling under any of the following each item for roping cargoes on a transporting vehicle on rough terrain:
(i) Those with cut strand
(ii) Those with marked damage or corrosion

(Checkup on a Fibre Rope)
Article 151-47 The employer shall, when using a fibre rope for roping cargoes on a transporting vehicle on rough terrain, check the said rope before starting the use for the day, and immediately replace it when having found any abnormalities:

(Loading and Unloading)
Article 151-48 The employer shall, when loading a cargo with the weight of 100 kg or more on a transporting vehicle on rough terrain (including the work roping and sheeting) or unloading the said cargo from a transporting vehicle on a rough terrain (including the work unroping and unsheeting), designate a person who direct the said work, and the said person carry out the following matters:
(i) To decide a work procedure and the work method for each work procedure, and supervise the work directly.
(ii) To check an instrument and a tool, and remove defective ones.
(iii) Not to allow workers other than those concerned to enter the place where the said work is carried out.
(iv) When carrying out the work unroping or unsheeting, to instruct the commencement of the said work after having confirmed that there is no dangers of falling cargoes from a loading platform.
(v) To monitor the use of the equipment for raising and lowering set forth in paragraph (1) of Article 151-45 and a safety helmet.

(Prohibition of Pulling Out Middle Cargo from the Pilings)
Article 151-49 (1) The employer shall, when carrying out the work unloading cargoes from a transporting vehicle on rough terrain, not allow the worker engaging in the said work to pull out middle cargo from the pilings.
(2) The worker engaging in the work set forth in the preceding paragraph shall
not pull out middle cargo from the pilings.

(Restrictions of Riding on the Loading Platform)
Article 151-50 (1) The employer shall, when traveling a transporting vehicle on rough terrain without a tailgate on the loading platform, not allow a worker to ride on the said loading platform.
(2) A worker shall, in the case set forth in the preceding paragraph, not ride on the loading platform set forth in the same paragraph.

Article 151-51 (1) The employer shall, in the case when travelling a transporting vehicle on a rough terrain with a tailgate on the loading platform, and when having a worker ride on the said loading platform, comply with the following provisions:
(i) To take measures to provide a wedge, a stopper, etc., for the cargoes, which is liable to cause dangers to workers due to shifting in order to prevent workers from dangers due to the shifting of the cargoes.
(ii) To have the worker riding on the loading platform carry out the following matters:
(a) To close the tailgate securely.
(b) Not to ride on the tailgate and other places where it is liable to cause fall of a worker due to shaking of the transporting vehicle on a rough terrain.
(c) Not to ride on when the highest part of the body exceeding the height of roof of the operator's seat (the highest part of the cargo when the highest part of the load on the loading platform exceeding the height of the roof of the operator's seat).
(2) The worker set forth in item (ii) of the preceding paragraph shall carry out the matters listed in the same item.

(Wearing of a Safety Helmet)
Article 151-52 (1) The employer shall, when carrying out the work loading cargoes on a transporting vehicle on a rough terrain having the maximum loading capacity of 5 tons or more (including the work roping and sheeting) or unloading cargoes from a transporting vehicle on a rough terrain having the maximum loading capacity of 5 tons or more (including the work unroping and unsheeting), have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to falling.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

(Periodical Self-inspections)
Article 151-53 (1) The employer shall, as regards a transporting vehicle on a
rough terrain, carry out self-inspections for the following matters periodically once every period not exceeding two years. However, this shall not apply to the non-use period of a transporting vehicle on a rough terrain, which is not used for a period exceeding two years:

(i) Abnormalities in compression pressure, valve clearance and other parts of a prime mover.
(ii) Abnormalities in a clutch, a transmission, a final driver and other power transmission devices.
(iii) Abnormalities in a drive wheel, an idling wheel, a vertical trunk roller, a belt, a tire, a wheel bearing and other traveling devices.
(iv) Abnormalities in a rod, an arm and other controlling devices.
(v) Abnormalities in braking capability, a brake drum, a brake shoe and other braking devices.
(vi) Abnormalities in a loading platform, a tailgate and other cargo handling devices.
(vii) Abnormalities in a hydraulic pump, a hydraulic motor, a cylinder, a safety valve and other parts of a hydraulic system.
(viii) Abnormalities in voltage, amperage and other parts of an electrical system.
(ix) Abnormalities in a body, a warning device, a direction indicator, a lightning device and a meter.

(2) The employer shall, as regards the transporting vehicle on a rough terrain set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

Article 151-54  (1) The employer shall, as regards a transporting vehicle on a rough terrain, carry out self-inspections for the following matters periodically once every period not exceeding one month. However, this shall not apply to the non-use period of a transporting vehicle on a rough terrain, which is not used for a period exceeding one month:

(i) Abnormalities in a braking device, a clutch and a controlling device.
(ii) Abnormalities in a cargo handling device and a hydraulic system.

(2) The employer shall, as regards the transporting vehicle on a rough terrain set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

(Record of Periodical Self-inspections)

Article 151-55 The employer shall, when having carried out the self-inspections set forth in the preceding two Articles, record the following matters and
preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Specified Self-inspection)
Article 151-56 (1) The specified self-inspection pertaining to the transporting vehicle on a rough terrain shall be the self-inspection prescribed by Article 151-53.
(2) The provision of paragraph (2) of Article 151-24 shall apply mutatis mutandis to the worker who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 45 of the Act pertaining to a transporting vehicle on a rough terrain. In this case, the term "forklift" in item (i) of paragraph (2) of Article 151-24 shall be deemed to be replaced with "transporting vehicle on a rough terrain."
(3) The employer shall, as regards the transporting vehicle on a rough terrain (limited to the one subject to paragraph (1) of Article 48 of the Road Transportation Vehicle Act) used for the travelling, in the case when having checked pursuant to the provisions of the same paragraph, not be required to carry out the self-inspection set forth in Article 151-53 for the parts where the said checkup has been carried out.
(4) As regards the application of the provision of the preceding Article in the case when having a registered inspection agency implement the specified self-inspection pertaining to a transporting vehicle on a rough terrain, the term "the name of the person who has carried out the inspection" in item (v) of the same Article shall be deemed to be replaced with "the name of the registered inspection agency."
(5) The employer shall, when having carried out the specified self-inspection pertaining to a transporting vehicle on a rough terrain, affix an inspection sticker stating the month and year when the said specified self-inspection was carried out at a readily visible location of the said vehicle.

(Checkup)
Article 151-57 The employer shall, when carrying out the work using a transporting vehicle on a rough terrain, check the following matters before commencing the work for the day:
(i) Functions of a braking device and a controlling device.
(ii) Functions of a cargo handling device and a hydraulic system.
(iii) Abnormalities in a belt and a wheel.
(iv) Functions of front and rear lamps, a direction indicator and a warning device.

(Repair, etc.)
Article 151-58  The employer shall, when having found any abnormalities in the case when having carried out the self-inspection set forth in Article 151-53 or 151-54, or the checkup set forth in the preceding Article, immediately repair or take other necessary measures.

Subsection 6 In-yard Transporting Machine

(Braking Device, etc.)
Article 151-59  The employer shall, as regards an in-yard transporting machine (excluding the one used for travelling; hereinafter the same shall apply in this Article), not use it unless otherwise prescribed as follows. However, the provision of item (iv) shall not apply to the in-yard transporting machine used at a place maintaining necessary illumination for carrying out the work safely:
(i) To have an effective braking device in order to braking the travel and maintaining the stopped condition.
(ii) To have an alarming horn.
(iii) To have a direction indicator on each left and right side, for those with distance between the center of the steering wheel and the outer utmost side of the body of 65 cm or more or those with an operator's seat in the cabin.
(iv) To have front and rear lamps.

(Coupler)
Article 151-60  The employer shall, when coupling an in-yard transporting machine with a carriage, use a secure coupler.

(Restriction of Use)
Article 151-61  The employer shall, as regards an in-yard transporting machine, not use it at the condition exceeding the maximum loading capacity and other capabilities.

(Loading and Unloading)
Article 151-62  The employer shall, when loading a cargo with the weight of 100 kg or more on an in-yard transporting machine (including the work roping and sheeting) or unloading the said cargo from an in-yard transporting machine
(including the work unroping and unsheeting), designate a person who directs the said work, and the said person carry out the following matters:
(i) To decide a work procedure and the work method for each work procedure, and supervise the work directly.
(ii) To check an instrument and a tool, and remove defective ones.
(iii) Not to allow workers other than those concerned to enter the place where carrying out the said work.
(iv) When carrying out the work unroping or unsheeting, to instruct the commencement of the said work after having confirmed that there is no dangers of falling cargoes from a loading platform.

(Checkup)
Article 151-63 The employer shall, when carrying out the work using an in-yard transporting vehicle, check the following matters before commencing the work for the day:
(i) Functions of a braking device and a controlling device.
(ii) Functions of a cargo handling device and a hydraulic system.
(iii) Abnormalities in a wheel.
(iv) Functions of front and rear lamps, a direction indicator and an alarming horn.

(Repair, etc.)
Article 151-64 The employer shall, when having found any abnormalities in the case when having carried out the checkup set forth in the preceding Article, immediately repair or take other necessary measures.

**Subsection 7 Truck**

(Braking Device, etc.)
Article 151-65 The employer shall, as regards a truck (excluding the one used for travelling; hereinafter the same shall apply in this Article), not use it unless otherwise prescribed as follows. However, the provision of item (viii) shall not apply to the truck having the maximum speed of 20 km/h or less:
(i) To have an effective braking device in order to braking the travel and maintaining the stopped condition.
(ii) To have an operator's seat providing an operator with view for operating the vehicle safely and with safety front glass without strain obstructing the operator's vision.
(iii) To have pneumatic rubber tires without cracks, exposure of cord layers and other extreme damage.
(iv) To have front and rear lamps.
(v) To have a direction indicator on each left and right side at places where indicating portions are discernible from a distance 30 m away to the rear or front of the truck along the center line of the truck's body, for those with distance between the center of the steering wheel and the outer utmost side of the body of 65 cm or more or those with an operator's seat in the cabin.
(vi) To have an alarming horn.
(vii) To equip with a rear mirror enabling the driver to operate the truck safely and a mirror enabling the driver to confirm that there are no obstacles just in front of the truck.
(viii) To equip with a speedometer.

(Restriction of Use)
Article 151-66  The employer shall, as regards a truck, not use it at the condition exceeding the maximum loading capacity and other capabilities.

(Raising and Lowering Equipment)
Article 151-67  (1) The employer shall, when loading cargoes on a truck having the maximum loading capacity of 5 tons or more (including the work roping and sheeting) and unloading cargoes from a truck having the maximum loading capacity of 5 tons or more (including the work unroping and unsheeting), provide equipment for the worker engaging in the said work to go up and down safely between the floor surface and the upper surface of the cargoes on the loading platform in order to prevent workers from dangers due to falling.
(2) The worker engaging in the work set forth in the preceding paragraph shall, when going up and down between the floor surface and the upper surface of the cargoes on the loading platform, use the equipment for raising and lowering set forth in the preceding paragraph.

(Prohibition of the Use of an Inadequate Fibre Rope)
Article 151-68  The employer shall not use a fibre rope falling under any of the following each item for roping cargoes on a truck:
(i) Those with cut strands.
(ii) Those with marked damage or corrosion.

(Checkup on a Fibre Rope)
Article 151-69  The employer shall, when using a fibre rope for roping cargoes on a truck, check the said rope before starting the use for the day, and immediately replace it when having found any abnormalities:

(Loading and Unloading)
Article 151-70  The employer shall, when loading a cargo with the weight of 100
kg or more on a truck (including the work roping and sheeting) or unloading the said cargo from a truck (including the work unroping and unsheeting), designate a person who direct the said work, and the said person carry out the following matters:

(i) To decide a work procedure and the work method for each work procedure, and supervise the work directly.
(ii) To check an instrument and a tool, and remove defective ones.
(iii) Not to allow workers other than those concerned to enter the place where the said work is carried out.
(iv) When carrying out the work unroping or unsheeting, to instruct the commencement of the said work after having confirmed that there is no dangers of falling cargoes from a loading platform.
(v) To monitor the use of equipment for lifting and lowering set forth in paragraph (1) of Article 151-67 and a safety helmet.

(Prohibition of Pulling Out Middle Cargo from the Pilings)
Article 151-71 (1) The employer shall, when carrying out the work unloading cargoes from a truck, not allow the worker engaging in the said work to pull out middle cargo from the pilings.
(2) The worker engaging in the work set forth in the preceding paragraph shall not pull out middle cargo from the pilings.

(Restriction of Riding on a Loading Platform)
Article 151-72 (1) The employer shall, when traveling a truck without a tailgate on the loading platform, not allow a worker to ride on the said loading platform.
(2) A worker shall, in the case set forth in the preceding paragraph, not ride on the loading platform set forth in the same paragraph.

Article 151-73 (1) The employer shall, in the case when traveling a truck with a tailgate on the loading platform, and when having a worker ride on the said loading platform, comply with the following provisions:
(i) To take measures to provide a wedge, a stopper, etc., for the cargoes, which is liable to cause dangers to workers due to shifting in order to prevent workers from dangers due to the shifting of the cargoes.
(ii) To have the worker riding on the loading platform carry out the following matters:
   (a) To close the tailgate securely.
   (b) Not to ride on the tailgate and other places where it is liable to cause fall of a worker due to shaking of the truck.
   (c) Not to ride on when the highest part of the body exceeding the height of roof of the operator's seat (the highest part of the cargo when the highest
part of the load on the loading platform exceeding the height of the roof of
the operator's seat).

(2) The worker set forth in item (ii) of the preceding paragraph shall carry out
the matters listed in the same item.

(Wearing of a Safety Helmet)
Article 151-74  (1) The employer shall, when carrying out the work loading
cargoes on truck having the maximum loading capacity of 5 tons or more
(including the work roping and sheeting) or unloading cargoes from a truck
having the maximum loading capacity of 5 tons or more (including the work
unroping and unsheeting), have the worker engaging in the said work wear a
safety helmet in order to prevent workers from dangers due to falling.
(2) The worker engaging in the work set forth in the preceding paragraph shall
wear the safety helmet set forth in the same paragraph.

(Checkup)
Article 151-75  The employer shall, when carrying out the work using a truck,
check the following matters before commencing the work for the day:
(i) Functions of a braking device and a controlling device.
(ii) Functions of a cargo handling device and a hydraulic system.
(iii) Abnormalities in a wheel.
(iv) Functions of front and rear lamps, a direction indicator and an alarming
horn.

(Repair, etc.)
Article 151-76  The employer shall, when having found any abnormalities in the
case when having carried out the checkup set forth in the preceding Article,
immediately repair or take other necessary measures.

Section 2 Conveyor

(Prevention of Uncontrolled Flow, etc.)
Article 151-77  The employer shall, as regards a conveyor (excluding a flow-
conveyor, a screw-conveyor, liquid-conveyor and pneumatic slide; the same
shall apply hereinafter), not use the one without devices designed to prevent
uncontrolled flow or back flow of loads or buckets due to power failure, voltage
drop, etc., (referred to "uncontrolled flow breaker" in Article 151-82). However,
this shall not apply to when the conveyor used exclusively in a horizontal
condition and when it is unlikely to cause dangers to the other workers.

(Emergency Stop Device)
Article 151-78  The employer shall, as regards a conveyor, when it is liable to cause dangers to workers due to a part of a body of a worker caught in, etc., provide a device enabling stop immediately the operation of a conveyor in an emergency (referred to "emergency stop device" in Article 151-82).

(Prevention of Falling of Loads)
Article 151-79  The employer shall, when it is liable to cause dangers to workers due to falling of loads from a conveyor, take such measures as providing a cover or an enclosure for the said conveyor, etc., in order to prevent loads from falling.

(Trolley Conveyor)
Article 151-80  The employer shall, as regards a trolley conveyor, not use the one unless a trolley, a chain and a hanger are connected each other securely so as not to be disengaged easily.

(Restriction of Riding)
Article 151-81  (1) The employer shall not allow a worker to ride on a conveyor during operation. However, this shall not apply to the conveyor constructed for transporting workers in the case where measures are taken to prevent workers from dangers due to falling or contacting, etc.
(2) A worker shall not ride on a conveyor during operation excluding the case set forth in the proviso of the preceding paragraph.

(Checkup)
Article 151-82  The employer shall, when carrying out the work using a conveyor, check the following matters before commencing the work for the day:
(i) Functions of a prime mover and a pulley.
(ii) Functions of an uncontrolled flow breaker.
(iii) Functions of an emergency stop device.
(iv) Abnormalities in a cover, an enclosure, etc. of a prime mover, a rotating shaft, a gear, a pulley, etc.

(Repair, etc.)
Article 151-83  The employer shall, when having found any abnormalities in the case when having carried out the checkup set forth in the preceding Article, immediately repair or take other necessary measures.

Chapter II Construction Machine, etc.
Section 1 Vehicle Type Construction Machine
Subsection 1 Structure
(Providing of Front Lamp)
Article 152  The employer shall provide a vehicle type construction machine with a front lamp. However, this shall not apply to a vehicle type construction machine used at a place maintaining necessary illumination for carrying out the work safely.

(Head Guard)
Article 153  The employer shall, when using a vehicle type construction machine (limited to a bulldozer, a tractor shovel, a muck loader, a power shovel, a drag shovel and a breaker) in a place where it is liable to cause dangers to workers due to falling of rocks, etc., provide the said vehicle type construction machine with a sound head guards.

Subsection 2 Prevention of Dangers Pertaining to the Use of a Vehicle Type Construction Machine

(Investigation and Record)
Article 154  The employer shall, when carrying out the work using a vehicle type construction machine, investigate in advance the landform and condition of the nature of the soil, etc., of the place pertaining to the said work in order to prevent workers from dangers due to falling of the said machine, collapse of natural ground, etc., and record the result of the investigation.

(Work Plan)
Article 155  (1) The employer shall, when carrying out the work using a vehicle type construction machine, establish in advance a work plan in conformity with what is known by the investigation pursuant to the provision of preceding Article, and carry out the work by the said work plan.
(2) The work plan set forth in the preceding paragraph shall be the one describing the following matters:
   (i) The type and capability of the vehicle type construction machine to be used.
   (ii) The travelling route of the vehicle type construction machine.
   (iii) The work method by the vehicle type construction machine.
(3) The employer shall, when having established the work plan set forth in paragraph (1), make the matters set forth in item (ii) and (iii) of the preceding paragraph known to the workers concerned.

(Speed Limit)
Article 156  (1) The employer shall, when carrying out the work using a vehicle type construction machine (excluding the one having maximum speed of 10
km/h or less), in advance, set the appropriate speed limit for the vehicle type construction machine corresponding to the landform and conditions of nature of the soil, etc., of the place pertaining to the said work and carry out the work by the set speed limit.

(2) The operator of the vehicle type construction machine set forth in the preceding paragraph shall not operate the vehicle type construction machine at speeds exceeding the speed limit set forth in the same paragraph.

(Prevention of Falling, etc.)
Article 157  (1) The employer shall, when carrying out the work using a vehicle type construction machine, take necessary measures for the travelling route of the said machine etc., such as preventing collapse of shoulder and uneven settling of the ground, and maintaining the necessary width in order to prevent workers from dangers due to overturning or falling of the said machine.
(2) The employer shall, in the case where the work using a vehicle type construction machine is carried out at road shoulder, inclined place, etc., and when it is liable to cause dangers to workers due to overturning or falling of the said machine, arrange a guide, and have the said person guide the said machine, etc.
(3) The operator of a vehicle type construction machine set forth in the preceding paragraph shall follow the instructions given by the guide set forth in the same paragraph.

(Prevention of Workers Being Hit)
Article 158  (1) The employer shall, when carrying out the work using a vehicle type construction machine, not allow a worker to enter a place, which is liable to cause dangers to workers due to being hit by the vehicle type construction machine during operation. However, this shall not apply to when arranging a guide and having the said person guide the said machine, etc.
(2) The operator of the vehicle type construction machine set forth in the preceding paragraph shall follow the instruction given by guide set forth in the proviso of the same paragraph.

(Signals)
Article 159  (1) The employer shall, when placing a guide for operation of a vehicle type construction machine, set fixed signals and have the said guide give the signals.
(2) The operator of the vehicle type construction machine set forth in the preceding paragraph shall follow the signals set forth in the same paragraph.

(Measures to Be Taken in the Case of Leaving the Operating Station)
Article 160  (1) The employer shall, when the operator of a vehicle type construction machine leaves the operating station, have the said operator take the following measures:
(i) To lower a working device of a bucket, ripper, etc., on the ground.
(ii) To stop a prime mover and take measures such as setting the brake in order to prevent a vehicle type construction machine from breaking into a run.
(2) The operator set forth in the preceding paragraph shall take measures listed in each item of the same paragraph when leaving the operating station of the vehicle type construction machine.

(Transfer of Vehicle Type Construction Machine)
Article 161  The employer shall, when using a loading plate, fills, etc., in the case where a vehicle type construction machine is loaded to a truck, etc., or unloaded from a truck, etc., by self-propelling or towing for transferring the said machine, comply with the following provisions in order to prevent dangers due to overturning, falling, etc. of the said machine:
(i) To load or unload at a level and firm place.
(ii) When using a loading plate, to use the one with a sufficient length, width and strength, and fix it securely with appropriate incline.
(iii) When using fills or a temporary stand, etc., to secure a sufficient width, strength and appropriate incline.

(Restriction of Riding)
Article 162  The employer shall, when carrying out the work using a vehicle type construction machine, not allow a worker to ride on places other than the seat.

(Restriction of Use)
Article 163  The employer shall, when carrying out the work using a vehicle type construction machine, abide stability, the maximum working load, etc., decided on the basis of its structure in order to prevent workers from dangers due to overturning, destruction of working device of an arm or a boom, etc.

(Restriction on the Use for Other than Main Purpose)
Article 164  (1) The employer shall not use a vehicle type construction machine for other than its main purpose of lifting a load by a power shovel, raising or lowering a worker by a clamshell, etc.
(2) The provisions of the preceding paragraph shall not apply to the following cases:
(i) The case falling under all of followings, in the case where the load lifting work is carried out:
(a) When it is unavoidable due to the nature of the work or necessary for the safe implementation of the work.
(b) When metal parts of a hook and a shackle or any other hoisting parts falling under all of following conditions are fitted to work device such as an arm and a bucket:
   i.) To have sufficient strength corresponding to the load to be burdened.
   ii.) To be unlikely to cause danger of the load falling from the said parts due to the use of a latch, etc.
   iii.) To being unlikely to cause coming off from the work device.
(ii) In the case where works other than lifting a load is carried out, and when it is unlikely to cause dangers to the workers.
(3) The employer shall, when carrying out the load lifting work falling under (a) and (b) of item (i) of the preceding paragraph, take the following measures to prevent workers from dangers due to hit by the lifted load, falling of the lifted load and overturning or falling of the vehicle type construction machine:
   i.) To set fixed signals for load lifting work, designate a person who gives the signals and have the said person give the signals.
   ii.) To carry out the work on a level place.
   iii.) Not to allow workers to enter the place where it is liable to cause dangers to workers due to hit by load or falling of the load.
   iv.) Not to apply the load exceeds the maximum load established corresponding to the structure and material of the said vehicle type construction machine.
   (v) To use a wire rope falling under all of following conditions in the case where the wire rope is used as the slinging equipment:
      (a) Those with a safety coefficient (meaning a safety coefficient prescribed by paragraph (2) of Article 213 of the Crane Ordinance) of 6 or more.
      (b) Those with less than 10% of the element wires (excluding filler wires) of which are cut in one strand.
      (c) Those with the reduction ratio of a diameter 7 %or less of the normal diameter.
      (d) Those without kink.
      (e) Those without marked deformation or corrosion.
   (vi) To use a suspension chain falling under all of followings in the case where the suspension chain is used as a suspension device:
      (a) Those with a safety coefficient (meaning a safety coefficient prescribed by paragraph (2) of Article 213-2 of the Crane Ordinance) equal to or above the number listed in i.) or ii.) below corresponding to the category of chain listed in i.) or ii.) below:
         i.) Chain falling under all of following conditions: 4
            a) Those with an extension 0.5 % or less when loaded with one half of the breaking load.
b) Those with tensile strength of 400 N/mm² or more with extension listed in the right column of the following table or more corresponding to the tensile strength listed in the left column.

<table>
<thead>
<tr>
<th>Tensile strength (unit: N/mm²)</th>
<th>Extension (unit: %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 or more and less than 630</td>
<td>20</td>
</tr>
<tr>
<td>630 or more and less than 1000</td>
<td>17</td>
</tr>
<tr>
<td>More than 1000</td>
<td>15</td>
</tr>
</tbody>
</table>

ii.) Those not falling under i.): 5

(b) Those with extension of 5 % or more of the length of the said chain when it was manufactured.

c) Those with a reduction in section diameter of the links of 10 % or less of the section diameter of said links at the time of manufacture of the said chain.

d) Those without crack.

(vii) In the case where something other than a wire rope or a lifting chain is used as the slinging equipment, to use the one without extreme damage or corrosion.

(Repair, etc.)

Article 165 The employer shall, when carrying out the work repairing a vehicle type construction machine, or fitting or removing its attachments, designate a person to direct the said work and have the said person take the following measures:

(i) To decide a work procedure, and direct the work.

(ii) To monitor the use of a safety prop, a safety block, etc., prescribed by paragraph (1) of the next Article.

(Prevention of Dangers Due to Lowering of a Boom, etc.)

Article 166 (1) The employer shall, when carrying out the work repairing, checking, etc., under the raised boom or arm, etc., of a vehicle type construction machine, have the worker engaging in the said work use a safety prop, a safety block, etc., in order to prevent workers from dangers due to unexpected descending of the boom or the arm, etc.

(2) The worker engaging in the work set forth in the preceding paragraph shall use a safety prop, a safety block, etc., set forth in the same paragraph.

Subsection 3 Periodical Self-inspections, etc.

(Periodical Self-inspections)

Article 167 (1) The employer shall, as regards a vehicle type construction
machine, carry out self-inspections for the following matters periodically once every period within a year. However, this shall not apply to the non-use period of a vehicle type construction machine, which is not used for a period exceeding one year:

(i) Abnormalities in compression pressure, valve clearance and other parts of a prime mover.
(ii) Abnormalities in a clutch, a transmission, a propeller shaft, a differential and other power transmission devices.
(iii) Abnormalities in a drive wheel, an idling wheel, a vertical trunk roller, a belt, a tire, a wheel bearing and other traveling devices.
(iv) Abnormalities in rotation angle of left and right steering wheels, a knuckle, a rod, an arm and other controlling devices.
(v) Abnormalities in braking capability, a brake drum, a brake shoe and other brakes.
(vi) Abnormalities in a blade, a boom, link-mechanism, a bucket, a wire rope and other working devices.
(vii) Abnormalities in a hydraulic pump, a hydraulic motor, a cylinder, a safety valve and other parts of a hydraulic system.
(viii) Abnormalities in voltage, amperage and other parts of electrical system.
(ix) Abnormalities in a body, an operating device, a head guard, a back stopper, a raising and lowering device, a locking device, a warning device, a direction indicator, a lightning device and a meter.

(2) The employer shall, as regards the vehicle type construction machine set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

Article 168 (1) The employer shall, as regards a vehicle type construction machine, carry out self-inspections for the following matters periodically once every period within a month. However, this shall not apply to the non-use period of a vehicle type construction machine, which is not used for a period exceeding one month:

(i) Abnormalities in a brake, a clutch, a controlling device and working devices.
(ii) Damage in a wire rope and a chain.
(iii) Damage in a bucket, a zipper, etc.

(2) The employer shall, as regards the vehicle type construction machine set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

(Record of Periodical Self-inspections)
Article 169  The employer shall, when having carried out the self-inspections set forth in the preceding two Articles, record the following matters and preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Specified Self-inspection)
Article 169-2  (1) The specified self-inspection pertaining to the vehicle type construction machine shall be the self-inspection prescribed by Article 167.
(2) The provision of paragraph (2) of Article 151-24 shall apply mutatis mutandis to the worker who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 45 of the Act pertaining to machines listed in item (1), (2) or (6) of Appended Table 7 of the Order among vehicle type construction machines. In this case, the term "forklift" in (a) to (c) of item (i) of paragraph (2) of Article 151-24 shall be deemed to be replaced with "machines listed in item (1), (2) or (6) of Appended Table 7 of the Order among vehicle type construction machines" and the term "forklifts" in (d) of the same item shall be deemed to be replaced with "machines listed in item (1), (2) or (6) of Appended Table 7 of the Order among vehicle type construction machines."
(3) The provision of paragraph (2) of Article 151-24 shall apply mutatis mutandis to the worker who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 45 of the Act pertaining to machines listed in item (3) of Appended Table 7 of the Order among vehicle type construction machines. In this case, the term "forklift" in item (i) of paragraph (2) of Article 151-24 shall be deemed to be replaced with "machines listed in item (3) of Appended Table 7 of the Order among vehicle type construction machines."
(4) The provision of paragraph (2) of Article 151-24 shall apply mutatis mutandis to the worker who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 45 of the Act pertaining to machines listed in item (4) of Appended Table 7 of the Order among vehicle type construction machines. In this case, the term "forklift" in item (i) of paragraph (2) of Article 151-24 shall be deemed to be replaced with "machines listed in item (4) of Appended Table 7 of the Order among vehicle type construction machines."
(5) The provision of paragraph (2) of Article 151-24 shall apply mutatis mutandis to the worker who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 45 of the Act pertaining to machines listed in item (5) of Appended Table 7 of the Order among vehicle type construction machines. In this case, the term "forklift" in item (i) of paragraph (2) of Article 151-24 shall be deemed to be replaced with "machines listed in item (5) of Appended Table 7 of the Order among vehicle type construction machines."

(6) The employer shall, as regards the vehicle type construction machine (limited to the one subject to paragraph (1) of Article 48 of the Road Transportation Vehicle Act) used for the travelling, in the case when having checked pursuant to the provisions of the same paragraph, not be required to carry out the self-inspection set forth in Article 167 for the parts where the said checkup has been carried out.

(7) As regards the application of the provision of the preceding Article in the case when having a registered inspection agency implement the specified self-inspection pertaining to a vehicle type construction machine, the term "the name of the person who has carried out the inspection" in item (v) of the same Article shall be deemed to be replaced with "the name of the registered inspection agency."

(8) The employer shall, when having carried out the specified self-inspection pertaining to a vehicle type construction machine, affix an inspection sticker stating the month and year when the said specified self-inspection was carried out at a readily visible location of the said machine.

(Count before Commencing the Work)
Article 170 The employer shall, when carrying out the work using vehicle type construction machine, check functions of a brake and a clutch before commencing the work for the day.

(Repair, etc.)
Article 171 The employer shall, when having found any abnormalities in the case when having carried out the self-inspection set forth in Article 167 or 168, or the checkup set forth in the preceding Article, immediately repair or take other necessary measures.

Subsection 4 Concrete Pump Vehicle

(Prevention of Coming off or Sway of Transport Pipe, etc.)
Article 171-2 The employer shall, when carrying out the work using a concrete pump vehicle, take the following measures:
(i) To take measures of securely attaching a transport pipe to a transport pipe or a hose using couplings, securing the transport pipe onto a sound building, etc., to prevent the coming off or sway of the said transport pipe or hose;
(ii) To provide devices of a telephone, an electric bell, etc., designate persons who use each said device and have the said persons use them, or set fixed signals, designate a person who gives the signals and have the said person give the signals, in order to ensure the communication between the person operating the work device and the person hold the terminal of the hoses;
(iii) Not to allow workers to enter the place where it is liable to cause dangers to workers due to blow out of concrete, etc.;
(iv) In the case that the transport pipe or hose is blocked, and when intending to cut off the coupling of the transport pipe or hose (hereinafter referred to as "transport pipe, etc." in this Article and next Article), take in advance, measures for preventing concrete blow out, etc., such as lowering the internal pressure of the said transport pipe, etc., by opening the valve or cock of the air compressor valve;
(v) When cleaning inside of the transport pipe, etc., using a cleaning ball, to attach an instrument to the end of the said transport pipe, etc., in order to prevent workers from dangers due to the cleaning ball flying out.

(Direction of Work)
Article 171-3 The employer shall, when assembling or dismantling a transport pipe, etc., establish the method and order, etc., of the work, make them known to the workers, designate a person who direct the work and have the workers carry out the work under direct supervision.

Subsection 5 Breaker

(Work of Demolition, etc., of a Structure)
Article 171-4 The employer shall, when carrying out the work of dismantling or demolishing a structure using a breaker (excluding the work set forth in item (xv)-5 of Article 6 of the Order) or the work of breaking concrete or stone, take the following measures:
(i) To prohibit workers other than those concerned from entering the area where the work is carried out;
(ii) To suspend the work when dangers regarding the implementation of the said work are forecast due to poor weather conditions such as strong wind, heavy rain and heavy snow.

Section 2 Pile Driver, Pile Drawer and Boring Machine
(Strength, etc.)

Article 172  The employer shall, as regards a pile driver and a pile drawer driven by power (excluding those capable of self-propelling to unspecified places) and a boring machine, not use bodies, accessory devices and fittings unless otherwise falling under the following requirements:
(i) To have necessary strength corresponding to the purpose of use.
(ii) To be free from extreme damage, wear, deformation or corrosion.

(Prevention of Collapse)

Article 173  The employer shall, as regards a pile driver driven by power (hereinafter referred to as "pile driver") or a pile drawer driven by power (hereinafter referred to as "pile drawer") and a boring machine, take the following measures for preventing collapse:
(i) When installing the said machine on soft ground, to use boards, blocks, etc., for preventing settling of legs or a mounting.
(ii) When installing the said machine on facilities or a temporary stand, to confirm the durability, and when the durability is insufficient, to reinforce.
(iii) When legs or a mounting is liable to slide, to secure by using piles, wedges, etc.
(iv) For a pile driver, a pile drawer or a boring machine designed to be moved on rollers or on rail tracks, to secure them with rail clamps, a stopper, etc., in order to prevent unexpected move.
(v) In the case that the top portion is to be stabilized with stays (including staying wires, hereinafter the same shall apply in this Section) only, to use three or more stays and each end of the stays is secured to a sound tie bar, iron frame, etc.
(vi) In the case that the top portion is to be stabilized with staying wires only, to stabilize the top portion in all directions by methods such as to arranging staying wires at an equal interval and increasing the number of staying wires.
(vii) In the case that stabilizing the said machine by using balance weights, to fix them securely on a mounting in order to prevent the said balance weights from shifting.

(Prohibition of the Use of an Inadequate Wire Rope)

Article 174  The employer shall, as regards a hoisting wire rope for a pile driver, a pile drawer or a boring machine, not use the ropes falling under any of the following each item:
(i) Those with joints.
(ii) Those with 10% or more of the element wires (excluding filler wires) of which are cut in one strand.
(iii) Those with the reduction ratio of a diameter exceeding 7% of the nominal diameter.
(iv) Those with kink.
(v) Those with marked deformation or corrosion.

(Safety Coefficient of Hoisting Wire Ropes)
Article 175  (1) The employer shall, as regards hoisting wire ropes for a pile driver or a pill drawer, set the safety coefficient at six or more.
(2) The safety coefficient set forth in the preceding paragraph shall be the value obtained by dividing the breaking load of the wire rope with the maximum value of the load applied on to the said wire rope.

(Hoisting Wire Rope)
Article 176  The employer shall, as regards hoisting wire ropes to be used on a pile driver, a pile drawer or a boring machine, take the following measures:
(i) Hoisting wire ropes have a length sufficient to leave at least two windings on their drum at the time when the dropping weight or hammer is placed at the lowest position, at the position for starting the drawing of a sheet pile or the suspension tool, including the rod, is at its lowest position.
(ii) Hoisting wire ropes be fixed securely to the drum of the hoisting device with clamps, clips, etc.
(iii) A dropping weight or a hammer be connected to the hoisting wire rope of the pile driver and the hoisting wire rope of the boring machine shall be connected to a pulley device or a hoisting swivel, etc., securely with clamps, clips, etc.

(Connection with Sheet Piles, Rods, etc.)
Article 177  The employer shall, as regards hoisting wire ropes, pulley blocks, etc., of a pile driver or a boring machine connect with poles, sheet piles, rods, etc., by using such tools as shackles, checking fixtures, hoisting swivels, etc., having sufficient strength.

(Providing a Brake, etc.)
Article 178  The employer shall, as regards the winch of a pile driver, a pile drawer or a boring machine, provide the machine with a ratchet or a brake equipped with a clamp. However, this shall not apply to the winch used for a boring machine with a braking device of band brake, etc.

(Installation of a Winch)
Article 179  The employer shall, as regards a winch of a pile driver, a pile drawer or a boring machine, install it in a manner that floating, shifting, sway, etc.,
may be prevented.

(Position of Sheaves)

Article 180 (1) The employer shall, as regards the distance between the shaft of a drum barrel of a pile driver, pile drawer or boring machine and the shaft of the first sheave from the hoisting device, set such distance to a value equivalent to 15 times or more of the width of the drum of the hoisting device. (2) The sheave set forth in the preceding paragraph shall be located on the plane passing through the center line of the drum of the hoisting device and being perpendicular to the shaft. (3) The provisions of the preceding two paragraphs shall not apply to the case falling under the following each item: (i) When it is unlikely to entanglement of the hoisting wire rope because of the structure of the pile driver, a pile drawer or a boring machine. (ii) When carrying out the work using a boring machine in a conspicuously confined space such as a tunnel and workers are prohibited from entering the area where it is liable to cause dangers due to cutting of the hoisting wire rope.

(Fitting of Sheaves, etc.)

Article 181 The employer shall, as regards sheaves or pulley blocks of a pile driver, a pile drawer or a boring machine, fasten the said devices securely using fittings, shackles, wire ropes, etc., which are unlikely to be destroyed by the load applied to the fixed part.

Article 182 The employer shall, as regards sheaves of a pile driver, a pile drawer or a boring machine in which a winch is not built in with the tower or the twin pillar, etc., arrange them in a manner that the horizontal component of force acting on the hoisting wire rope does not affect the tower or the twin-pole. However, in the case that such measures as providing a prop to the leg of the towered the twin pillar and supporting the leg by wire ropes, sheaves may be fixed on the said leg part.

(Steam Hose, etc.)

Article 183 The employer shall, when using a pile driver or a pile drawer driven with steam or compressed air, take the following measures: (i) To connect a steam hose or an air hose with a hammer at a place other than the joint parts of the hose and the hammer for preventing the breakage or disconnection of these joints parts due to the motion of the hammer. (ii) To install a device for cutting steam or air at the place where a hammer operator can handle easily.
Article 184 The employer shall, when a wire rope is wound irregularly on the drum of a pile driver, a pile drawer or a boring machine, not apply a load on the hoisting wire rope.

Article 185 The employer shall, when leaving a hoisting device of a pile driver, a pile drawer or a boring machine stopped while applying the load, securely stop it by applying latchets, brake with holdfast.

Article 186 (1) The employer shall not allow the operator of a pile driver, a pile drawer or a boring machine to leave the operating station of the machine while applying the loads.
(2) The operator set forth in the preceding paragraph shall not leave the operating station of a pile driver or a pile drawer while applying the loads.

Article 187 The employer shall not allow a worker to enter the inside of the bent part of a hoisting wire rope of a pile driver, a pile drawer or a boring machine during operation in order to prevent dangers of the spring motion of the wire rope or flying sheaves, pulley blocks, etc., due to the breakage of sheaves, pulley blocks or their fixing parts of the said machines.

Article 188 The employer shall, when hoisting piles, sheet piles and rods, etc., with a pile driver or a boring machine, have the operator of the said machine hoist piles in such a manner that the hook part be located right under the sheave or the pulley block of the machine. The same shall apply to the case of hoisting a pile or sheet pile by providing a pile driver with such a hoisting device as a gin pole.

Article 189 (1) The employer shall set fixed signals for an operation of a pile driver, a pile drawer or a boring machine, designate a person who gives the signals and have the said person give the signals when operating.
(2) An operator of a pile driver, a pile drawer or a boring machine shall follow the signals set forth in the preceding paragraph.
Article 190  The employer shall, when carry out the work of erection, disassembling, altering or transfer of a pile driver, a pile drawer or a boring machine, determine a method, a procedure, etc., of work, and make them known to a worker, designate a person who direct the operation, and have the workers carry out the work under the direct supervision of the said person.

(Transfer of a Pile Driver etc.)

Article 191  The employer shall, when transferring the leg part of a pile driver or a pile drawer supported with stayed wires, etc., with standing posture of twin pillar, mast, etc., by power-driven winch or other machines, carry out the operation while braking the movement of the machine securely with a winch, tension blocks, etc., from the opposite side in order to prevent collapse due to excessive drag applied to the leg part.

(Checkup)

Article 192  The employer shall, when having erected a pile driver, pile drawer or boring machine, check the following matters, and not allow the use of the said machines unless having confirmed that there is no abnormality:
(i) Damage and slackness of joint parts of the machine.
(ii) Fixed condition of a hoisting wire rope, a sheave, and a pulley block.
(iii) Functions of the brake and latchets of a hoisting device.
(iv) Installation condition of a winch.
(v) For a pile driver or a pile drawer of which the top is secured with stays:
   Fixing method and firmness of the stays.

(Measures to Be Taken in the Case of Slackening the Staying Wires)

Article 193  The employer shall, when slackening the staying wires (including temporary staying wires, hereinafter the same shall apply in this Article) of a pile driver or a pile drawer, take appropriate measures such as using tension blocks or winches in order to prevent letting the load exceed the amount the workers engaged in the slackening operation are able to easily support.

(Prevention of Collapse of Gas Conduits)

Article 194  The employer shall, in the case where work using a pile driver or boring machine is carried out, and when it is liable to cause dangers to workers due to damage of gas conduits, underground raceways and other underground structure (hereinafter referred to as "gas conduits, etc." in this Article), in advance, make investigation for work place by enquiring the existing of the gas conduits, etc., and confirming their conditions to the person administrating the said gas conduits, etc., and take measures in conformity with what are known by the investigation.
(Measures to Be Taken when Attaching Rods, etc.)

Article 194-2 (1) The employer shall, when attaching or removing a rod or a bit, etc., of a boring machine, obstruct power driving the rod, etc., securely by fixing the clutch lever with a stopper.

(2) The employer shall, when removing a rod or attaching or removing a bit, etc., from a boring machine, store the rod securely in a rod holder, etc.

(Fixing, etc. of a Hose for a Water Swivel)

Article 194-3 The employer shall, as regards a hose connected to the water swivel of a boring machine, take measures such as fixing said hose with a tower in order to prevent workers from danger due to the said hose being trapped into the rotating parts of the rod, etc.

Section 2-2 Jack-type Lifting Machine

(Holding Mechanisms, etc.)

Article 194-4 The employer shall not use jack-type lifting machine for construction work unless otherwise falling under the following requirements:

(i) To have necessary strength corresponding to the purpose of use.

(ii) For holding mechanisms, to have necessary capability to hold a wire rope, etc.

(iii) To have mechanism to prevent the simultaneous opening of all the holding mechanisms.

(iv) To be free from extreme damage, wear, deformation or corrosion.

(Work Plan)

Article 194-5 (1) The employer shall, when carrying out the work lifting or lowering of a load using a jack-type lifting machine in the case where construction work is carried out, establish in advance a work plan and carry out the work by the said work plan.

(2) The work plan set forth in the preceding paragraph shall be the one describing the following matters:

(i) The method and procedure of the work.

(ii) The method for preventing the jack-type lifting machine to be used from the collapsing or overturning.

(iii) The method of installation of equipment for preventing the worker engaging in the work from danger due to falling.

(iv) The type and capability of the machine, etc., to be used.

(3) The employer shall, when having established the work plan set forth in paragraph (1), make the matters set forth in each item of the preceding
(Work with a Jack-type Lifting Machine)
Article 194-6  The employer shall, when carrying out the work of a load lifting, lowering, etc., using a jack-type lifting machine in the case where the construction work is carried out, take the following measures:
(i) To prohibit workers other than those concerned from entering the area where the work is carried out;
(ii) To suspend the work when dangers regarding the implementation of the said work are forecast due to poor weather conditions such as strong wind, heavy rain or heavy snow;
(iii) When installing a jack-type lifting machine on equipment and temporary buildings etc., to fasten the said machine securely using bolts, etc.;
(iv) When installing a jack-type lifting machine on equipment and temporary buildings, etc., to confirm the strength of said equipment and temporary buildings, etc., to reinforce in the case that strength is insufficient.

(Wearing of a Safety Helmet)
Article 194-7  (1) The employer shall, when lifting and lowering of a load using a jack-type lifting machine in the case where the construction work is carried out, have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

Section 2-3 Vehicle for Work at Height

(Front and Rear Lamps)
Article 194-8  The employer shall, as regards a vehicle for work at height (excluding the one used for travelling; hereinafter the same shall apply in this Article) with front and rear lamps. However, this shall not apply to a vehicle for work at height used in the place where necessary illumination is maintained for travelling safely.

(Work Plan)
Article 194-9  (1) The employer shall, when carrying out the work using a vehicle for work at height (excluding the work travelling on roads; hereinafter the same shall apply up to Article 194-11), establish in advance a work plan in conformity the condition of the place pertaining to the said work, the type and capability of the said vehicle, and carry out the work by the said work plan.
(2) The work plan set forth in the preceding paragraph shall be the one
describing the work method by the said vehicle for work at height.

(3) The employer shall, when having established the work plan set forth in paragraph (1), make the matters described pursuant to the provision of the preceding paragraph known to the workers concerned.

(Operation Leader)

Article 194-10 The employer shall, when carrying out the work using a vehicle for work at height, designate a leader for the said work, and have the said leader direct the work based on the work plan set forth in paragraph (1) of the preceding Article.

(Prevention of Falling, etc.)

Article 194-11 The employer shall, when carrying out the work using a vehicle for work at height, take necessary measures of projecting an outrigger, preventing uneven settling of the ground and collapsing of a road shoulder in order to prevent workers from dangers due to overturning or falling of the said vehicle, etc.

(Signals)

Article 194-12 The employer shall, in the case of carrying out the work using a vehicle for work at height is carried out, and when operating a working floor at a place other than the working floor, take necessary measures of setting fixed signals, designating a person who gives the signals and having the said person give the signals, etc., in order to ensure the communication between the worker on the working floor and the worker operating the working floor at a place other than the working floor.

(Measures to Be Taken in the Case of Leaving the Operating Station)

Article 194-13 (1) The employer shall, when the operator of a vehicle for work at height leaves the operating station (excluding the case where a worker carries out the work on the working floor or when work is to commence), have the said operator take the following measures:
   (i) To put the working floor in the lowest position;
   (ii) To stop a prime mover and take measures of setting the brake securely to keep the machine in stopped condition, etc., in order to prevent a vehicle for work at height from breaking into a run.

(2) The operator set forth in the preceding paragraph shall take measures listed in each item of the same paragraph when leaving the operating station, which is for travelling of the vehicle for work at height.

(3) The employer shall, when the operator of a vehicle for work at height leaves the operating station, which is for travelling, in the case where a worker
carries out the work on the working floor or when work is to commence, have the said operator take measures such as setting the brake securely to keep the machine in stopped condition.

(4) The operator set forth in the preceding paragraph shall take measures listed in each item of the same paragraph when leaving the operating station, which is for travelling of the vehicle for work at height.

(Transfer of Vehicle for Work at Height)
Article 194-14 The employer shall, when using a loading plate, fills, etc., in the case where a vehicle for work at height is loaded to a truck, etc., or unloaded from a truck, etc., by self-propelling or towing for transferring the said machine, in order to prevent dangers due to overturning, falling, etc., of the said vehicle, comply with the following provisions:
(i) To load or unload at a level and firm place;
(ii) When using a loading plate, to use the one with a sufficient length, width and strength, and fix it securely with appropriate incline;
(iii) When using fills or a temporary stand, etc., to secure a sufficient width, strength and appropriate incline.

(Restriction of Riding)
Article 194-15 The employer shall, when carrying out the work using a vehicle for work at height, not allow a worker to ride on places other than the seat and working floor.

(Restriction of Use)
Article 194-16 The employer shall, as regards a vehicle for work at height, not use it at the condition exceeding the loading capacity, (meaning the maximum load capable of raising while getting personnel and/or loads onto a working floor, corresponding to its structure and materials of the vehicle for work at height) and other capabilities.

(Restriction on the Use for Other than Main Purpose)
Article 194-17 The employer shall not use a vehicle for work at height for other than its main purpose of lifting a load, etc. However, this shall not apply to when it is unlikely to cause danger to workers.

(Repair, etc.)
Article 194-18 The employer shall, when carrying out the work repairing a vehicle for work at height, or fitting or removing the working floor, designate a person to direct the said work and have the said person carry out the following matters:
(i) To decide a work procedure, and supervise the work directly;
(ii) To monitor the use of a safety prop, a safety block, etc., prescribed by
paragraph (1) of the next Article.

(Prevention of Danger Due to Descent of Boom, etc.)
Article 194-19  (1) The employer shall, when carrying out the work repairing or
checking, etc., under the raised boom of a vehicle for work at height, have the
worker engaging in the said work use a safety prop and a safety block, etc., in
order to prevent workers from dangers due to the unexpected descending of the
boom, etc.
(2) The worker engaging in the work set forth in the preceding paragraph shall
use a safety prop and a safety block, etc., set forth in the same paragraph.

(Restriction, etc., of Riding on the Working floor)
Article 194-20  (1) The employer shall, when travelling a vehicle for work at
height (excluding the one constructed to operate travelling operation on the
working floor, hereinafter the same shall apply in this Article), not allow a
worker to ride on the working floor of the said vehicle for work at height.
However, this shall not apply to the case of travelling the vehicle for work at
height at a level and firm place, and when taking the following measures:
(i) To arrange a guide, and have the said person guide a vehicle for work at
height;
(ii) To set fixed signals and have the guide set forth in the preceding item give
the signals;
(iii) To set an appropriate working speed limit for the vehicle for work at
height in advance corresponding to the height of the working floor and the
length of the boom, etc. of the said vehicle for work at height, and have the
operator operate the vehicle by them.
(2) A worker shall, excluding the case set forth in the preceding paragraph, not
ride on the working floor of a vehicle for work at height during traveling.
(3) The operator of the vehicle for work at height set forth in the proviso of
paragraph (1) shall follow the instruction given by the guide set forth in item
(i) of the same paragraph and the signals set forth in item (ii) of the same
paragraph and not operate the vehicle for work at height at speeds exceeding
the speed limit set forth in item (iii) of the same paragraph.

Article 194-21  (1) The employer shall, when travelling a vehicle for work at
height constructed to operate travelling operation on a working floor at places
other than those level and firm, take the following measures:
(i) To take the measures listed in item (i) and (ii) of the paragraph (1) of the
preceding Article.
(ii) To establish in advance, an appropriate working speed limit for the vehicle for work at height corresponding to the height of the working floor and the length of the boom of said vehicle for work at height, and the landform and condition of the ground pertaining to the said work, and have the operator operate the vehicle at the said speed limit.

(2) The provisions of paragraph (3) of the preceding Article shall apply mutatis mutandis to the operator of the vehicle for work at height set forth in the preceding paragraph. In this case, the term "item (iii) of the same paragraph" in paragraph (3) of the same Article shall be deemed to be replaced with "item (ii) of paragraph (1) of the next Article."

(Use of Safety Belt, etc.)

Article 194-22 (1) The employer shall, when carrying out the work using a vehicle for work at height (excluding the one equipped with a working floor that raise and lower only perpendicular direction to the ground plane), have the workers on the working floor of said vehicle for work at height use safety belts, etc.

(2) The worker set forth in the preceding paragraph shall use a safety belt, etc.

(Periodical Self-inspections)

Article 194-23 (1) The employer shall, as regards a vehicle for work at height, carry out self-inspections for the following matters periodically once every period within a year. However, this shall not apply to the non-use period of a vehicle for work at height, which is not used for a period exceeding one year:

(i) Abnormalities in compression pressure, valve clearance and other parts of a prime mover.

(ii) Abnormalities in a clutch, a transmission, a propeller shaft, a differential and other power transmission devices.

(iii) Abnormalities in a drive wheel, an idling wheel, a vertical trunk roller, a belt, a tire, a wheel bearing and other traveling devices.

(iv) Abnormalities in rotation angle of left and right steering wheels, a knuckle, a rod, an arm and other controlling devices.

(v) Abnormalities in braking capability, a brake drum, a brake shoe and other braking devices.

(vi) Abnormalities in the boom, lifting and lowering device, bending device, balance device, working floor and other parts of the working devices.

(vii) Abnormalities in a hydraulic pump, a hydraulic motor, a cylinder, a safety valve and other parts of a hydraulic system.

(viii) Abnormalities in voltage, amperage and other parts of an electrical system.

(ix) Abnormalities in a body, an operating device, a safety device, a locking
device, a warning device, a direction indicator, lightning device and a meter.

(2) The employer shall, as regards the vehicle for work at height set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

Article 194-24  (1) The employer shall, as regards a vehicle for work at height, carry out self-inspections for the following matters periodically once every period within a month. However, this shall not apply to the non-use period of a vehicle for work at height, which is not used for a period exceeding one month:
(i) Abnormalities in a braking device, a clutch and a steering system.
(ii) Abnormalities in a working device and a hydraulic system.
(iii) Abnormalities in a safety device.

(2) The employer shall, as regards the vehicle for work at height set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

(Record of Periodical Self-inspections)

Article 194-25  The employer shall, when having carried out the self-inspections set forth in the preceding two Articles, record the following matters and preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Specified Self-inspection)

Article 194-26  (1) The specified self-inspection pertaining to the vehicle for work at height shall be the self-inspection prescribed by Article 194-23.

(2) The provision of paragraph (2) of Article 151-24 shall apply mutatis mutandis to the worker who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 45 of the Act pertaining to vehicle for work at height. In this case, the term "forklift" in item (i) of paragraph (2) of Article 151-24 shall be deemed to be replaced with "vehicle for work at height."

(3) The employer shall, as regards the vehicle for work at height (limited to the one subject to paragraph (1) of Article 48 of the Road Transportation Vehicle Act) used for the travelling, in the case when having checked pursuant to the provisions of the same paragraph, not be required to carry out the self-
inspection set forth in Article 194·23 for the parts where the said checkup has been carried out.

(4) As regards the application of the provision of the preceding Article in the case when having a registered inspection agency implement the specified self-inspection pertaining to a vehicle for work at height, the term "the name of the person who has carried out the inspection" in item (v) of the same Article shall be deemed to be replaced with "the name of the registered inspection agency."

(5) The employer shall, when having carried out the specified self-inspection pertaining to a vehicle for work at height, affix an inspection sticker stating the month and year when the said specified self-inspection was carried out at a readily visible location of the said vehicle.

(Checkup before Commencing the Work)
Article 194·27 The employer shall, when carrying out the work by vehicle for work at height, check functions of a braking device and a controlling device and a working device before commencing the work for the day.

(Repair, etc.)
Article 194·28 The employer shall, when having found any abnormalities in the case when having carried out the self-inspection set forth in Article 194·23 or 194·24, or the checkup set forth in the preceding Article, immediately repair or take other necessary measures.

Section 3 Railway Equipment and Hand Cart
Subsection 1 General Provisions

(Definitions)
Article 195 The term "railway equipment" as used in this Ordinance of the Ministry means all the units of equipment including rail tracks attached to workplace, and a vehicle, a power vehicle, a winch, etc. that is driven with the power on rails and used for transporting workers or cargoes (excluding those subject to the Railway Operation Act (Act No. 65 of 1900), the Railway Business Act (Act No. 92 of 1986) or the Railway Act (Act No. 76 of 1921)).

Subsection 2 Rail Track, etc.

(Weights of Rails)
Article 196 The employer shall conform the weight of a rail to the weight listed in the right column of the following table or more corresponding to the vehicle body weight listed in the left column of the same table:
<table>
<thead>
<tr>
<th>Vehicle body weight</th>
<th>Weight of the rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 tons</td>
<td>9 kg</td>
</tr>
<tr>
<td>5 tons or more but less than 10 tons</td>
<td>12 kg</td>
</tr>
<tr>
<td>10 tons or more but less than 15 tons</td>
<td>15 kg</td>
</tr>
<tr>
<td>15 tons or more</td>
<td>22 kg</td>
</tr>
</tbody>
</table>

(Joint of Rails)

Article 197 The employer shall, as regards joint of rails, fix the rails securely by using joint plates, welding, etc.

(Laying Rails)

Article 198 The employer shall, as regards laying rails, fix the rails securely on the sleeper, concrete bed, etc., by using rail spikes, metal fixture, etc.

(Sleeper)

Article 199 (1) The employer shall ensure that the size and intervals of sleepers are appropriate to the vehicle body weight, the condition of bed, etc., in order to stabilize rails.

(2) The employer shall, as regards sleeper to be used at places where they are susceptible to corrosion or where they are difficult to replace, use sleeper having sufficient durability.

(Bed)

Article 200 The employer shall, as regards rail tracks of which bed consists of crushed stones, gravel, etc., among rail tracks laid for operating power vehicle with vehicle body weight of 5 tons or more, harden sufficiently the said bed and take measures for draining water well in order to maintain the sleeper and rails safely.

(Curved Section)

Article 201 The employer shall conform a curved section of rail tracks to the following provisions:

(i) To have the radius of a curvature of 10 m or more.

(ii) To maintain an appropriate cant and a slack.

(iii) To be provided with a guard rail corresponding to the radius of the curvature.

(Gradients of Rail Tracks)

Article 202 The employer shall, as regards the gradients of rail tracks at the section where a power vehicle is used, set gradient ratio of fifty thousandth or less.
Article 203  The employer shall equip junction of rail tracks with a point and a frog having secure function and equip the end of the rail tracks with secure wheel stopper.

Article 204  The employer shall, when a vehicle is liable to overrun, install an anchoring device.

Article 205  The employer shall, when installing railway equipment inside a tunnel, etc., under construction, provide a clearance of 0.6 m or more between a vehicle and the sidewall or obstacle on either side of the track in order to prevent the dangers of workers who are passing through being hit by vehicles in operation. However, this shall not apply to the case where providing the said clearance is difficult due to the small sectional area of the tunnel, etc., and any of the following measures has been taken:
(i) To provide a clearly discernible safety zones at appropriate intervals.
(ii) Not to allow workers entering the place in the traveling direction of vehicle in operation by installing a signaling device, arranging a watcher, etc.

Article 206  The employer shall, when installing railway equipment inside a tunnel, etc., under construction, maintain a necessary distance between a vehicle and a sidewall or the ceiling of the tunnel, etc., and obstacles thereof in order to prevent the person riding on a vehicle from being hit the sidewall or the ceiling of the tunnel, etc., or obstacles thereof. However, this shall not apply to the case that obstacles such as deformed tunnel shoring, etc., by the load of the land, exist and readily-discernible measures have been taken in order to prevent the dangers of person riding on a vehicle being hit the said obstacles in the tunnel, etc.

Article 207  The employer shall install a signaling device corresponding to the condition of railway equipment.

**Subsection 3 Vehicle**

Article 208  (1) The employer shall equip a power vehicle with a hand brake, and
equip a power vehicle having the vehicle body weight of 10 tons or more with a power brake.

(2) The employer shall set ratio of the pressure of a brake applied to the brake shoe to the pressure of the brake wheel applied to rails to fifty hundredth or more but seventy-five hundredth or less for a power brake and twenty hundredth or more for a hand brake.

(Facilities for a Power Vehicle)
Article 209 The employer shall not use a power vehicle unless otherwise prescribed as follows:
(i) To be equipped with signaling device such as a whistle, an alarm bell;
(ii) To be equipped with a front lamp and illuminating apparatus for cabins when operating the said power vehicle at night or underground;
(iii) To be equipped with a lubricant pressure indicator for an internal combustion locomotive;
(iv) To be equipped with an automatic circuit-breaker for an electric locomotive, and with an arrester for an electric locomotive with an aerial cableway system.

(Operator's Seat of a Power Vehicle)
Article 210 The employer shall not use an operator's seat of a power vehicle unless otherwise prescribed as follows:
(i) To have a construction enabling an operator to maintain the view for operating safely;
(ii) To be equipped with an enclosure, etc., in order to prevent an operator from dangers due to falling.

(Worker Carrier)
Article 211 The employer shall not use a vehicle exclusively for transporting workers (hereinafter referred to as "worker carrier") unless otherwise prescribed as follows:
(i) To be equipped with such devices as a seat, a grasping rod enabling workers to ride on the said carrier safely.
(ii) To be equipped with an enclosure and a gate.
(iii) As regards a worker carrier pulled by a winching system used on an inclined rails, to be equipped with facilities enabling an operator of the winch and a person riding on the worker carrier to communicate each other in an emergency.
(iv) As regards the worker carrier set forth in the preceding item, to be equipped with an emergency stop device in order to prevent dangers due to cutting of a wire rope, excessive speed, etc.
(v) As regards a worker carrier used on an inclined rails with an inclined angle of 30 degrees or more, to be equipped with a derailment preventive device.

(Wheel)
Article 212 The employer shall not use a wheel unless otherwise prescribed as follows:
(i) To have the width which ensures that the tread mount safely on the rails when the tires with their flanges worn to the maximum extent pass the track part having the maximum gauge.
(ii) To have a flange thickness which provides sufficient strength even when their flange have been worn to the maximum extent and while allowing the tires to pass through junctions and frogs.
(iii) To have a flange height which is higher than that required for preventing tires from derailment and at the same time from riding on the joint plates, frogs, etc.

(Coupler)
Article 213 The employer shall, when coupling vehicles, use a secure coupler.

(Coupling of Worker Carriers on an Inclined Rails)
Article 214 The employer shall, in the case of using a worker carrier on an inclined rails and when coupling worker carriers with each other or to a wire rope socket with a chain or a link, use another auxiliary chain or wire rope in order to prevent the said vehicle from overrun due to cutting of the link or the chain.

Subsection 4 Winching System

(Brake of a Winching System)
Article 215 The employer shall equip a winching system with a brake enabling stop promptly a vehicle in the case that the vehicle is applied the maximum load and maintaining the stopped state of the vehicle.

(Wire Rope)
Article 216 The employer shall not use a wire rope to be used on a winching system unless otherwise prescribed as follows:
(i) To have the safety coefficient of a wire rope shall be 6 or more (10 or more for a wire rope to be used for a worker carrier). In this case, the safety coefficient shall be the value obtained by dividing the value of the breaking load of the wire rope with the maximum value of the load applied on to the said wire rope;
(ii) To be fixed to vehicles by secure method such as using links.

(Prohibition of the Use of an Inadequate Wire Rope)
Article 217 The employer shall not use a wire rope falling under any of the following item for a winching system:
(i) Those with 10% or more element wires cut in one strand;
(ii) Those with the reduction ratio of a diameter exceeding 7% of the nominal diameter;
(iii) Those with kink;
(iv) Those with marked deformation or corrosion.

(Depth Indicator)
Article 218 The employer shall, in the case of using worker carrier on an inclined pit line and when it is difficult for the operator of the winch to confirm the position of the worker carrier, equip the said winch with a depth indicator enabling the operator to readily confirm the position of the worker carrier.

Subsection 5 Prevention of Dangers Pertaining to the Use of the Railway Equipment

(Display Method of a Signaling Device)
Article 219 The employer shall, when having installed a signaling device, set in advance display method for the said signaling device, and make the set display method known to the workers concerned.

(Signals)
Article 220 (1) The employer shall, as regards the operation of the railway equipment, set in advance signaling method for the said operation and make the set signaling methods known to the workers concerned.
(2) The operator of the railway equipment set forth in the preceding paragraph shall operate the said railway equipment by the signaling method set forth in the same paragraph.

(Use of Worker Carrier)
Article 221 The employer shall, when transporting workers by the railway equipment, use a worker carrier. However, this shall not apply to the case of transporting small numbers of workers or temporary transporting, and when the following measures are taken:
(i) To equip a vehicle with an enclosure, etc., in order to prevent falling.
(ii) Not to carry workers and cargo that is liable to cause collapse, displacement, etc., at the same time.
(Speed Limit)
Article 222  (1) The employer shall, as regards operation of a vehicle, set in advance speed limit for the said vehicle corresponding to the weight of rail, gauge, gradients, radius of curvature, etc., and have a operator operate by the set speed limit.
(2) The operator of the vehicle set forth in the preceding paragraph shall not operate the vehicle at speeds exceeding the speed limit set forth in the same paragraph.

(Riding Capacities)
Article 223  The employer shall, as regards a worker carrier, set riding capacities corresponding to the structure of the vehicle, and make it known to the workers concerned.

(Measures to be Taken When Operating a Vehicle by Pushing from Behind)
Article 224  The employer shall, when operating a vehicle inside tunnel, etc., under construction by pushing from behind with a power vehicle, take the following measures. However, this shall not apply to the case of setting sections for such an operation and prohibiting workers from entering the set sections:
(i) To arrange a guides and have the said person guide the said power vehicle. 
(ii) To equip the first vehicle with front lamp.
(iii) To install a device enabling the guide and the operator to communicate with each other and the guide to give an alarm in an emergency.

(Measures in the Case of Having a Guide Ride a Vehicle)
Article 225  The employer shall, when having a guide set forth in the preceding Article ride a vehicle, take such measures as having the guide ride the vehicle equipped with an enclosure or a boarding platform in order to prevent the guide from dangers of falling from the vehicle.

(Measures to Be Taken in the Case of Leaving the Operator's Seat)
Article 226  (1) The employer shall, when the operator of a power vehicle leaves the operator's seat, have the said operator take such measures as applying brake in order to prevent the vehicle from overrun.
(2) The operator set forth in the preceding paragraph shall, when leaving the operator's seat, take the measures set forth in the same paragraph.

(Prohibition of Leaving an Operating Station)
Article 227  (1) The employer shall not allow an operator of a winch to leave his
operating station while the said winch is in operation.

(2) The operator set forth in the preceding paragraph shall not leave his operating station while the said winch is in operation.

**Subsection 6 Periodical Self-inspections, etc.**

(Periodical Self-inspections)

Article 228 (1) The employer shall, as regards an electric locomotive, a battery locomotive, an electric vehicle, a battery electric vehicle, an internal combustion locomotive, an internal combustion power vehicle, a steam locomotive and a winching system (hereinafter referred to as "electric locomotive, etc." in this Subsection), carry out self-inspections for abnormalities in each part of the said electric locomotive, etc., periodically once every period within three years. However, this shall not apply to the non-use period of electric locomotive, etc., which is not used for a period exceeding three years.

(2) The employer shall, as regards the electric locomotive, etc., set forth in the proviso of the preceding paragraph, carry out self-inspection for abnormalities in the each part of the said electric locomotive, etc., before resuming the operation.

Article 229 (1) The employer shall, as regards the electric locomotive, etc., carry out self-inspections for the following matters periodically once every period within a year. However, this shall not apply to the non-use period of the electric locomotive, etc., which is not used for a period exceeding one year:

(i) Abnormalities in a motor, a control device, a brake, an automatic circuit-breaker, a carriage, a coupler, a battery, an arrester, wiring, connecting device and various meters for an electric locomotive, a battery locomotive, an electric vehicle and a battery electric vehicle.

(ii) Abnormalities in an engine, a power transmission device, a control device, a brake, a carriage, a coupler and various meters for an internal combustion locomotive and an internal combustion power vehicle.

(iii) Abnormalities in a cylinder, a valve check, a steam pipe, a regulating valve, a safety valve and various meters for a steam locomotive.

(iv) Abnormalities in a motor, a power transmission mechanisms, a drum, a brake, a wire rope, a wire rope fittings, a safety device and various meters for a winching system.

(2) The employer shall, as regards the electric locomotive, etc., set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.
Article 230 (1) The employer shall, as regards the electric locomotive, etc., carry out self-inspections for the following matters periodically once every period within a month. However, this shall not apply to the non-use period of electric locomotives, etc., which is not used for a period exceeding one month:
(i) Abnormalities in electric circuit, a brake and a coupler for an electric locomotive, a battery locomotive, an electric vehicle and a battery electric vehicle.
(ii) Abnormalities in a brake and a coupler for an internal combustion locomotive and an internal combustion power vehicle.
(iii) Abnormalities in an interior of firebox, a fusible plug, a spark arrester, a water gauge, feed-water supply systems, a brake and a coupler for a steam locomotive.
(iv) Abnormalities in a brake, a wire rope, a wire rope fittings for a winching system.
(2) The employer shall, as regards the electric locomotive, etc., set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the operation.

(Record of Periodical Self-inspections)
Article 231 The employer shall, when having carried out the self-inspections set forth in the preceding three Articles, record the following matters and preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Checkup)
Article 232 (1) The employer shall, when carrying out the work using railway equipment, check the following matters before commencing the work for the day:
(i) Functions of a brake, a coupler, a warning device, a current collector, a front lamp, a control device and a safety device.
(ii) Leakage of air, etc., from a piping.
(2) The employer shall check any abnormalities in the condition of the rails and the tread for rail track as needed.

(Repair)
Article 233  The employer shall, when having found any abnormalities in the case where the self-inspection set forth in Article 228 to 230, or the checkup set forth in the preceding Article have carried out, immediately repair.

Subsection 7 Hand Cart

(Rail Tracks for a Hand Cart)
Article 234  (1) The employer shall conform rail tracks which are to be used for a hand cart to the following provisions:
(i) To have the radius of curvature of rail tracks of 5 m or more.
(ii) To have gradients of one fifteenth or less.
(iii) To have the weight of a rail of 6 kg or more.
(iv) To arrange sleepers with a diameter of 9 cm or more at appropriate intervals.
(2) The provisions of Article 197 and of paragraph (2) of Article 232 shall apply mutatis mutandis to the rail tracks for a hand cart.

(Installation of Brake)
Article 235  The employer shall, as regards a hand cart to be used on a section of rail tracks with gradients of ten thousandth or more, install an effective hand brake in the hand cart.

(Intervals, etc., of Carts)
Article 236  (1) The employer shall, when a worker operates a hand cart, have the worker carry out the following matters:
(i) To have the intervals between carts of 6 m or more in sections of rising gradient rail tracks or horizontal rail tracks and of 20 m or more in sections of falling gradient rail tracks.
(ii) Not to exceed the speed of 15 km/h when operated in sections of falling gradient rail tracks.
(2) The worker set forth in the preceding paragraph shall, when operating a hand cart, carry out the matters listed in each item of the same paragraph.

Chapter III Concrete Form Shoring
Section 1 Material, etc.

(Material)
Article 237  The employer shall, as regards materials for concrete form shoring, not use those with extreme damage, deformation or corrosion.
Article 238 The employer shall, as regards steel materials for main parts of supports, girders or supporting members for girders to be used for concrete form shoring, not use those materials unless otherwise conform to the Japanese Industrial Standard, G 3101 (Rolled Steel for General Structure), the Japanese Industrial Standard, G 3106 (Rolled Steel for Welded Structure), the Japanese Industrial Standard, G 3444 (Carbon Steel Tubes for General Structural Purposes), or the Japanese Industrial Standard, G 3350 (Cold-formed Light Gauge Steels for Construction Structure), or those materials of which the value of tensile strength is 330 N/mm² or more in a test conducted by the method prescribed by the Japanese Industrial Standard, Z2241 (Method of Tensile Test for Metallic Materials), and which have elongation listed in the right column of the following table corresponding to the type of material and value of the tensile strength listed in the left column and the middle column of the same table respectively:

<table>
<thead>
<tr>
<th>Type of material</th>
<th>Tensile strength (N/mm²)</th>
<th>Elongation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel pipe</td>
<td>330 or more but less than 400</td>
<td>25 or more</td>
</tr>
<tr>
<td></td>
<td>400 or more but less than 490</td>
<td>20 or more</td>
</tr>
<tr>
<td></td>
<td>490 or more</td>
<td>10 or more</td>
</tr>
<tr>
<td>Steel plate, gauge steel, flat steel, or light gauge steel</td>
<td>330 or more but less than 400</td>
<td>21 or more</td>
</tr>
<tr>
<td></td>
<td>400 or more but less than 490</td>
<td>16 or more</td>
</tr>
<tr>
<td></td>
<td>490 or more but less than 590</td>
<td>12 or more</td>
</tr>
<tr>
<td></td>
<td>590 or more</td>
<td>8 or more</td>
</tr>
<tr>
<td>Bar steel</td>
<td>330 or more but less than 400</td>
<td>25 or more</td>
</tr>
<tr>
<td></td>
<td>400 or more but less than 490</td>
<td>20 or more</td>
</tr>
<tr>
<td></td>
<td>490 or more</td>
<td>18 or more</td>
</tr>
</tbody>
</table>

(Structure of Concrete Form Shoring)

Article 239 The employer shall, as regards a concrete form shoring, not use unless the one with sound structure corresponding to the configuration of the concrete form, method of placing concrete, etc.

**Section 2 Measures in the Case of Assembling, etc.**

(Erection Diagram)

Article 240 (1) The employer shall, when assembling concrete form shoring, prepare an erection diagram and assemble it under the said erection diagram. (2) The erection diagram set forth in the preceding paragraph shall describe the arrangement, method of connection and size of members such as supports, girders, ties and diagonal bracings. (3) The design of concrete form shoring pertaining to the erection diagram set forth in the paragraph (1) shall comply with the following provisions:
(i) When a support, a girder or a supporting member of girder (hereinafter referred to as "support, etc." in this Article) are not combined, the value of the stress produced on the said support, etc., by the design load (meaning the load equivalent to the weight of things supported by concrete form shoring plus load of 150 kg or more per 1 m² of the concrete form; hereinafter the same shall apply in this Article) shall not exceed the value of the allowable stress of the materials of the said support, etc.

(ii) When a support, etc., are combined, the design load shall not exceed the maximum working load designated by the manufacturer of the said support, etc.

(iii) When a steel tubing frame for use as a support, the one shall have a safe structure even when the horizontal weight on top of the said concrete form shoring is equivalent to 2.5% of the design load.

(iv) When something other than a steel tubing frame for use as a support, the one shall have a safe structure even when the horizontal weight on top of the said concrete form shoring is equivalent to 5% of the design load.

(Value of Allowable Stress)

Article 241 The value of allowable stress of materials set forth in item (i) of paragraph (3) of the preceding Article shall comply with the following provisions:

(i) The value of allowable bending stress and allowable compressive stress of steel materials shall be two thirds or less of whichever is the smaller value of the value of yield strength of the steel materials or three quarters of the value of the tensile strength.

(ii) The value of allowable shearing stress of steel materials shall be 38 % or less of whichever is the smaller value of the yield strength of said steel materials or three quarters of the value of the tensile strength.

(iii) The value of allowable buckling stress of steel materials shall be the value obtained by calculation using the following formula or less:

\[
\frac{\Lambda}{l} \leq \Lambda
\]

\[
6c = \left( (1 - 0.4\frac{(l/i)\Lambda^2}{\nu})\right)F
\]

When \(l/i \leq \Lambda\)

\[
6c = \left( 0.29\frac{(l/i)\Lambda^2}{\nu} \right)F
\]

Where, \(l, i, \Lambda, 6c, \nu\) and \(F\) in these formula designate each following values.

\(l\): Length of the support (where the support is bound to prevent horizontal displacement, the maximum length between bound points) (cm)

\(i\): Minimum secondary radius of section of the support (cm)

\(\Lambda\): Critical slenderness ratio = \(\sqrt{\pi^2E/0.6F}\)

where, \(\pi\): circumference ratio of

\(E\): Young coefficient of said steel materials (N/cm²)
6c: Value of allowable buckling stress (N/cm²)

ν: Safety factor = 1.5 + 0.57((l/i)/Λ)^2

F: Whichever is the smaller value of the value of the yield strength or the value of three quarters of the tensile strength of the said steel materials (N/cm²)

(iv) The value of allowable bending stress, allowable compressive stress and allowable shearing stress of timber in the direction of fibre shall be the value listed in the right column of the following table or less corresponding to the kind of timber listed in the left column of the same table.

<table>
<thead>
<tr>
<th>Kind of timber</th>
<th>Value of allowable stress (N/cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bending</td>
</tr>
<tr>
<td>Japanese red pine, Japanese black pine, Japanese larch, hiba, hinoki, Japanese hemlock, Oregon pine, or Port Oxford cedar</td>
<td>1,320</td>
</tr>
<tr>
<td>Japanese cedar, fir, silver fir, abies, red cedar or Western hemlock</td>
<td>1,030</td>
</tr>
<tr>
<td>Oak</td>
<td>1,910</td>
</tr>
<tr>
<td>Japanese chestnut, Japanese oak, Japanese beech, or keyaki</td>
<td>1,470</td>
</tr>
</tbody>
</table>

(v) The value of allowable buckling stress of timber in the direction of fibre shall be the value obtained by calculation using the following formula or less:

When lk/i ≤ 100: fk = fc(1 - 0.007(lk/i))

When lk/i > 100: fk = 0.3fc/(lk/100i)^2

Where, lk, i, fc and fk in these formula designate each following values.

lk: Length of the support (when the support is bound to prevent horizontal displacement, the maximum length between bound points) (cm)
i: Minimum secondary radius of section of the support (cm)
fcc: Value of allowable compressive stress (N/cm²)
fk: Value of allowable buckling stress (N/cm²)

(Measures, etc., to Be Taken for Concrete Form Shoring)

Article 242  The employer shall, as regards a concrete form shoring, comply with the following provisions:

(i) To take measures, such as the use of square timber, concrete placing, and use of posts in order to prevent settling of the supports.

(ii) To take measures such as fixing of the legs, provision of bridge batten of foot post in order to prevent sliding of the legs of the supports.

(iii) A butt joint or a bell-and-spigot joint shall be used for a joint of a support.

(iv) To fasten connecting and intersecting portions of steel materials with fittings such as bolts and clamps.
(v) When concrete forms have curved surfaces, to take measures such as use of stays in order to prevent floating of the concrete form.

(v)·2 In the case that H-steel or I-steel (hereinafter referred to as "H-steel, etc." in this item) is used as sleepers and other horizontal materials and when it is liable to cause deformation of the section of the said H-steel, etc., due to concentration of load on the point of connection between said H-steel, etc., and supports and jacks, etc., to attach reinforcing materials to the said points of connection.

(vi) For those using steel pipes (excluding adjustable tubular pole shores; hereinafter the same shall apply in this Article) as supports, to conform the steel pipes to the following provisions:
(a) To equip horizontal collar braces in two directions for each height of 2 m or less, and prevent the horizontal collar braces from becoming displaced.
(b) When putting girders or sleepers on the top of steel pipes, to fix an end plate of steel to the said top and fasten to the girders or sleepers.

(vii) For those using adjustable tubular pole shores as supports, to conform the adjustable tubular pole shores to the following provisions:
(a) No to connect three or more adjustable tubular pole shores.
(b) When connecting adjustable tubular pole shores, to connect them using four or more bolts or specially designed fittings.
(c) When the height exceeds 3.5 m, to take measures set forth in (a) of the preceding item.

(viii) For those using tubular steel forms as supports, to conform the tubular steel forms to the following:
(a) To equip cross bracings between tubular steel forms.
(b) To equip horizontal collar braces each five frames or less in the direction of the side surface and the form surface of the concrete form shoring and in the direction of the cross bracings at the top layer and for each five layers or less, and prevent the horizontal collar braces from displacement.
(c) To equip ledger forms in the direction of the cross bracings, as both ends of the concrete form shoring in the direction of the form surface and for each five frames or less at the top layer and for each five layers or less.
(d) To take measures set forth in (b) of item (vi).

(ix) For those using built-up steel props as supports, to conform the built-up steel props to the following provisions:
(a) To take measures set forth in (b) of item (vi).
(b) When the height exceeds 4 m, to equip horizontal collar braces in two directions for each 4 m or less, and prevent the horizontal collar braces from displacement.

(ix)·2 For those using H-steel as supports, to take the measures set forth in (b) of item (vi) for the said H-steel sections.
(x) For those using timber as supports, to conform to the timber to the following provisions:
(a) To take measures set forth in (a) of item (vi).
(b) When connecting two or more timbers, to connect them with two or more reinforcements.
(c) When putting girders or sleepers on the top of the timber, reinforcements to fix the top to the girders or sleepers.
(xi) For those constructed with girders, to conform to the following provisions:
(a) To fix both ends of the girders to supporting members in order to prevent the girders from sliding and coming off.
(b) To equip collar braces between girders in order to prevent the girders from side buckling.

(Step-Like Concrete Form Shoring)
Article 243 The employer shall, as regards concrete form shoring assemble in the shape of steps using planking, square timber, etc., comply with the following provisions in addition to the provisions prescribed in each item of the preceding Article:
(i) No to use planking, square timbers, etc., in two or more steps, excluding the unavoidable case due to configuration of the concrete form.
(ii) When connecting planking, square timbers, etc., to fasten the said planking, square timbers, etc.
(iii) To fix supports to the planking, square timbers, etc.

(Concrete Placing Work)
Article 244 The employer shall, when carrying out concrete placing work, comply with the following provisions:
(i) To check the concrete form shoring pertaining to the said work before commencing the work for the day, and repair when having found any abnormalities.
(ii) To take in advance measures for suspending work when any abnormality is found on the concrete form shoring during work.

(Work of Assembling, etc., of Concrete Form Shoring)
Article 245 The employer shall, when carrying out assembling or dismantling work of concrete form shoring, take the following measures:
(i) To prohibit workers other than those concerned from entering the area where the said work is carried out:
(ii) To suspend the work when dangers regarding the implementation of the said work are forecast due to bad weather such as strong wind, heavy rain, and heavy snow;
(iii) When raising or lowering materials, an instrument or a tool, to have worker use a lifting rope, lifting bag, etc.

(Appointment of Operations Chief of Assembling, etc., of Concrete Form Shoring)
Article 246 The employer shall, as regards the work set forth in item (xiv) of Article 6 of the Order, appoint an operations chief of assembling, etc., of concrete form shoring from the persons who have completed the skill training course for operations chief of assembling, etc., of concrete form shoring.

(Duties of an Operations Chief of Assembling, etc., of Concrete Form Shoring)
Article 247 The employer shall have an operations chief of assembling, etc., of concrete form shoring carry out the following matters:
(i) To decide a work method and supervise the work directly.
(ii) To check defects in material, an instrument and a tool, and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet during work.

Chapter IV Prevention of Explosion, Fire, etc.
Section 1 Prevention of Explosion, Fire, etc., Due to Molten High-temperature Substance, etc.

(Structure of High-temperature Substance Handling Facilities)
Article 248 The employer shall, as regards furnace and other facilities handling a large quantity of high-temperature substances, ensure that they have a structure necessary to prevent fires.

(Molten High-temperature Substance Handling Pit)
Article 249 The employer shall, in order to prevent steam explosions, as regards molten high-temperature minerals (hereinafter referred to as "molten high-temperature substance") handling pit (excluding those processing high-temperature slag with water), take the following measures:
(i) To have the structure enabling to prevent underground water from penetrating. However, this shall not apply to when the pits are equipped with facilities enabling discharging stagnant underground water inside the pit.
(ii) To install partitions or other facilities enabling to prevent work-use water or rain water from penetrating around the pit.

(Structure of Building)
Article 250 The employer shall, in order to prevent steam explosions, as regards
buildings, which have molten high-temperature substance handling facilities inside, take the following measures:
(i) To have a floor surface with structure which prevent stagnant water.
(ii) To have a roof, a wall, a window, etc., with structure enabling to prevent rainwater from penetrating.

(Work Handling Molten High-temperature Substance)
Article 251 The employer shall, when carrying out the work handling molten high-temperature substance (excluding work processing high-temperature slag with water and work disposing the said slag), in order to prevent steam explosions, not carry out the said work unless otherwise having confirmed that the pit set forth in Article 249, the floor surface of building set forth in the preceding Article, and other molten high-temperature substance handling facilities are free of stagnant water, or are not wet.

(Water Processing, etc., of High-temperature Slag)
Article 252 The employer shall, as regards places where high-temperature slag are processed with water, or are disposed, in order to prevent steam explosions, take the following measures. However, this shall not apply to the case that water smash processing is carried out:
(i) The places where high-temperature slag are processed with water, or are disposed, are of well drained.
(ii) The places where high-temperature slag is disposed be indicated that matter.

Article 253 The employer shall, when carrying out the work processing high-temperature slag with water, or work disposing the said slag, in order to prevent steam explosions, not carry out the said work unless otherwise having confirmed that the places set forth in the preceding Article are free of stagnant water. However, this shall not apply to the case that water smash processing is carried out.

(Work Putting Metal Scraps in Furnace)
Article 254 The employer shall, when carrying out the work putting metal scraps in a furnace, in order to prevent steam explosions and other explosions, not carry out the said work unless otherwise having confirmed that the said metal scraps are not containing water, gunpowder, dangerous substances (meaning those listed in Appended Table 1 of the Order, the same shall apply hereinafter), airtight containers, etc.

(Prevention of Burns, etc.)
Article 255  (1) The employer shall, as regards a blast furnace, a cupola, glass melting furnace and other places where work handling a large quantity of high-temperature substances is carried out, in order to prevent burns or other danger due to the scattering, outflow, etc., of the said high-temperature substances, take appropriate measures.

(2) The employer shall provide the places set forth in the preceding paragraph with appropriate personal protective equipment in order to prevent burns and other dangers.

(3) A worker shall, when carrying out the work set forth in paragraph (1), use the personal protective equipment set forth in the preceding paragraph.

Section 2 Handling of Dangerous Substances, etc.

(Measures in the Case of Manufacture, etc. of Dangerous Substances)

Article 256  (1) The employer shall, when manufacturing or handling dangerous substances, in order to prevent explosions or fires, comply with the following provisions:

(i) As regards explosive substances (meaning those listed in item (1) of Appended Table 1 of the Order), not to bring them close to fire or others that is liable to become a fire source, or heat, rub them or give a shock to them without reason.

(ii) As regards combustible substances (meaning those listed in item (2) of Appended Table 1 of the Order), not to bring them close to fire or others that is liable to become a fire source, or make them to contact with substances that accelerate oxidation or with water, or heat them, or give a shock to them, corresponding to their types, without reason.

(iii) As regards oxidizing substances (meaning those listed in item (3) of Appended Table 1 of the Order, the same shall apply hereinafter), not to make them to contact with substances which is liable to accelerate decomposition, or heat, rub them, or give a shock to them without reason.

(iv) As regards inflammable substances (meaning those listed in item (4) of Appended Table 1 of the Order, the same shall apply hereinafter), not to bring them close to fire or others that is liable to become a fire source, or pour them, make them to evaporate, or heat them without reason.

(v) To always maintain the places installed facilities that dangerous goods are manufactured or handled with good housekeeping, and not to place flammable or oxidizing substances in the said places without reason.

(2) A worker shall, in the case set forth in the preceding paragraph, comply with the provisions of each item of the same paragraph.

(Operations Leader)
Article 257  The employer shall, when carrying out the work manufacturing or handling dangerous substances (excluding the work listed in item (ii) or (viii) of Article 6 of the Order), designate a leader for the said work, and have the said leader direct the said work and carry out the following matters:
(i) To check as needed the dangerous substances manufacturing or handling facilities and their attached facilities, and when having found any abnormalities, immediately take necessary measures.
(ii) To check as needed the temperature, humidity, conditions of shading of light and ventilation, etc., in the place where the dangerous substances manufacturing or handling facilities and their attached facilities are installed, and when having found any abnormalities, immediately take necessary measures.
(iii) In addition to what is listed in the preceding each item, to check as needed the situation handling dangerous substances as needed, and when having found any abnormalities, immediately take necessary measures.
(iv) To keep records of the measures taken pursuant to the provision of each preceding item.

(Work Pouring Inflammable Substances, etc., using a Hose)
Article 258  (1) The employer shall, when carrying out the work pouring inflammable substances or combustible gas (meaning those listed in item (5) of Appended Table 1 of the Order, the same shall apply hereinafter) which are in liquid form into a chemical facilities (excluding piping), a tank vehicle, a tank car, a drum, etc., using a hose, not carryout the work unless otherwise having confirmed that the jointing parts of the hose are firmly fastened, or coupled.
(2) A worker shall, when engaged in the work set forth in the preceding paragraph, not carry out the work unless otherwise prescribed as the same paragraph.

(Work Pouring Kerosene, etc., into Facilities with Residual Gasoline)
Article 259  (1) The employer shall, when carrying out the work pouring kerosene or light oil into a chemical facilities (limited to the facilities that store dangerous substances, excluding piping; the same shall apply in the next Article), a tank vehicle, a tank car, a drum, etc., in which residual gasoline exists, not carry out the said work unless otherwise having confirmed in advance, that the inside of the chemical facilities, etc., has been made safe by washing, replacing gasoline with inert gas, etc.
(2) A worker shall, when engaged in the work set forth in the preceding paragraph, not carry out the said work unless otherwise prescribed as the same paragraph.
(Work Handling Ethylene Oxide, etc.)

Article 260  (1) The employer shall, when carrying out the work pouring ethylene oxide, acetaldehyde or propylene oxide into a chemical facilities, a tank vehicle, a tank car, a drum, etc., not carry out the said work unless otherwise having replaced in advance gas or vapor other than inert gas in the chemical facilities, etc., by inert gas.

(2) The employer shall, when storing ethylene oxide, acetaldehyde or propylene oxide in chemical facilities, a tank vehicle, a tank car, a drum, etc., always replace gas or vapor other than inert gas in the chemical facilities, etc., by inert gas.

(Prevention of Explosions or Fires by Means of Ventilation, etc.)

Article 261 The employer shall, as regards places where it is liable to cause explosions or fires due to existing vapor of inflammable substances, flammable gas or flammable dust, in order to prevent the said explosions or fires, take measures such as ventilation, removal of dust.

(Work of Gas Welding, etc., at a Place Where Ventilation, etc., Is Insufficient)

Article 262  (1) The employer shall, when carrying out the work welding, cutting or heating of metal using flammable gas and oxygen (hereinafter referred to as "gas, etc." in this and next Articles) at places where ventilation is insufficient, in order to prevent explosions, fires or burns due to leakage or discharge of gas, etc., at the said places, take the following measures:

(i) As regards hoses and torches for gas, etc., to use those that is not likely to leakage of gas etc., due to their damages, wear, etc.

(ii) As regards connection of connecting portions between hoses and torches and between hoses of gas, etc., to fasten securely with hose bands, hose clips, etc.

(iii) When gas, etc., are supplied to hoses of gas, etc., mount on the hoses a torch that is set so as not to discharge gas, etc., or with a firm stop plug in advance.

(iv) To display an indication for preventing operational error of the supply of gas, etc., on the valve or cock of the supply inlet of gas, etc., of the hose in operation, by attaching a card showing the name of the operator who handles the hose connected with the said valve or cock, etc.

(v) When carrying out the work cutting, to provide sufficient ventilation to prevent burns due to the discharge of excessive oxygen from the torches.

(vi) When leaving the work place due to suspension or completion of the operation, to shut the valve or cock of the supply inlet of gas, etc., and dismantle the hose of gas, etc., from the supply inlet of gas etc., or remove the hose of gas etc., to a place where there is sufficient natural ventilation.
(2) A worker shall, when engaged in the work set forth in the preceding paragraph, not carry out the said work unless otherwise prescribed as each item of the same paragraph.

(Handling of Gas Cylinders, etc.)

Article 263 The employer shall, as regards gas cylinders, etc., used for the work of gas welding, etc., (meaning the work listed in item (x) of Article 20 of the Order, the same shall apply hereinafter) comply with the following provisions:
(i) Not to install, use, store or leave in the following places:
   (a) Places where there is insufficient ventilation.
   (b) Places where fires are used and their vicinities.
   (c) Places where gun powder, dangerous substances, or other explosive or combustible substances or a large quantity of flammable substances are manufactured or handled and their vicinities.
(ii) To keep the temperature of the gas cylinders, etc., at 40 ºC or lower.
(iii) To maintain the gas cylinders, etc., in such a way that they are not likely to fall.
(iv) Not to give a shock to the gas cylinders, etc.
(v) When transporting the gas cylinders, etc., to provide with caps.
(vi) When using the gas cylinder, etc., to remove oil, etc., and dust adhering to the mouthpiece of the cylinder.
(vii) To open and close the valve of the gas cylinders, etc., gently.
(viii) To place a cylinder of dissolved acetylene upright.
(ix) To separate distinctly cylinders before or in use from other cylinders.

(Prevention of Ignition, etc., Due to Contact between Different Types of Substances)

Article 264 The employer shall, when it is liable to cause ignition or explosion due to contact between different types of substances, not store them close to each other, or take on them by same carrying vehicles. However, this shall not apply to when measures are taken to prevent the said substances from contacting each other.

(Places, etc., for Work that Is Liable to Cause a Fire)

Article 265 The employer shall ensure that places, equipment, etc., where carried out work raising, rag opening, etc., or work handling a great quantity of cotton, wool, rags, excelsior, straw, wastepaper and other flammable substances, appropriate location or construction to prevent fires.

(Prevention of Natural Ignition)

Article 266 The employer shall, when piling up substances that are liable to
cause danger of natural ignition, take measures to prevent the temperature of
the said substances from rising to a dangerous level.

(Disposal of Rags, etc., Soaked with Oil, etc.)
Article 267 The employer shall, as regards rags, wastepaper, etc., soaked with
oil or printing ink, take measures for prevention of fire such as putting them in
a non-combustible covered container.

Section 3 Chemical Facilities, etc.

(Buildings in Which Chemical Facilities Are Installed)
Article 268 The employer shall, as regards a building in which chemical facilities
(excluding piping) are installed, use non-combustible materials to construct the
walls, pillars, floors, girders, roofs, stairs, etc. (limited to those portions
adjacent to such chemical facilities).

(Prevention of Corrosion)
Article 269 The employer shall, as regards portions that contact dangerous
substances or substances with a flash point of 65 °C or higher (hereinafter
referred to as "dangerous substances, etc") among chemical facilities (excluding
valves or cocks), take measures such as constructing the said portions with
corrosion-resistant materials and providing linings, corresponding to type,
temperature or concentration, etc., of the said dangerous substances, etc., in
order to prevent explosions or fires due to significant corrosion of the said
portions by the said dangerous substances, etc.

(Joining Portions of Cover Plates, etc.)
Article 270 The employer shall, as regards the joining portions of a cover plate, a
flange, a valve, a cock, etc., of chemical facilities, take measures such as using
gaskets to make joint surfaces attach tightly in order to prevent explosions or
fires due to leakage of dangerous substances, etc., from the said joining
portions.

(Indicating, etc., the Opening and Closing Direction of Valves, etc.)
Article 271 (1) The employer shall, as regards the valves or cocks of chemical
facilities or switches, push buttons, etc., for operating the said valves or cocks,
take the following measures in order to prevent explosions or fires due to an
operational error of the said valves, cocks, etc.:
(i) To indicate the direction of opening and closing;
(ii) To make distinctions by color, shape, etc.
(2) The measure in item (ii) of the preceding paragraph shall not be distinction
by color only.

(Materials of Valves, etc.)
Article 272 The employer shall conform the valves or cocks of chemical facilities to the following provisions:
(i) To construct such valves or cocks with durable materials corresponding to the frequency of opening and closing of the said valves or cocks, or the type, temperature, concentration, etc., of the dangerous substances, etc., pertaining to producing or handling.
(ii) To equip valves or cocks doubly between the strainers, etc. that are opened or removed often during the use of chemical facilities, and the nearest chemical facilities (excluding piping; hereinafter the same shall apply in this item). However, this shall not apply to the case where devices enabling ensure the closing of valves or cocks are equipped between the said strainers, etc., and the said chemical facilities.

(Indication of Types of Raw Materials Supplied)
Article 273 The employer shall display at a readily visible location the type of raw materials, the facilities in which the raw materials are supplied and other necessary matters in order to prevent explosions or fires due to any error in supplying raw materials by workers who supply raw materials in chemical facilities (excluding piping).

(Provision of Measuring Instruments)
Article 273-2 The employer shall, as regards special chemical facilities, provide thermometers, flow meters, pressure gauges and other measuring instruments necessary to discover abnormal conditions in the said facilities at an early stage.

(Installation, etc., of Automatic Warning Device)
Article 273-3 (1) The employer shall, as regards special chemical facilities (excluding those facilities which manufacture or handle dangerous substances, etc., in a quantity less than the standard provided by the Minister of Health, Labour and Welfare), install automatic warning device necessary to discover abnormal conditions inside the said facilities at an early stage.
(2) The employer shall, when it is difficult to take the measures prescribed by the preceding paragraph, take measures such as placing a watcher and having the person watch the said special chemical facilities during operation.

(Installation, etc., of Emergency Stop Device)
Article 273-4 (1) The employer shall, as regards special chemical facilities, in
order to prevent explosions or fires due to abnormal condition, install device for
cutting off feeding of raw materials or discharging products, etc., devices for
feeding inert gas, cooling water, etc., or other devices to cope with the said
abnormal condition.

(2) Valves or cocks equipped in the devices set forth in the preceding paragraph
shall conform to the following provisions:
(i) To have the function to reliably work.
(ii) To be maintained in a condition enabling smooth operation at all times.
(iii) To enable to safety and accurately operate.

(Reserved Power Sources, etc.)
Article 273-5  (1) The employer shall conform power sources used for special
chemical facilities, their piping or their attached facilities, to the following
provisions:
(i) To provide reserved power sources for immediate use to prevent explosions
or fires due to abnormalities of regular power sources.
(ii) To provide locking, color divisions, classification of configurations, etc., on
valves, cocks, switches, etc., in order to prevent operational error.
(2) The measure in item (ii) of the preceding paragraph shall not be distinction
by color only.

(Work Rules)
Article 274  The employer shall, when carrying out the work using chemical
facilities or attached facilities, establish the rules for the said facilities as
regards the following matters to prevent explosions or fires, and have workers
carry out work by the established rules:
(i) Operation of valves, cocks, etc. (limited to those used to supply raw
materials to or to take products out from chemical facilities [excluding
piping]).
(ii) Operation of cooling devices, heating devices, stirring devices and
compressors.
(iii) Monitoring and adjustment of measuring instruments and a control device.
(iv) Adjustment of safety devices such as safety valves and emergency stop
device and automatic warning device.
(v) Inspection for joining portions of covers plates, flanges, valves, cocks, etc.,
on leakage of dangerous substances, etc.
(vi) Sample collection
(vii) For specified chemical facilities, work methods during the suspension of
operation and at the time of the resumption of operation in the case of
operations are temporarily or partially suspended.
(viii) Emergency measures in an abnormal situation.
(ix) In addition to what is listed in the preceding each item, measures necessary to prevent explosions or fires.

(Evacuation, etc.)
Article 274-2  (1) The employer shall, in the case that there is imminent danger of an industrial accident due to explosion, fire, etc., owing to a large quantity of leakage of dangerous substances, etc., from chemical facilities, suspend operation immediately and evacuate workers to a safe place.
(2) The employer shall, in the case set forth in the preceding paragraph, prohibit persons other than those concerned from entering the said workshop, etc., and display a notice to that effect at a readily visible location, until having confirmed that it is unlikely to cause an industrial accident to workers due to dangerous substances, etc.

(Modification, Repair, etc.)
Article 275  The employer shall, in the case where modifying, repairing or cleaning the chemical facilities or their attached facilities, conform to the requirements prescribed below when disassembling the said facilities or conducting work inside such facilities:
(i) To decide in advance the method and procedure of the said work, and make them known to the workers concerned.
(ii) To designate a leader of the said work, and have the said leader direct the said work.
(iii) Installing double valves or cocks or applying baffles to the valves or cocks in order to prevent dangerous substances, etc. from leaking or high-temperature steam from being discharged inside the work place.
(iv) Locking the valves, cocks or baffles described in the preceding item and displaying a sign to the effect that opening such valves, cocks or baffles is prohibited, or placing a watchman.
(v) In the case that the baffle, etc., set forth in item (iii) is to be removed and when it is liable to cause leaking or discharging of dangerous substances, etc., or high-temperature steam, to take measures such as confirming in advance, existence of the said dangerous substances, etc., or high-temperature steam between the baffle and the nearest valve or cock.

Article 275-2  The employer shall, when carrying out the work set forth in the preceding Article, have the vapor of inflammable substances or the concentration of combustible gas at the work place and its surrounding measured as needed.

(Periodical Self-inspections)
Article 276  (1) The employer shall, as regards a chemical facilities (excluding piping; hereinafter the same shall apply in this Article) and their attached facilities, carry out self-inspections for the following matters periodically once every period within two years. However, this shall not apply to the non-use period of chemical facilities and their attached facilities, which is not used for a period exceeding two years:
(i) The substances inside such facilities that may cause explosions or fires.
(ii) Conspicuous damage, deformation and/or corrosion in internal and external surfaces of such facilities.
(iii) Condition of lid plates, flanges, valves, cocks, etc.
(iv) The functions of safety devices, such as safety valves and emergency stops, and automatic alarms.
(v) The functions of cooling devices, heating devices, stirring devices, compressors, measuring instruments and a control device.
(vi) The functions of reserve power sources.
(vii) In addition to what is listed in the preceding each item, matters especially necessary to prevent explosions or fires.

(2) The employer shall, as regards the chemical facilities and their attached facilities set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the use.

(3) The employer shall, when having found any abnormalities in the said chemical facilities and their attached facilities as a result of the self-inspections set forth in the preceding two paragraphs, not use facilities unless otherwise having repaired them or taken other necessary measures.

(4) The employer shall, when having carried out the self-inspections set forth in paragraph (1) and (2), record the following matters and preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Checkup before Commencing Use)

Article 277  (1) The employer shall, when using a chemical facilities (excluding piping; hereinafter the same shall apply in this Article) or their attached facilities for the first time, after having remodeled or repaired, or after one month or longer of a nonuse period, not use the said facilities unless otherwise
having confirmed that there is no abnormality by check up the matters listed in each item of paragraph (1) of the preceding Article.

(2) The employer shall, in addition to the case set forth in the preceding paragraph, when changing the use of chemical facilities or their attached facilities (including changes in type of raw materials used; hereinafter the same shall apply in this paragraph), not use the said facilities unless otherwise having confirmed that there is no abnormality by check up the said facilities as regards the matters listed in item (i), (iv) and (v) of paragraph (1) of the preceding Article and as to any abnormalities at the portion reconstructed for such changes in use.

(Safety Device)

Article 278  (1) The employer shall, as regards vessels in which the pressure of gas is liable to exceed the atmospheric pressure due to an abnormal chemical reaction or other abnormal conditions, not use them unless those are provided with a safety valve or other alternative safety device. However, this shall not apply to those vessels having a volume of 0.1 m³ or less.

(2) The employer shall, as regards a safety valve or alternative safety device for the vessels set forth in the preceding paragraph, in order to prevent explosions or fires due to dangerous substances (In the case that the vessels set forth in the preceding paragraph are chemical facilities (excluding piping) that manufacture or handle substances having a flash point of 65 °C or higher at a temperature of the flash point or higher, the said substances; hereinafter the same shall apply in this paragraph) discharged by the operation of the said safety valve or alternative safety device, use the said safety valve or alternative safety device having an airtight structure, or the structure that enables discharged dangerous substances to be conveyed to a safe place or disposed safely by burning, absorbing, etc.

Section 4 Control of Fires, etc.

(Prohibition of Use of Fire at Places Where Dangerous Substances, etc., Exist)

Article 279  (1) The employer shall not use machines, etc., or fires that produce sparks or arcs, or that reach a high temperature and are liable to become an ignition source, or use fire at places where it is liable to cause explosion or fire due to existence of combustible dust other than dangerous substances, gunpowder, a large quantity of easily flammable substances or dangerous substances.

(2) A worker shall not use machines, etc., or fires that are liable to become an ignition source or fire set forth in the preceding paragraph at places set forth in the same paragraph.
(Electric Machine and Appliance Used in Places with a Danger of Explosion)

Article 280  (1) The employer shall, when using electric apparatuses (meaning those other than wiring and movable electric cable among machines or instruments in which the electricity conducts such as a motor, transformer, cable connector, switch, distribution board or switch board and other equipment, the same shall apply hereinafter) at the place where it is liable that the concentration of the vapor of flammable substance or flammable gas becomes to explosion limit even if the measures set forth in Article 261 are taken, not use unless they are of explosion proof performance corresponding to the types of the said vapors or gases.

(2) A worker shall not use electric machine and appliance other than explosion-proof types set forth in the preceding paragraph at places set forth in the same paragraph.

Article 281  (1) The employer shall, as regards places set forth in Article 261, when using an electric machine and appliances at the place where flammable dust (excluding deflagration dust such as the dusts of magnesium and aluminum) is liable to reach the explosive concentration even after the measures set forth in the same Article have been taken, not use electric machine and appliance unless those are of an explosion-proof structure having an explosion-proof capacity for such dust.

(2) A worker shall not use electric machine and appliance other than the explosion-proof types set forth in the preceding paragraph at places set forth in the same paragraph.

Article 282  (1) The employer shall, when using electric machine and appliance at places where is liable to cause danger of an explosion due to existing deflagrative dust, not use electric machine and appliance unless those are of an explosion-proof structure having an explosion-proof capacity for such dust.

(2) A worker shall not use electric machine and appliance other than the explosion-proof types set forth in the preceding paragraph at places set forth in the same paragraph.

(Exemptions for Repairing Work, etc.)

Article 283  The provisions of the preceding four Articles shall not apply to the case of carrying out the temporary work such as repairing or altering, and when taking measures, which is unlikely to cause dangers of an explosion or fire.

(Checkup)
Article 284  The employer shall, when using an explosion-proof type electric machine and appliance set forth in Article 280 to 282 (limited to movable or portable ones) pursuant to the provision of the said each Article, check the said explosion-proof type electric machine and appliance and a movable electric cable connected with the said machine, and the condition of the connecting portion of the said machine and appliance and the said conductor before starting the use for the day, and immediately repair it when having found any abnormalities.

(Welding, etc., of Piping or a Vessel with Residual Oil, etc.)
Article 285  (1) The employer shall, as regards piping or a tank, a drum or other vessels in which inflammable oils or combustible dusts other than dangerous substances, or dangerous substances, are liable to exist, not allow a worker to carry out welding, cutting or other works using fire, or works that is liable to produce sparks unless otherwise measures have been taken in advance, to prevent explosions or fires, such as removing, etc., such inflammable oil or combustible dust other than dangerous substances, or dangerous substances.
(2) A worker shall not carry out the work set forth in the preceding paragraph until otherwise having taken the measures set forth in the same paragraph.

(Welding, etc., at Places Where Ventilation, etc., Is Insufficient)
Article 286  (1) The employer shall, when carrying out the work welding, cutting, heating of metal or other using fire, or dry grinding using grinding wheels, chipping using a chisel or other work that is liable to produce sparks, at a place where ventilation is insufficient, not use oxygen for the purpose of ventilation.
(2) A worker shall not use oxygen for the purpose of ventilation in the case prescribed in the preceding paragraph.

(Anti-Static Work Clothing, etc.)
Article 286-2  (1) The employer shall, when carrying out the work at the locations set forth in Article 280 and 281 and the places set forth in Article 282, take measures to eliminate static electricity from the bodies and work clothing, etc., of a worker, such as ensuring that the worker engaging in the said work wear anti-static work clothing and anti-static shoes.
(2) A worker shall, when carrying out the work set forth in the preceding paragraph, not carry out the said work without conforming to the provisions prescribed in the same paragraph.
(3) The provisions of the two preceding paragraphs shall not apply to the case of carrying out the temporary work such as repairing and altering, and when taking measures, which is unlikely to cause dangers of an explosion or fire.
(Removal of Static Electricity)
Article 287 The employer shall, in the case where using the following equipment, and when it is liable to cause an explosion or fire due to static electricity, use a grounding, neutralizer, increase humidity, use a neutralization apparatus, which is unlikely to cause an ignition source, and take other measures for eliminating static electricity:
(i) The equipment for pouring dangerous substances into a tank vehicle, a tank car, a drum, etc.
(ii) The equipment for storing dangerous substances, such as tank vehicles, tank cars, drums, etc.
(iii) The equipment for applying paints, adhesives, etc., containing inflammable substances.
(iv) Industrial dryers (drying rooms and dryers for heat-drying with a heat source substance other than gunpowder prescribed by paragraph (1) of Article 2 of the Explosives Control Act (Act No. 149 of 1950): the same shall apply hereinafter) which heat-dries dangerous substances or materials to be dried that produce dangerous substances (hereinafter referred to as "industrial dryers for dangerous substances"), or their attached facilities.
(v) The equipment for spouting, sifting, etc., combustible powder-like substances.
(vi) In addition to the facilities listed in the preceding each item, chemical facilities (excluding piping) or their attached facilities.

(Prohibition of Entry, etc.)
Article 288 The employer shall provide an appropriate indication that use of fire is prohibited at places where there is the danger of fire or explosion, and shall prohibit persons other than those concerned from entering an especially dangerous place.

(Fire Extinguishing Equipment)
Article 289 (1) The employer shall provide buildings, places where chemical facilities (excluding piping) or industrial dryers are installed, and places where dangerous substances, inflammable oils other than dangerous substances, or other substances that is liable to cause an explosion or fire are handled (hereinafter referred to as "buildings, etc." in this Article) with fire extinguishing equipment at appropriate locations.
(2) The fire extinguishing equipment set forth in the preceding paragraph shall have the capacity corresponding to the nature of explosions or fires expected from the scale or floor space of buildings, etc., type of substances handled in the buildings, etc., and other factors.
(Fire Prevention Measures)
Article 290  The employer shall provide a distance necessary for fire protection between a furnace, heating device, iron stack or other equipment that is liable to cause danger of a fire, and a building or other flammable objects, or shall protect the said flammable objects by insulating materials.

(Fire Prevention at Places Where Fire is Used)
Article 291  (1) The employer shall provide smoking rooms and places where stoves or other things causing fire are used with equipment necessary to prevent fires.
(2) A worker shall not perform such as smoke, warm at the fire, and dry without reason.
(3) A person who uses a fire shall ensure that the fire has been completely extinguished after use.

(Ash-Dumping Spot)
Article 292  The employer shall install an ash-dumping spot at places where there is no possibility of fire spreading, or shall construct the said spot with incombustible materials.

Section 5 Industrial Dryer

(Building with an Industrial Dryer for Dangerous Substances)
Article 293  The employer shall make the portion of a building in which industrial dryer for dangerous substances (limited to a drying room; hereinafter the same shall apply in this Article) are installed a single-floor construction. However, this shall not apply to the case where there is no floor just above the floor where the said dryer is installed in the building, or the building is fire-proof or semi-fire-proof.

(Structure, etc., of an Industrial Dryer)
Article 294  The employer shall conform an industrial dryer to the following provisions. However, this shall not apply to those are unlikely to cause an explosion or fire due to the type of materials to be dried, the extent of heat-drying, the type of heat source, etc.:
(i) To construct the outer surface of the industrial dryers with incombustible materials.
(ii) To construct the inner surface of the industrial dryers (excluding one for heat-drying organic peroxide substances) and shelves, frames etc., in it with incombustible materials.
(iii) For the industrial dryer for dangerous substances, to let the sides and
bottom of the said dryer be of a sound structure.
(iv) For the industrial dryer for dangerous substances, to construct the top of the said dryer with lightweight materials corresponding to surrounding conditions, or provide an effective explosion door, explosion hole, etc.
(v) For the industrial dryer for dangerous substances, to have a structure of the said dryer that enables discharging gas, vapor or dust produced during drying operations that is liable to cause dangers of an explosion or fire to a safe place.
(vi) For the industrial dryers using liquid fuel or flammable gas as fuel for heat sources, to have a structure of the said dryer that enables providing ventilation to the combustion chamber or other locations where ignition occurs in order to prevent an explosion or fire at the time of ignition.
(vii) To let the inside of the industrial dryers be of a structure that enables it to be cleaned easily.
(viii) To provide the openings of the industrial dryers, such as peep windows, manholes and exhaust holes at places where spreading of a fire may be prevented at its ignition, and let be of the structure that enables immediately shut tightly as necessary.
(ix) To equip the industrial dryers with a device for measuring the internal temperature of such a dryer as needed and a device for adjusting such temperature to a safe level, or a device for automatically controlling such temperature.
(x) Not to use naked fire as a heat source for the industrial dryer for dangerous substances.
(xi) When using a naked fire as a heat source for the industrial dryers other than those for industrial dryer for dangerous substances, to provide an effective cover or partition in order to prevent materials to be dried from being ignited by the flames or scattered sparks.

(Electric Equipment Attached to an Industrial Dryer)
Article 295 (1) The employer shall, as regards a wiring and a switch connecting with an electric heater, a motor, an electric lamp, etc., attached to an industrial dryer, use those purpose-built for the said dryer.
(2) The employer shall not provide an electric machine and appliance or wiring that are liable to become an ignition source for dangerous substances by producing electric sparks in the industrial dryer for dangerous substances.

(Use of Industrial Dryer)
Article 296 The employer shall, when carrying out the work using an industrial dryer, in order to prevent an explosion or fire, comply with the following provisions:
(i) When using the industrial dryer for dangerous substances, to clean or
ventilate in advance the inside of the said dryer.
(ii) When using the industrial dryer for dangerous substances, to discharge gas,
vapor or dusts produced by drying operations, which are liable to cause
danger of an explosion or fire to a safe place.
(iii) To hold the materials to be heat-dried using the industrial dryer for
dangerous substances in order to prevent such substances from coming off
easily.
(iv) When using the industrial dryers set forth in item (vi) of Article 294, to
make ignition after ventilated the combustion chamber or other places where
ignition is to be made.
(v) To store flammable substances that have been heat-dried at a high
temperature after the temperature of the said substances has been lowered
to a level at which no ignition may occur.
(vi) Not to place flammable substances at places near the industrial dryers
(excluding those outside surfaces do not rise to a very high temperature).

(Appointment of an Operations Chief of Industrial Dryers)
Article 297 The employer shall, as regards the work set forth in item (viii) of
Article 6 of the Order, appoint an operations chief of industrial dryers from the
persons who have completed the skill training course for operations chief of
industrial dryers.

(Duties of an Operations Chief of Industrial Dryers)
Article 298 The employer shall have an operations chief of industrial dryers
carry out the following matters:
(i) When using an industrial dryer for the first time, or when having changed
the drying method or the type of materials to be dried, to make in advance
the said work method known to the workers, and supervise the said work
directly.
(ii) To take necessary measures when having found any defective parts in an
industrial dryer and it's attached facilities.
(iii) To check as needed the temperature, condition of ventilation and condition
of materials to be dried in the industrial dryer, and immediately take
necessary measures when having found any abnormalities.
(iv) To always maintain the place installed an industrial dryer with good
housekeeping and not to place flammable substances in the said place
without reason.

(Periodical Self-inspections)
Article 299 (1) The employer shall, as regards an industrial dryer and its
attached facilities, carry out self-inspections for the following matters periodically once every period within a year. However, this shall not apply to the non-use period of chemical facilities and an industrial dryer and its attached facilities, which is not used for a period exceeding one year:

(i) Damage, deformation and corrosion both inside and outside of the said facilities and shelves, frames, etc., in it.

(ii) For the industrial dryers for dangerous substances, abnormalities in the facilities for discharging gas, vapor or dust produced drying operation that is liable to cause dangers of an explosion or fire.

(iii) For the industrial dryers set forth in item (vi) of Article 294, abnormalities in the facilities for ventilation of the combustion chamber or other places where ignition is made.

(iv) Abnormalities in openings such as peep windows, manholes, and exhaust holes.

(v) Abnormalities in devices for measuring and adjusting the temperature of the inside.

(vi) Abnormalities in electric machine and appliance or wiring installed in the said facilities.

(2) The employer shall, as regards the industrial dryer and its attached facilities set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters listed in each item of the same paragraph before resuming the use.

(3) The employer shall, when having carried out the self-inspections set forth in the preceding two paragraphs, record the following matters and preserve the records for three years:

(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Repair, etc.)

Article 300 The employer shall, when having found any abnormalities in the said industrial dryer and its attached facilities as a result of the self-inspection set forth in paragraph (1) or (2) of the preceding Article, not use the said dryer unless having repaired or taken other necessary measures.

Section 6 Acetylene Welding Equipment and Gas Welding Equipment Using Manifold

Subsection 1 Acetylene Welding Equipment
(Pressure Limit)
Article 301  The employer shall, when carrying out the work welding, cutting or heating of metals using acetylene welding equipment (meaning the one listed in item (i) of Article 1 of the Order, the same shall apply hereinafter), not generate or use acetylene having a pressure exceeding a gauge pressure of 130 kPa.

(Generator Room)
Article 302  (1) The employer shall, as regards a acetylene generator of acetylene welding equipment (hereinafter referred to as "generator"), install it in a purpose-built generator room (hereinafter referred to as "generator room").
(2) The employer shall, as regards a generator room, install it in a floor having no floor just above and at a place considerable distance from equipment using fire.
(3) The employer shall, when installing a generator room out of doors, install it's opening at a distance of 1.5 m or more from other buildings.

Article 303  The employer shall conform a generator room to the following provisions:
(i) To be constructed with an incombustible wall, and to have the following structure or a structure with the same strength as the following or more.
   (a) To be made of ferroconcrete with the thickness of 4 cm or more.
   (b) To be made of steel or lumber on which metal lath is lined and mortar is painted through 3 cm or more in thickness or of steel on which an iron plate with thickness of 1.5 mm or more are lined.
(ii) To use thin iron plate or lightweight incombustible materials for the roof and ceiling.
(iii) To project an exhaust pipe having a cross-section area of one-sixteenth of the floor area or more from the roof, and place the opening of the said pipe distance of 1.5 m or more from a window, an entrance and other opening.
(iv) To use an iron plate with the thickness of 1.5 mm or more or with structure having the same strength as the iron plate or more using incombustible materials for a door of the entrance.
(v) To keep the space between a wall and a generator that does not hinder adjusting of the generator, or the work feeding of carbide, etc.

(Storeroom)
Article 304  (1) The employer shall, as regards movable acetylene welding equipment, notwithstanding the provisions of paragraph (1) of Article 302, store in a purpose-built storeroom when the said equipment is not used.
However, this shall not apply to when storing the equipment after its gas bell is removed and the generator is washed.

(2) The employer shall, as regards the storeroom set forth in the preceding paragraph, construct it by fire-proof materials such as iron plate-lined lumber and slate-lined lumber.

(Standards of Acetylene Welding Equipment)

Article 305  (1) The employer shall conform acetylene welding equipment (excluding generators and safety equipment) that generate or use acetylene of a gauge pressure (hereinafter referred to as "pressure" in this Article) of 7 kPa or more to the following provisions.

(i) To conform the gas holder to the following provisions.

(a) To construct the principal portion of the gas holder with steel plates or steel pipes having a thickness listed in the right column of the following table or more corresponding to the inner diameter listed in the left column of the same table.

<table>
<thead>
<tr>
<th>Inner diameter (cm)</th>
<th>Thickness of steel plate or pipe (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 60</td>
<td>2</td>
</tr>
<tr>
<td>60 or more but less than 120</td>
<td>2.5</td>
</tr>
<tr>
<td>120 or more but less than 200</td>
<td>3.5</td>
</tr>
<tr>
<td>200 or more</td>
<td>5</td>
</tr>
</tbody>
</table>

(b) The method of jointing steel plates or steel pipes of the principal portion to be welding, rivet joints or bolt joints.

(c) To be equipped with a gas escape valve or a cock to discharge a mixture of acetylene and air.

(ii) For the gas holder for acetylene that is compressed by a compressor after fed from the generator, in addition to compliance with the provisions of the preceding item, to be equipped with a safety valve and a pressure gauge as prescribed in the following:

(a) Safety valve

i.) Those operate before the pressure in the gas holder reaches 140 kPa, and shut while the pressure lowers to a level lower than the normal pressure by 10 kPa.

ii.) In the case that the generator generates a maximum quantity of acetylene, those have the capability of keeping the pressure in the gas holder at less than 150 kPa.

(b) Pressure gauge

i.) The diameter of the dial plate to be 75 mm or more for one mounted on a stationary gas holder, and 50 mm or more for one mounted on a movable gas holder.
ii.) The maximum scale of the dial plate to indicate pressures which are 1.5 times the normal pressure or more and 500 kPa or less.

iii.) For the dial plate, to have a readily visible indication of the normal pressure.

(iii) The portions of the gas holder, purifiers, acetylene distributing lines, etc., which contact acetylene not to be constructed with copper or an alloy containing 70% or more copper.

(2) The employer shall not use copper for the portions of the purifiers, acetylene distributing lines, etc., of acetylene welding equipment other than those set forth in the preceding paragraph that is liable to contact acetylene.

(Installation of Safety Equipment)
Article 306 (1) The employer shall, as regards acetylene welding equipment, provide safety equipment for each torch. However, this shall not apply to when the said safety equipment is provided to the main pipe and each of the branch pipes most close to the torches.

(2) The employer shall, as regards acetylene welding equipment in which the gas holder and the generator are separated, provide safety equipment between the generator and the gas holder.

(Sludge Pit of Carbide)
Article 307 The employer shall install a sludge pit at a safe place and conform its construction to following provisions. However, this shall not apply to mobile acetylene welding equipment used during business trip:

(i) Bricks or concrete shall be used.

(ii) The capacity of the sludge pit shall be three times that of the carbide charging device or more.

Subsection 2 Gas Welding Equipment Using Manifold

(Installation of Gas Manifold)
Article 308 (1) The employer shall, as regards a gas manifold set forth in item (ii) of Article 1 of the Order (hereinafter referred to as "gas manifold"), install it in a place at a distance of 5 m or more from equipment using fire.

(2) The employer shall, as regards a gas manifold other than movable one, install it in a purpose-built room (hereinafter referred to as "gas manifold room").

(3) The employer shall, as regards the space between the wall of the gas manifold room and a gas manifold, keep sufficient space for handling of the said device, exchanging of a gas cylinder, etc.

(Structure of the Gas Manifold Room)
Article 309  The employer shall conform a gas manifold room to the following provisions:
(i) To not stagnate the gas when leaking gas.
(ii) To be constructed with a roof and a ceiling made of lightweight and incombustible materials.
(iii) To be constructed with a wall made of incombustible materials.

(Piping of Gas Welding Equipment using Manifold)
Article 310  The employer shall conform the piping of the gas welding equipment using manifold listed in item (ii) of Article 1 of the Order (hereinafter referred to as "the gas welding equipment using manifold") to the following provisions:
(i) For a joining portion of a flange, a valve, a cock, etc., to take measures of contacting at their joining surface tightly using a gaskets, etc.
(ii) To install a safety equipment for the main pipe and branch pipe. In this case, install two or more safety equipment for each torch.

(Restriction on the Use of Copper)
Article 311  The employer shall not use copper or an alloy containing 70% or more copper for the piping of the gas welding equipment using manifold for dissolved acetylene and its accessories.

Subsection 3 Management

(Management, etc., of Acetylene Welding Equipment)
Article 312  The employer shall, when carrying out the work welding, cutting or heating of metals using acetylene welding equipment, comply with the following provisions:
(i) To post the type, model, manufacturer's name, calculated quantity of hourly average gas generation, and the quantity of carbide fed in one lot at a readily visible location in the generator rooms (excluding the gas generators of portable acetylene welding equipment).
(ii) To prohibit persons other than those in charge from entering the generator room without reason and display a notice to that effect in an appropriate manner.
(iii) To prohibit smoking, use of fire or acts that are liable to produce sparks at places within 5 m from the generators and within 3 m from the generator room, and display a notice to that effect in an appropriate manner.
(iv) To take measures to distinguish supply lines for oxygen from those for acetylene.
(v) To provide appropriate fire extinguishing equipment at a place where acetylene welding equipment is installed.
(vi) Not to install the generators of portable acetylene welding equipment at places where the temperature is high, ventilation is insufficient; there is much vibration, etc.

(vii) To have the person engaging in the said work wear eye protector and protective gloves.

(Management, etc., of the Gas Welding Equipment using Manifold)

Article 313 The employer shall, when carrying out welding, cutting or heating of metal using the gas welding equipment using manifold, comply with the following provisions:

(i) To display the name of the gas used and the maximum quantity of gas stored at a readily visible location in the gas manifold room.

(ii) When a gas cylinder is exchanged, to have the operations chief of gas welding attend.

(iii) To prohibit persons other than those in charge from entering the gas manifold rooms without precautions, and post a notice to that effect at a readily visible location.

(iv) To prohibit Smoking, uses of fire or acts that may produce sparks at places within 5 m from the gas manifolds, and post a notice to that effect at a readily visible location.

(v) To display the guideline of operation and inspection of a valve, a cock, etc., at an easily visible location in the gas manifold room.

(vi) To take measures to distinguish supply lines for oxygen from those for gas.

(vii) To install appropriate fire extinguishing equipment at the place where a gas manifold are installed.

(viii) To have a person engaging in the said work wear eye protector and protective gloves.

(Appointment of an Operations Chief of Gas Welding)

Article 314 The employer shall, as regards the work set forth in item (ii) of Article 6 of the Order, appoint an operations chief of gas welding from persons who have the license operations chief of gas welding.

(Duties of an Operation Chief of Gas Welding)

Article 315 The employer shall, when carrying out welding, cutting or heating of metal using an acetylene welding equipment, have an operations chief of gas welding carry out the following matters:

(i) To decide a work method, and direct the work.

(ii) To have the worker engaging in handling acetylene welding equipment carry out the following matters:

(a) Not to use a tool which is liable to produce sparks for, or give shocks to,
the generator during use.

(b) When checking gas leakage from acetylene welding equipment, to use a safe method such as using soap water.

(c) Not to put things on the gas bell of the generator without reason.

(d) Not to leave the door of the entrance to the generator room open.

(e) When recharging carbide to the generator of portable acetylene welding equipment, to do such operations at a safe place out of doors.

(f) When opening carbide can, not to perform acts that are liable to produce sparks, such as giving shocks.

(iii) When starting the said work, to check up acetylene welding equipment, and when a mixture of air and acetylene exists in the generator, remove such a mixture.

(iv) To place the safety equipment at a place where its water-level can easily be checked during operations, and check the said safety device once or more a day.

(v) When keeping warm or heating the acetylene welding equipment to prevent water in the equipment from freezing, to apply a safe method, such as using warm water or steam.

(vi) When suspending the use of the generator, to keep its water level in such a condition that water and residual carbide may not contact each other.

(vii) When repairing, processing, transporting or storing the generator, or suspending its use continuously, to remove acetylene and carbide from it completely.

(viii) To dispose carbide sludge in a safe manner such as keeping it in a sludge pit until the danger due to gas is removed.

(ix) To monitor the use of eye protector and protective gloves by workers engaged in the said work.

(x) To carry the license of an operations chief of gas welding.

Article 316 The employer shall, when carrying out welding, cutting or heating of metal using the gas welding equipment using manifold, have the operations chief of gas welding carry out the following matters:

(i) To decide a work method and supervise the work directly.

(ii) To have the worker engaging in the handling of the gas manifolds carry out the following matters:

(a) To remove oil, etc., and dust, etc., adhering to the mouthpiece of the gas cylinder and the mounting opening of the piping.

(b) When having exchanged gas cylinders, to check the mouthpiece of the gas cylinder and the mounting opening of the piping for leakage of gas, and remove the mixture of the gas and air in the piping.

(c) When checking leakage of gas, to apply safe method such as using soap
water.
(d) To Open and close the valve or cock gently.
(iii) To be present when the gas cylinders are exchanged.
(iv) When starting the said work, to check the hose, torch, hose band, etc., and when having found that there is a danger of leakage of gas or oxygen due to damage, wear, etc., to repair or exchange the parts damaged, worn, etc.
(v) To place the safety equipment at a place where its functions can easily be observed, and check the said safety device once or more a day.
(vi) To monitor the use of eye protector and protective gloves by workers engaged in the said work.
(vii) To carry the license of an operations chief of gas welding.

(Periodical Self-inspections)

Article 317
(1) The employer shall, as regards an acetylene welding equipment or a gas welding equipment using manifold (excluding the portions of the piping of those devices installed underground; hereinafter the same shall apply in this Article), carry out self-inspections for the existence of damage, deformation, corrosion, etc., and the functions of the said equipment periodically once every period within a year. However, this shall not apply to the non-use period of acetylene welding equipment or a gas welding equipment using manifold, which is not used for a period exceeding one year.
(2) The employer shall, as regards the acetylene welding equipment or gas welding equipment using manifold set forth in the proviso of the preceding paragraph, carry out self-inspection for the matters prescribed by the same paragraph before resuming the operation.
(3) The employer shall, when any abnormality is found in the said acetylene welding equipment as a result of the self-inspections set forth in the preceding two paragraphs, not use the said equipment unless repair or other necessary measures have been taken.
(4) The employer shall, when having carried out the self-inspections set forth in paragraph (1) and (2), record the following matters and preserve the records for three years:
(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

Section 7 Blasting Work
(Standards of Blasting Work)
Article 318  (1) The employer shall have the worker engaging the work set forth in item (i) of Article 20 of the Order (hereinafter referred to as "blasting work") carry out the following matters:
(i) Not to defreeze frozen dynamite by a dangerous method, such as bringing it in proximity to fire or in direct contact with a steam pipe or other high-temperature object.
(ii) When charging gunpowder or explosives, not to use naked fire or smoke nearby.
(iii) To use a safe charging tool, which are unlikely to cause an explosion due to friction, shock, static electricity, etc.
(iv) To use a safe stemming, which are unlikely to cause an ignition or an inflammation, such as clay or sand.
(v) When the charged gunpowder does not explode after ignition, or when it is difficult to confirm that the charged gunpowder has exploded, to comply with the following provisions:
(a) When using an electric detonator, to remove the blasting leading wire from the igniter and make the end of the said leading wire short-circuit, and take measures to prevent re-ignition; and not to approach the place where the gunpowder is charged within five minutes after the above measures are taken.
(b) When using device other than an electric detonator, not to approach the place where the gunpowder is charged within 15 minutes after ignition.
(2) The worker engaging in the work set forth in the preceding paragraph shall carry out the matters listed in each item of the same paragraph.

(Leader for Fuse Blasting Work)
Article 319  (1) The employer shall, when carrying out fuse blasting work, appoint a leader from those eligible to the said work, and have the said leader carry out the following matters:
(i) To instruct workers other than those engaging in igniting work to evacuate the work site before ignition.
(ii) To instruct workers engaging in the igniting work on the place for evacuation and the route to the place.
(iii) When a worker takes charge of five or more ignitions at a time, have each worker use device notifying the time of evacuation such as a blasting watch and waste fuses.
(iv) To instruct workers on the procedures and specification of the igniting work.
(v) To give a signal of ignition.
(vi) To give a signal of evacuation to workers engaging in the igniting work.
(vii) To check misfires or for residual gunpowder.
(2) The leader for fuse blasting work shall carry out the matters listed in each item of the preceding paragraph.
(3) The worker engaging in the fuse blasting work shall follow the instructions and signals given by the leader pursuant to the provision of the preceding paragraph.

(Leader for Electric Blasting Work)
Article 320 (1) The employer shall, when carrying out electric blasting work, appoint a leader from those eligible to the said work and have the said leader carry out the matters set forth in items (v) and (vii) of paragraph (1) of the preceding Article and the following matters:
(i) To instruct the workers engaging in the said work on the place for evacuation and the route to the place.
(ii) To confirm that workers have been evacuated the dangerous area before ignition.
(iii) To appoint a person in charge of ignition.
(iv) To give instructions on the place of ignition.
(2) The leader of the electric blasting work shall carry out the matters listed in each item of the preceding paragraph.
(3) The worker engaging in the electric blasting work shall follow the instructions and signals given by the leader pursuant to the provision of the preceding paragraph.

(Evacuation)
Article 321 The employer shall, in the case of a blasting work, and when it is impossible for workers to evacuate to a safe distance from the work site, provide an evacuation shelter with a solidly protected front and top.

Section 7-2 Concrete Breaking Work

(Standards for Concrete Breaking Work)
Article 321-2 The employer shall, when carrying out the breaking work using a concrete breaker, comply with the following provisions:
(i) When charging a concrete breaker, to prohibit the use of naked fire or smoking nearby.
(ii) To use a safe charging tool, which is unlikely to cause ignition of the concrete breaker due to friction, shock, static electricity, etc.
(iii) To use a safe stemming, which is unlikely to cause ignition or inflammation, such as cement mortar or sand.
(iv) To take measures to prevent broke substances, etc., from scattering.
(v) When the charged concrete breaker does not ignite after ignition, or when it is difficult to confirm that the charged concrete breaker has ignited, to remove the lead wire of the said blaster from the igniter and make the end of the said lead wire a short-circuit, and to take measures to prevent re-ignition; and not to allow the worker engaging in the concrete breaking work to approach the place where the said concrete breaker is charged within five minutes after the above measures had been taken.

(Appointment of an Operations Chief of Concrete Breaking)
Article 321-3 The employer shall, as regards the work set forth in item (viii)-2 of Article 6 of the Order, appoint an operations chief of concrete breaking from the persons who have completed the skill training course for operations chief of concrete breaking.

(Duties of an Operations Chief of Concrete Breaking)
Article 321-4 The employer shall have an operations chief of concrete breaking carry out the following matters:
(i) To decide a work method and supervise the work directly.
(ii) To instruct workers engaging in the said work on the place for evacuation and the route to the place.
(iii) To confirm that workers have been evacuated the dangerous area before ignition.
(iv) To appoint a worker in charge of ignition.
(v) To give a signal of ignition.
(vi) To check misfires or residual gunpowder.

Section 8 Miscellaneous Provisions

(Underground Workshop, etc.)
Article 322 The employer shall, when carrying out the work at underground workshop where is liable to generated flammable gas, (excluding the case of carrying out construction works of tunnels etc., prescribed by Article 382) or when carrying out an open-cut excavation work (meaning the excavation work of natural ground or transportation, etc., of earth and rocks associated with the excavation [limited to those work which are carried out at places where excavating work of natural ground are carried out and in the vicinity of the said places]; the same shall apply hereinafter) at places where is liable to discharged gas from gas supply lines, take the following measures in order to prevent an explosion or fire:
(i) To appoint a person in charge of measuring the concentration of these gas,
and have the said person measure the concentration of these gas every day before commencing the work and whenever having found any abnormality related to these gas at places where is liable to generated or stagnant these gas.

(ii) When having found the concentration of these gas to reach 30 % or more of the value of the explosion lower limit, have workers evacuate to a safe place immediately, suspend use of fire or any other things that is liable to become an ignition source, and provide drafting, ventilation, etc.

Articles 323 and 324 (Deleted)

(Place Where Strong Light Is Emitted)

Article 325 (1) The employer shall enclose places where is liable to cause dangers due to strong light such as welding ark is emitted. However, this shall not apply to when it is inevitable due to the nature of the operation.

(2) The employer shall, as regards places set forth in the preceding paragraph, provide appropriate personal protective equipment.

(Pressurized Feeding Facilities of Corrosive Liquid)

Article 326 The employer shall, when carrying out the work of pressure feeding with power and through hoses those liquids which is liable to cause danger of a corrosive effect on the skin, such as sulfuric acid, nitric acid, hydrochloric acid, acetic acid, chlorosulfonic acid, caustic soda solution and cresol (hereinafter referred to as "corrosive liquids"), take the following measures for the facilities used in the said work:

(i) To provide a pressure gauge at a readily visible location for the person who operates the said facilities used for pressure feeding (hereinafter referred to as the "operator" in this Article), and a power cutting-off device at a place where the operator can easily operate it, respectively.

(ii) To use the hoses and their connecting tools that have anti-corrosiveness, heat-proofing and cold-proofing to the corrosive liquids fed.

(iii) For hoses, to set the pressure for their safe use by conducting hydraulic tests, etc., and indicate the set pressure on hoses, and not to feed using a pressure exceeding the pressure.

(iv) When it is liable to an abnormal pressure acting on the inside of hoses, to provide the facilities used for pressure feeding with preventive device for excessive pressurizing such as unloaders and return valves.

(v) To connect securely the connecting parts of hoses and pipes other than hoses, and between hoses using connecting tools.

(vi) When carrying out pressure feeding at a gauge pressure exceeding 200 kPa, as regards the connecting tool set forth in the preceding item, to use those
which structure is unlikely to cause disconnection due to the said pressure such as of the screwed-connection type, three-hook connection type, etc., those having three or more bottoms at the part mounted hoses, etc.

(vii) To appoint an operator and have the said operator watch the operation of the facilities used for pressure feeding and the pressure gauge.

(viii) To check hoses and their connecting tools before commencing the use of the day, and to exchange them when it is liable to cause scattering or leakage of corrosive liquids due to defect such as damage and corrosion.

(Personal Protective Equipment)

Article 327  (1) The employer shall have the worker engaging in pressure feeding work of corrosive liquids wear personal protective equipment necessary to prevent the body from the danger of corrosion due to scattered, leaked or overflowing corrosive liquid.

(2) The worker engaging in the work set forth in the preceding paragraph shall, when having been instructed to wear the personal protective equipment set forth in the same paragraph, wear it.

(Restriction on the Use of Gas Other Than Air)

Article 328  The employer shall, when carrying out the pressure feeding work of corrosive liquid using the pressure of compressed gas as power source, not use gas other than air for the said compressed gas. However, in the case of having completed the said work, and when removing the said gas immediately, or when taking measures of indicating the existence of the said gas, etc., which are unlikely to cause danger of suffocation due to workers entering the facilities used for the said pressure feeding, nitrogen or carbon dioxide gas may be used.

(Work Standards for Filling Tires with Air)

Article 328-2  (1) The employer shall, in the case of assembling a tire for an automobile (excluding two-wheeled vehicle) (hereinafter referred to as "tires" in this Article) and filling a tire with air using an air compressor, in order to prevent danger due to a burst tire, etc., have the worker engaging in said work adjust air pressure appropriately corresponding to the type of tire and use appliances such as safety enclosures etc., in order to prevent pieces of burst tires, etc., from flying.

(2) The worker engaging in the work set forth the preceding paragraph shall adjust air pressure appropriately corresponding to the type of tire and use the appliances set forth in the same paragraph.

(Ship Refitting, etc.)
Article 328-3 The employer shall, in the case of carrying out ship refitting, repairs and cleaning, etc., and when carrying out the work using machine, etc., that generates sparks or arcs or reaches high temperatures, becoming a potential source of ignition, or work using fire in areas inside the said ship such as the hold or adjoining areas, measure the concentrations of vapor of inflammable substances and flammable gas in the work place and surrounding areas before commencing the said work and as needed during said work.

(Refitting, etc., of Equipment for the Manufacture of Liquid Oxygen)

Article 328-4 The employer shall, in the case of carrying out refitting, repairing and cleaning, etc., of the facilities for the manufacture of liquid oxygen, and when carrying out the said work inside the said facilities, comply with the following provisions:
(i) To decide the method and procedure of the said work, and make them known to the workers concerned in advance.
(ii) To designate a leader for the said work and have the said leader directs the said work.
(iii) To close valves or cocks doubly or apply baffle in addition to closing valves or cocks in order to prevent the work place from leakage of oxygen.
(iv) To lock the valves, cocks and baffle set forth in the preceding item, indicate an instruction that they shall not be opened or place a watcher.

(Manufacturing, etc., of Hydroxylamine etc.)

Article 328-5 The employer shall, when manufacturing and handling hydroxylamine or its salt (hereinafter referred to as "hydroxylamine etc." in this Article), in order to prevent explosion, comply with the following provisions:
(i) To take measures to prevent the abnormal reaction between hydroxylamine, etc., and ferrous ion, etc., such as prevention of interfusion of ferrous ion etc., to hydroxylamine etc.
(ii) When carrying out the heating work of hydroxylamine, etc., to adjust temperature.

Chapter V Prevention of Dangers Due to Electricity

Section 1 Electric Machine and Appliance

(Enclosure, etc., for Electric Machine and Appliance)

Article 329 The employer shall, as regards live parts of electric machine and appliance (excluding the portions of electric machine and appliance which are inevitable to be exposed for the purpose of their use such as heating unit of electric heaters, the welding rods of resistance welding machines) which is
liable to cause danger of electric shocks to workers when they contact (including contact via an electric conductor; hereinafter the same shall apply in this Chapter) or come in proximity to these parts during work or passage, install enclosures or insulating covers in order to prevent electric shocks. However, this shall not apply to the electric machine and appliance which are installed in an enclosed place such as a switchboard room and substation room where the employer prohibited persons other than those who are engaged in the work set forth in item (iv) of Article 36 (hereinafter referred to as "electrician") from entering, or installed on detached place such as a pole and a tower where there is no possibility that persons other than electrician will come in proximity to them.

(Guard for a Portable Lamp, etc.)

Article 330 (1) The employer shall install a guard for portable lamps connected with movable electric wire, suspended lamps, etc., connected with makeshift installed wiring or movable electric wire, in order to prevent the danger of electric shocks by contacting the bayonet cap, and the danger due to broken electric bulbs.

(2) The employer shall conform the guard set forth in the preceding paragraph to the following provisions:

(i) To have the structure that prevents hands from easily contacting the exposed portion of the bayonet cap of the electric bulbs.

(ii) To be made of the materials which are not easily broken or deformed.

(Holders for Welding Rod, etc.)

Article 331 The employer shall, as regards holders for welding rod, etc., used in work such as arc welding, etc. (excluding automatic welding), not use them unless those which conform to the standards described in the Japanese Industrial Standard C 9302 (Welding rod Holders), or those which have same insulating effect or heat resistance as this Standard or better.

(Automatic Voltage Reducing Device for A.C. Welding Machines)

Article 332 The employer shall, when carrying out alternative current arc welding, etc. (excluding automatic welding) at places surrounded by electric conductors which are very small in space, such as inside of a double-bottom or peak tank of a vessel, of a drum or dome of a boiler, or at the place in height of 2 m or higher where it is liable to cause dangers to workers due to fall and that is liable to workers contact grounding materials with high conductivity of steel frame, etc., use an automatic voltage reducing device for alternative current arc welding machines.
Article 333  (1) The employer shall, as regards machines or appliance equipped with motor (hereinafter referred to as "motor-driven appliance") which are of the movable or portable type, those have voltage to ground exceeding 150 V, or those used at places where they are wetted with liquids having high electric conductivity such as water, or at places where electric conductivity is high, such as on an iron plate, a steel frame, or a surface plate, connect an earth-leakage circuit breaker for preventing electric shocks that conforming the rating of the said circuit, and having good sensitivity and the function to reliably work in order to prevent danger of electric shocks due to the leakage of electricity to the electric circuit to which motor-driven appliance are connected.

(2) The employer shall, when it is difficult to take the measures prescribed by the preceding paragraph, use by grounding the metal portions of the outer frame of motor-driven appliance, metal covers of motors, prescribed as follows:

(i) To connect the said metal portions to a grounding pole by any of the following method:
   (a) The connecting method to a grounding pole by using a movable cable with a core exclusively used for a grounding line and a connecting device with terminal exclusively used for a grounding terminal.
   (b) The method connecting a grounding line attached to a movable electric cable and the grounding terminal installed at the location adjacent to power source consent of a motor-driven apparatus.

(ii) When the method set forth in (a) of the preceding item is to used, take measures to prevent confusing the grounding conductor and an electric conductor connected to the electrical circuit, and the grounding terminal and a terminal connected to the electrical circuit.

(iii) To securely connect the grounding pole with the ground by the method such as burying it in the ground to a sufficient depth.

(Exemptions)

Article 334  The provisions of the preceding Article shall not apply to motor-driven appliance, which falling under any of the following each item:

(i) Motor-driven appliance use by connecting with an electrical circuit of a non-grounding system (limited to those for which the secondary voltage of the insulated transformer provided in the circuit on the power source side of the motor-driven appliance is 300 V or less, and which the electrical circuit on the load side of the insulated transformer is not grounded).

(ii) Motor-driven appliance used on an insulating platform.

(iii) Motor-driven appliance of a double insulation structure attached the indication set forth in the paragraph (1) of Article 10 of the Electric Appliances Materials Act (Act No. 234 of 1961) of specified electric
appliances set forth in paragraph (2) of Article 2 the same Act.

(Illumination over the Operation Portions of Electric Machine and Appliance)

Article 335 The employer shall, when operating electric machine and appliance, maintain necessary illumination over the operation portions of the said electric machine and appliance in order to prevent dangers of electric shocks or dangers due to an operational error.

Section 2 Wiring and Movable electric cable

(Insulating Coating of Wiring, etc.)

Article 336 The employer shall, as regards wirings which workers contact or may contact during work or passage and which have insulating coating (excluding those which only electrician contact or may contact in work set forth in item (iv) of Article 36), or movable electric cables, take measures for preventing the danger of electric shocks due to damage or aging of the insulating coating.

(Covering or Armor of Movable electric cables, etc.)

Article 337 The employer shall, as regards movable electric cables or their connecting tools used at places where are wetted with water or other liquids having high conductivity and which workers may contact during work or passage, not use them unless the covering or armor of the said movable electric cables or their connecting tools have an insulating effect against the said liquids having high conductivity.

(Makeshift Wiring, etc.)

Article 338 The employer shall not use makeshift wiring or movable electric cables on the sides of passages. However, this shall not apply to when using the said wiring or movable electric cables in a condition where there is no possibility that the insulating coating of the said wiring or movable electric cables may be damaged due to a vehicle and other things passes over the said wiring or movable electric wires.

Section 3 Power Cut Operation

(Measures in the Case of Power Cut Work)

Article 339 (1) The employer shall, when carrying out an electric work such as installation, checkup, repairing or painting of an electrical circuit or its support while the said circuit is opened, take the following measures for the said electrical circuit after the said electrical circuit is opened. This provision shall also apply to the case of carrying out an electric work such as installation,
checkup, repairing or painting of an electrical circuit or its support close to the said electrical circuit or work such as the construction, dismantlement, checkup, repairing or painting of a structure close to the said electrical circuit (excluding the support of an electrical circuit, hereinafter the same shall apply in this Chapter):

(i) To lock the switch used for circuit opening during work, or indicate necessary matters relating to prohibition of electric charge, or place a watcher.

(ii) As regards the opened circuit are equipped with a power cable, power capacitor, etc., and are liable to cause danger due to residual electric charge, to discharge the said residual charge completely by a safe method.

(iii) As regards the opened circuit are in high voltage or extra-high voltage, to confirm the power cut with voltage detector, and short circuit to ground the said circuit securely with an appliance for short circuit to ground to prevent the danger of electric shocks due to erroneous turning on the electricity, confusion with other circuits or induction from other circuits.

(2) The employer shall, when intending to turning on the opened circuit during work set forth in the preceding paragraph or when the said work is finished, not turn on the electricity unless otherwise having confirmed that it is unlikely to cause danger of electric shocks to the worker engaging the said work and the appliance for short circuit to ground has been removed.

(Opened Circuit of Disconnector, etc.)

Article 340  The employer shall, when opening a switch such as a disconnector and line switch for high voltage or extra-high voltage electrical circuit that is not for breaking load current, in order to prevent an operational error of the said switch, have workers engaged in the said operation confirm that the said electric circuit is on no load using a pilot lamp indicating that such electric circuit is on no load, a tablet for identifying the said electrical circuit, etc. However, this shall not apply to when a locking device is provided for the said switch not to allow circuit opening unless the said electrical circuit is not load.

Section 4 Live Line Work and Work Close to Live Line

(High-Voltage Live Line Work)

Article 341  (1) The employer shall, in the case of carrying out the work handling a charged circuit of high voltage, such as checkup and repair of the said circuits, and when it is liable to cause danger of electric shocks to the worker engaging in the said work, take measure falling under any of the following each item:

(i) To have a worker wear personal insulating protective equipment, and install
an insulating device to the portions of such charged electrical circuit other than the portion handled by workers where is liable to cause danger of electric shock when workers contact or close to the portions.

(ii) To have a worker use live line work instruments.

(iii) To have a worker use live line work equipment. In this case, the danger of electric shocks due to the body of a worker or an electric conductor handled by workers such as a metal tool and material (hereinafter referred to as "body, etc.") contacts or close to objects with different voltage from that of charge circuit actually handled by workers shall be eliminated.

(2) A worker shall, in the work set forth in the preceding paragraph, when having been instructed to wear personal insulating protective equipment, install an insulating device, and use live line work instruments or live line work equipment by the employer, wear, install, or use them respectively.

(Work Close to High-Voltage Live Lines)

Article 342 (1) The employer shall, in the case where carrying out the electric work installing, inspecting, repairing, painting, etc., of an electrical circuit or its supports, and when it is liable to cause danger of electric shock to the worker engaging in the said work due to contacting a high-voltage charged circuit, or approaching the said electrical circuit within 30 cm above the head or within 60 cm from the side of the body or below the feet, install an insulating device for the said charged circuit. However, this shall not apply to the case of having the worker engaging in the said work wear personal insulating protective equipment, and when it is unlikely to cause danger of electric shock to the parts of the body other than those wearing the said personal insulating protective equipment due to contact or approach the said charged electrical circuits.

(2) A worker shall, when having been instructed to provide an insulating device or wear personal insulating protective equipment by the employer in the work set forth in the preceding paragraph, provide and wear them respectively.

(Install of an Insulating Device, etc.)

Article 343 (1) The employer shall, when having workers carry out work installing or removing an insulating device in the case set forth in the preceding two Articles, have the worker engaging in the said work wear personal insulating protective equipment or have them use live line work instruments or live line work equipment.

(2) A worker shall, in the work set forth in the preceding paragraph, when having been instructed to wear protective equipment or use live line work instruments or live line work equipment by the employer, wear or use them respectively.
(Extra-High-Voltage Live Line Work)

Article 344  (1) The employer shall, in the case of carrying out electric work such as checkup, repairing and cleaning of a extra-high-voltage charged circuits or their supporting insulators, and when it is liable to cause danger of electric shock to the worker engaging in the said work, take measure falling under any of the following each item:

(i) To have a worker use live line work instruments. In this case, for the body, etc., approach limit listed in the right column of the following table shall be maintained corresponding to the working voltage of charged circuit listed in the left column of the same table.

<table>
<thead>
<tr>
<th>Working voltage of charged electric circuit (kV)</th>
<th>Minimum allowable proximity (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 or less</td>
<td>20</td>
</tr>
<tr>
<td>Exceeding 22 but 33 or less</td>
<td>30</td>
</tr>
<tr>
<td>Exceeding 33 but 66 or less</td>
<td>50</td>
</tr>
<tr>
<td>Exceeding 66 but 77 or less</td>
<td>60</td>
</tr>
<tr>
<td>Exceeding 77 but 110 or less</td>
<td>90</td>
</tr>
<tr>
<td>Exceeding 110 but 154 or less</td>
<td>120</td>
</tr>
<tr>
<td>Exceeding 154 but 187 or less</td>
<td>140</td>
</tr>
<tr>
<td>Exceeding 187 but 220 or less</td>
<td>160</td>
</tr>
<tr>
<td>Exceeding 220</td>
<td>200</td>
</tr>
</tbody>
</table>

(ii) To have a worker use live line work equipments. In this case, the danger of electric shocks due to the body, etc., contacts or close to a substance having an electric potential different from the electric potential of the charged electric circuit or its supporting insulators handled by workers shall be eliminated.

(2) A worker shall, when having been instructed to use a live line work instrument or live line work equipment in the case set forth in the preceding paragraph, use it.

(Work Close to Extra-High-Voltage Live Line)

Article 345  (1) The employer shall, in the case of carrying out electric work such as checkup, repairing, painting and cleaning of an electric circuit or its supports (excluding supporting insulators for extra-high-voltage charged circuits), and when it is liable to cause danger of electric shock to the worker engaging in the said work due to close to a extra-high-voltage charged circuit, take measure falling under any of the following each item:

(i) To have a worker use live line work equipment.

(ii) To have body, etc., keep approach limit to the charged circuit as prescribed in item (i) of paragraph (1) of the preceding Article. In this case, provide a
sign, etc., at a readily visible location where the minimum allowable proximity may be maintained, or to place a watcher and have the watcher watch the work.

(2) A worker shall, in the work set forth in the preceding paragraph, when having been instructed to use live line work equipment by the employer, use it.

(Low Voltage Live Line Work)
Article 346  (1) The employer shall, in the case of carrying out work handling a low voltage charged circuit, such as checkup and repairing of the said circuit, and when it is liable to cause danger of electric shocks to the worker engaging in the said work, have the said workers wear personal insulating protective equipment or have them use live line work instruments.

(2) A worker shall, in the work set forth in the preceding paragraph, when having been instructed to wear personal insulating protective equipment or use live line work instruments by the employer, wear, or use them respectively.

(Operations Close to Low-Voltage Live Line)
Article 347  (1) The employer shall, in the case of carrying out electric work such as installing, checkup, repairing, and painting of an electrical circuit or its supports at a place close to a low-voltage charged electric circuit, and when it is liable to cause danger of electric shock to the worker engaging in the said work due to contacting the said charged circuit, install an insulating device for the said charged electrical circuit. However, this shall not apply to the case of having the worker engaging in the said work wear personal insulating protective equipment, and when the parts of the body, etc., other than those wearing the said personal insulating protective equipment are unlikely to cause contacting the said charged electrical circuit.

(2) The employer shall, in the case described in the preceding paragraph, and when having workers carry out work installing or removing an insulating device, have the worker engaging in the said work wear personal insulating protective equipment or have them use live line work instruments.

(3) A worker shall, in the work set forth in the preceding two paragraphs, and when having been instructed to install an insulating device, wear personal insulating protective equipment, or use live line work instruments by the employer, install, wear, or use them respectively.

(Personal Insulating Protective Equipment, etc.)
Article 348  (1) The employer shall, as regards personal insulating protective equipment, etc., listed in following each item, use those of the type, materials and size suitable for the purpose of use respectively:

(i) The personal insulating protective equipment set forth in Article 341 to 343.
(ii) The insulating device set forth in Article 341 to 342.
(iii) The live line work equipment set forth in Article 341 and 343 to 345.
(iv) The live line work instruments set forth in Article 341, 343 and 344.
(v) The personal insulating protective equipment and the live line work instruments set forth in Article 346 and 347 and an insulating device set forth in Article 347.

(2) The employer shall, as regards personal insulating protective equipment, live line work instruments and an insulating device listed in item (v) of the preceding paragraph, which are used for a charged circuit of 750 V or less for direct current or of 300 V for alternative current or less, use those having an insulating effect corresponding to the voltage of the said charged circuit.

(Prevention of Electric Shocks in the Case of the Work for the Construction of Structures, etc.)

Article 349 The employer shall, in the case where carrying out the works such as constructing, dismantling, checkup, repairing, and painting of a structure or the work associated with them, or the work using a pile driver, pile drawer, mobile crane, etc., at a place close to overhead wires or charged circuits of electric machine and appliance, and when it is liable to cause danger of electric shocks to the worker engaging in the said works due to the workers' body, etc., contact or close to the said charged circuits during work or passage, take measure falling under any of the following each item:
(i) To move the said charged circuits to other places.
(ii) To install an enclosure to prevent the danger of electric shock.
(iii) To provide the charged circuits with personal insulating protective equipment.
(iv) When taking measures falling under the preceding three items are extremely difficult, place a watcher and have the said watcher oversee the work.

Section 5 Management

(Instruction, etc., in the Case of an Electric Work)

Article 350 The employer shall, when carrying out the work set forth in Article 339, paragraph (1) of Article 341, paragraph (1) of Article 342, paragraph (1) of Article 344 or paragraph (1) of Article 345, make the period of the work, the contents of the work and electric circuits handled, and the system of electric circuits close to the said electrical circuits known to the worker engaging in the said work, and designate a leader of the work and have the said leader carry out the following matters:
(i) To make the method and procedure of the work known to the workers in
advance, and supervise the work directly.

(ii) When carrying out the work set forth in paragraph (1) of Article 345 by taking the measures set forth in item (ii) of the same paragraph, to instruct the commencement of the work after having confirmed installation of a sign, etc., or arrangement of a watcher.

(iii) When carrying out work after the electrical circuit is opened, to instruct the commencement of the work after having confirmed the state of power cut of the said electrical circuit, the locked switch used for such circuit opening, indication of matters necessary to prohibit electric charge, placement of a watcher, and the state of fitting of appliance for short circuit to ground after the electric circuit has been opened.

(Periodical Self-inspections of Personal Insulating Protective Equipment, etc.)

Article 351  (1) The employer shall, as regards personal insulating protective equipment, etc., listed in each item of paragraph (1) of Article 348 (for those listed in item (v) of the same paragraph, limited to those used for an charged circuit of low voltage exceeding 300 V in alternative current: hereinafter the same shall apply in this Article), carry out self-inspections for the insulating performance, periodically once every period within six months. However, this shall not apply to the non-use period of personal insulating protective equipment, etc., which is not used for a period exceeding six months.

(2) The employer shall, as regards the personal insulating protective equipment, etc., set forth in the proviso of the preceding paragraph, carry out self-inspection for the insulating performance before resuming the use.

(3) The employer shall, when having found any abnormality in the said personal insulating protective equipment, etc., as a result of the self-inspection set forth in paragraph (1) or (2), not use them unless otherwise having repaired or taken other necessary measures.

(4) The employer shall, when having carried out the self-inspections set forth in paragraph (1) or (2), record the following matters and preserve the records for three years:

(i) The date of the inspection
(ii) The method of the inspection
(iii) The parts of a machine inspected
(iv) The results of the inspection
(v) The name of the person who has carried out the inspection
(vi) When measures such as repair have been taken based on the result of the inspection, their contents.

(Checkup, etc., Before Use of Electric Machine and appliance)

Article 352  The employer shall, when using the electric machine and appliance
listed in the left column of the following table, check the matters listed in the right column of the same table corresponding to the type of the said electric machine and appliance, and immediately repair or replace it when having found any abnormalities.

<table>
<thead>
<tr>
<th>Types of electric machine and appliance</th>
<th>Checking Matters</th>
</tr>
</thead>
<tbody>
<tr>
<td>A holder for welding rod, etc., set forth in Article 331</td>
<td>Damage on the insulated protected portion and connected portion of the cable for holders</td>
</tr>
<tr>
<td>Automatic voltage reducing device for A.C. arc welding machine set forth in Article 332</td>
<td>Condition of operation</td>
</tr>
<tr>
<td>Earth-leakage circuit breaker for preventing an electric shock set forth in paragraph (1) of Article 333</td>
<td>Abnormalities, such as cutoff grounding conductor and uplift or lift of grounding pole</td>
</tr>
<tr>
<td>Motor-driven appliance set forth in Article 333 that are grounded by the method set forth in paragraph (2) of the said Article</td>
<td></td>
</tr>
<tr>
<td>Movable electric cables and their connecting tools set forth in Article 337</td>
<td>Damage on the cover or armor</td>
</tr>
<tr>
<td>Voltage detector set forth in item (iii) of paragraph (1) of Article 339</td>
<td>Voltage detecting capability</td>
</tr>
<tr>
<td>Appliance for short circuit to ground set forth in item (iii) of paragraph (1) of Article 339</td>
<td>Damage on fittings and grounding lead wires</td>
</tr>
<tr>
<td>Personal insulating protective equipment set forth in Articles 341 to 343</td>
<td>Damage such as cracks, splits and breakages, and drying conditions</td>
</tr>
<tr>
<td>Insulating device set forth in Articles 341 and 342</td>
<td></td>
</tr>
<tr>
<td>Live line work equipment set forth in Articles 341 and 343 to 345</td>
<td></td>
</tr>
<tr>
<td>Live line work instruments set forth in Articles 341, 343 and 344</td>
<td></td>
</tr>
<tr>
<td>Personal insulating protective equipment and live line work instruments set forth in Articles 346 and 347 and insulating device set forth in Article 347</td>
<td></td>
</tr>
<tr>
<td>Insulating device set forth in item (iii) of Article 349 and item (vi) of paragraph (1) of Article 570</td>
<td></td>
</tr>
</tbody>
</table>

(Checkup, etc., of an Enclosure, etc., of Electric Machine and Appliance)

Article 353 The employer shall check damage of the enclosure and insulating cover set forth in Article 329 once or more a month, and immediately repairs it when having found any abnormalities.

Section 6 Miscellaneous Provisions
(Exemptions)
Article 354  The provisions of this Chapter shall not apply to electric machine and appliance, wiring or movable electric cables with voltage to ground of 50 V or less.

Chapter VI Prevention of Dangers in Excavating Work, etc.
Section 1 Open-Cut Excavating Work
Subsection 1 Time and Procedure of Excavating Work, etc.

(Investigation on Work Place, etc.)
Article 355  The employer shall, in the case of carrying out an excavating work of natural ground, and when it is liable to cause dangers to workers due to collapse of natural ground, broken underground-installed objects, etc., investigate in advance the natural ground of the work place and its surroundings as to the following matters by boring or other suitable methods, and determine the time and procedures of excavation on the in conformity with what is known by the investigation and carry out by the determinations thereof:
(i) Landform, nature of the soil and conditions of strata.
(ii) Existence and conditions of cracks, water content, spring water and freezing.
(iii) Existence and conditions of underground-installed objects, etc.
(iv) Existence and conditions of high-temperature gas and vapor.

(Standard of Gradient of Excavation Surfaces)
Article 356 (1) The employer shall, when carrying out excavating work of natural ground (excluding natural ground composed of rock beds without cracks that cause collapse or fall of rocks, natural ground composed of sand, and natural ground in a condition which is liable to collapse due to blasting etc., hereinafter the same shall apply in this Article) by the method of manual excavation (meaning the method of excavation without excavating machines such as power shovel and tractor shovel; hereinafter the same shall apply in next Article), make the gradient of the excavation surface (in the case that there is a horizontal step with a depth of 2 m or more on the excavation surface, each excavation surface divided by the said horizontal step: the same shall apply hereinafter) the value listed in the right column of the following table or less corresponding to the type of the ground listed in the left column and the height of the excavation surface listed in the middle column of the same table, respectively:
Type of the natural ground | Height of the excavation surface (m) | Gradient of the excavation surface (degree)
---|---|---
natural ground composed of rock beds or hard clay | Less than 5 | 90
| 5 or more | 75
Other natural ground | Less than 2 | 90
| 2 or more but less than 5 | 75
| 5 or more | 60

(2) In the case prescribed in the preceding paragraph, when it is impossible to calculate the gradient due to some parts of the excavation surface differ in slope from other parts, the slopes of each part of the excavation surface shall be so maintained that the danger of collapse may not become greater than that as prescribed in the same paragraph.

Article 357  (1) The employer shall, when carrying out an excavating work of natural ground composed of sand or of natural ground in a condition which is liable to collapse due to blasting, etc., by manual excavation, comply with the following provisions:
(i) For natural ground composed of sand, to make the gradient of the excavation surface 35 degrees or less, or make the height of the excavation surface less than 5 m.
(ii) For natural ground in a condition which is liable to collapse due to blasting, etc., to make the gradient of the excavation surface 45 degrees or less, or make the height of the excavation surface less than 2 m.
(2) The provisions of item (ii) of the preceding Article shall apply mutatis mutandis to the case that it is impossible to calculate the gradient because some parts of the excavation surface of the natural ground set forth in the preceding paragraph differ in slope from other parts.

(Checkup)
Article 358  The employer shall, when carrying out the work of open-cut excavation, take the following measures to prevent workers from dangers due to collapse of natural ground or fallen earth and rocks:
(i) To designate a checker and have the said checker carry out a checkup on the natural ground of the work place and its surroundings before commencing the work for the day, after a heavy rain and an earthquake of medium shock or heavier as to the existence and conditions of loose stones and cracks, and changes in water content, spring water and freezing.
(ii) To designate a checker and have the said checker carry out a checkup on the existence and conditions of loose stones and cracks, after blasting
operations, at places where the said blasting operations have been carried out and their surroundings.

(Appointment of an Operations Chief of Excavating Natural Ground)
Article 359 The employer shall, as regards the work set forth in item (ix) of Article 6 of the Order, appoint an operations chief of excavating natural ground from the persons who have completed the skill training course for operations chief of excavating natural ground and shoring.

(Duties of an Operations Chief of Excavating Natural Ground)
Article 360 The employer shall have an operations chief of excavating natural ground carry out the following matters:
(i) To decide a work method and supervise the work directly.
(ii) To check an instrument and a tool, and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet.

(Prevention of Dangers Due to Collapse of Natural Ground, etc.)
Article 361 The employer shall, in the case of carrying out the work of open-cut excavation, and when it is liable to cause dangers to workers due to collapse of natural ground or fallen earth and rocks, take measures to prevent dangers, such as setting up shoring, setting up protective nets, prohibiting workers from entering etc., in advance.

(Prevention of Dangers Due to Underground-Installed Objects, etc.)
Article 362 (1) The employer shall, in the case of carrying out the work of open-cut excavation at a place adjacent to underground-installed objects, etc., or buildings of brick walls, concrete block walls, retaining walls, etc., and when it is liable to cause dangers to workers due to their collapse, not carry out the work unless measures to prevent dangers have been taken, such as reinforcing and removing them.
(2) The measure set forth in the preceding paragraph shall, in the case that it is liable to cause dangers to workers due to breakage of gas conduits exposed by open-cut excavation work, be such measures as protection of the said gas conduits by suspending protection, supporting protection, etc., or removal of the said gas conduits, etc.
(3) The employer shall, as regards the works for the protection of gas conduits prescribed in the preceding paragraph, designate a person to direct the said work, and have the said work carried out under the direct supervision by the said person.

(Prohibition of the Use of Excavating Machine, etc.)
Article 363  The employer shall, in the case of carrying out the open-cut excavation work and when it is liable to cause dangers to workers due to breakage of gas conduits, underground electric line or other underground structures by the use of excavating machine, loading and transporting machines, not use the said machines.

(Travelling Route, etc., of Transporting Machines, etc.)

Article 364  The employer shall, when carrying out the open-cut excavation work, determine in advance a travelling route for a transporting machine, an excavating machine and a loading machine (excluding a vehicle type construction machine and a vehicle type material handling machine, etc.: hereinafter referred to as "transporting machine, etc." in this Chapter), and the method for those machines of entering and leaving from the loading and unloading place of the earth and rocks, and make them known to the workers concerned.

(Arrangement of a Guide)

Article 365  (1) The employer shall, in the case where carrying out the open-cut excavation work, and when a transporting machine, etc., approach the work place by backing or when it is liable to cause falling, arrange a guide and have the said person guide the said machines.
(2) The operator of the transporting machine, etc., set forth in the preceding paragraph shall follow the instruction given by the guide set forth in the same paragraph.

(Wearing of a Safety Helmet)

Article 366  (1) The employer shall, when carrying out the work of open-cut excavation, have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

(Maintenance of Illumination)

Article 367  The employer shall, as regards the place where carrying out the work of an open-cut excavation, maintain necessary illumination for carrying out the said work safely.

Subsection 2 Shoring

(Material)

Article 368  The employer shall, as regards materials of shoring, not use those
having gross damage, deformation or corrosion.

(Structure)

Article 369  The employer shall make the structure of the shoring sound corresponding to landform, nature of the soil, strata, cracks, water content, spring water, freezing and underground-installed objects, etc., pertaining to the natural ground where the said shoring is installed.

(Erection Diagram)

Article 370  (1) The employer shall, when assembling shoring, prepare in advance an erection diagram, and shall assemble it under the said erection diagram.
(2) The erection diagram set forth in the preceding paragraph shall describe the arrangement, size and materials of members such as sheet piles, piles, shore laggings, walings, struts, and the time and procedure of installation.

(Installation, etc., of Members)

Article 371  The employer shall, as regards installation, etc. of the members of shoring, comply with the following provisions:
(i) To mount walings and struts firmly on sheet piles, piles, etc., to prevent them from coming off.
(ii) To use butt joints for jointing of compression members (excluding horizontal angle braces).
(iii) To fasten firmly the connecting portions of struts or horizontal angle braces and the crossing portions of struts with doubling plates and bolts, or connect them by welding or other method to make them sound.
(iv) For shoring with a middle support pole, to mount struts firmly on such middle support pole.
(v) For the case that struts are supported by things other than the members such as the columns of a structure, to make the said supports strong enough to bear the load applied.

(Work of Installing or Removing Struts, etc.)

Article 372  The employer shall, when carrying out the work set forth in item (x) of Article 6 of the Order, take the following measures:
(i) To prohibit workers other than those concerned from entering the place where the said work is carried out.
(ii) When raising or lowering materials, instruments or tools, to have workers use lifting ropes, lifting bags, etc.

(Checkup)

Article 373  The employer shall, when having installed shoring, check the
following matters once every period not exceeding seven days, after an earthquake of medium shock or heavier, and after having happened an event, which is liable to weaken the ground rapidly due to heavy rain, etc., and immediately reinforce or repair when having found any abnormalities:
(i) Existence and condition of damage, deformation, corrosion, displacement and coming off of members.
(ii) Degree of compression of struts.
(iii) Condition of the connecting portions, mounting portions and crossing portions of members.

(Appointment of an Operations Chief of Shoring)
Article 374  The employer shall, as regards the work set forth in item (x) of Article 6 of the Order, appoint an operations chief of shoring from the persons who have completed the skill training courses for operations chief of excavating natural ground and shoring.

(Duties of an Operations Chief of Shoring)
Article 375  The employer shall have an operations chief of shoring carry out the following matters:
(i) To decide a work method and supervise the work directly.
(ii) To check defects in material, an instrument and a tool, and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet.

Subsection 3 Work in Caissons, etc.

(Settling Diagram, etc.)
Article 376  The employer shall, when carrying out the open-cut excavation work in a caisson or in a sunk well, take the following measures to prevent dangers to workers due to rapid settling of the said caisson or sunk well:
(i) To determine the method of excavation, the quantity of load, etc., based on a settling diagram.
(ii) To have the height from the cutting edge to the ceiling or the girder of 1.8 m or higher.

(Work in a Caisson, etc.)
Article 377  (1) The employer shall, when carrying out the open-cut excavation work in a caisson, a sunk well, a vertical shaft, a well or other buildings or facilities similar to them (hereinafter referred to as "caissons, etc."), take the following measures:
(i) When the quantity of oxygen may become excessive, to designate a person in
charge of measuring the concentration of oxygen, and have the said person measures the concentration.

(ii) To provide facilities for safe ascent and descent of workers.

(iii) When the depth of excavation exceeds 20 m, to provide devices such as a telephone, an electric bell, etc., for communication between the work place and the outside.

(2) The employer shall, in the case prescribed in the preceding paragraph, when excessive oxygen is observed as a result of the measurement set forth in item (i) of the same paragraph, or when the depth of excavation exceeds 20 m, provide facilities for sending air and feed the necessary quantity of air using the said facilities.

(Prohibition of Work)

Article 378  The employer shall, when falling under any of the following each item, not carry out the open-cut excavation work in caissons, etc.:

(i) When the facilities set forth in item (ii) or (iii) of paragraph (1) of the preceding Article or in paragraph (2) of the same Article are out of order.

(ii) When it is liable to cause penetrating a large quantity of water into the caissons, etc.

Section 2 Construction Work of Tunnels, etc.

Subsection 1 Investigation, etc.

(Investigation and Record)

Article 379  The employer shall, when carrying out the excavating work of tunnels, etc., investigate in advance the landform of natural ground and condition of the nature of the soil and strata pertaining to said excavation work by boring or other appropriate method in order to prevent workers from dangers due to cave-in, inundation, gas explosion, etc., and record the result of the investigation.

(Construction Plan)

Article 380  (1) The employer shall, when carrying out excavating work of tunnels, etc., establish in advance a construction plan in conformity with what is known by the investigation prescribed in the preceding Article, and carry out the work by the said plan.

(2) The construction plan set forth in the preceding paragraph shall be the one describing the following matters:

(i) Method of excavation.

(ii) Method of construction of tunnel shoring, construction of lining, disposal of spring water or flammable gas, and ventilation or illumination when these
are carried out.

(Observation and Record)

Article 381 (1) The employer shall, when carrying out excavating work of tunnels, etc., observe the excavation site and surrounding natural ground every day as to the following matters in order to prevent dangers to workers due to cave-in, inundation, gas explosion, etc., and record the results of the said observation:

(i) Conditions of nature of the soil and strata.
(ii) Existence and condition of water content, and spring water.
(iii) Existence and condition of flammable gas.
(iv) Existence and condition of high-temperature gas or vapor.

(2) The observation pertaining to the matters set forth in item (iii) of the preceding paragraph shall, in the case that the excavation is carried out by the method that excavation site and its surrounding natural ground are covered with machine, be carried out using a measuring instrument.

(Checkup)

Article 382 The employer shall, when carrying out construction work of tunnel, etc., (meaning an excavating work of tunnels, etc., or transportation of muck, materials, etc., or concrete placing, etc., work of lining associated with it limited to the work carried out in the said tunnel, etc., or at a place near the said tunnel, etc.); the same shall apply hereinafter), take the following measures to prevent the dangers to workers due to cave-in or fall of rocks:

(i) To designate a checker and have the said person check the ground in tunnels, etc., every day and after an earthquake of medium shock or heavier as to the existence and condition of loose stones and cracks, and changes in the condition of water content and spring water.

(ii) To designate a checker and have the said person check after blasting operations the location where the said blasting operations have been carried out and its surroundings as to the existence and condition of loose stones and cracks.

(Measurement, etc., of the Concentration of Flammable Gas)

Article 382-2 The employer shall, in the case of a construction work of tunnels, etc., the flammable gases are liable to be generated, designate a person charged with the measurement of the concentration of the flammable gases in order to prevent an explosion or fire and have the said person measure and record the concentration of the flammable gas at the places where the said flammable gases are liable to be generated or stagnate, every day before commencing the work for the day, after an earthquake of medium shock or
heavier or when having found any abnormalities related to the said flammable gases.

(Installation, etc., of Automatic Alarms)
Article 382-3 (1) The employer shall, when it is found as a result of the measurement set forth in the preceding Article that the flammable gases exist and is liable to cause an explosion or fire, install automatic alarms at necessary places for an early detection of abnormal rise in the concentration of the flammable gases. In this case, the said automatic alarms shall have system, which is able to quickly alert workers who are working around the area of the detectors of the automatic alarms to the abnormal rises in the concentration of the said flammable gas.

(2) The employer shall, as regards the automatic alarm device set forth in the preceding paragraph, check the following matters before commencing the work for the day, and immediately repair when having found any abnormalities:
(i) Abnormalities in the measuring gauges.
(ii) Abnormalities in detectors.
(iii) Function of the alarms.

(Alteration in Construction Plan)
Article 383 The employer shall, in the case of carrying out excavating work of tunnels, etc., and when the construction plan set forth in paragraph (1) of Article 380 becomes unsuitable to the conditions of natural ground which was known by the observation pursuant to the provision of paragraph (1) of Article 381, the checkup pursuant to the provision of Article 382, the measurement pursuant to the provision of Article 382-2, etc., alter such construction plan without delay so that it may suit the conditions of the said natural ground, and carry out the excavating work by the changed construction plan.

(Appointment of an Operations Chief of Excavating Tunnel, etc.)
Article 383-2 The employer shall, as regards the work set forth in item (x)-2 of Article 6 of the Order, appoint an operations chief of excavating tunnel, etc., from the persons who have completed the skill training course for operation chief of excavating tunnel, etc.

(Duties of an Operations Chief of Excavating Tunnel, etc.)
Article 383-3 The employer shall have an operations chief of excavating tunnel, etc., carry out the following matters:
(i) To decide a work method and arrangement of workers, and supervise the work directly.
(ii) To check the function of an instrument, a tool, a safety belt, etc., and a
safety helmet, and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet.

(Appointment of an Operations Chief of Lining of Tunnel, etc.)
Article 383-4 The employer shall, as regards the work set forth in item (x)-3 of Article 6 of the Order, appoint an operations chief of lining of tunnel, etc., from the persons who have completed the skill training course for operations chief of lining of tunnel, etc.

(Duties of an Operations Chief of Lining of Tunnel, etc.)
Article 383-5 The employer shall have an operations chief of lining of tunnel, etc., carry out the following matters:
(i) To decide a work method and arrangement of workers, and supervise the work directly.
(ii) To check the function of an instrument, a tool, a safety belt, etc., and a safety helmet, and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet.

Subsection 1-2 Prevention of Dangers Due to Cave-in, Collapse of Natural Ground, etc.

(Prevention of Dangers Due to Cave-in, etc.)
Article 384 The employer shall, in the case of a construction work of tunnels, etc., and when it is liable to cause dangers to workers due to a cave-in or fall of rocks, take measure such as providing tunnel shoring, use lock bolts and removing loose stones in order to prevent the said danger.

(Prevention of Dangers Due to Collapse of Natural Ground, etc., near the Entrance)
Article 385 The employer shall, in the case of construction work of tunnels, etc., and when it is liable to cause dangers to workers due to collapse of natural ground or fallen soil and stone near the entrance or exit of the said tunnels, etc., take measures such as providing shoring, setting up protective nets and removing loose stones in order to prevent the said dangers.

(Prohibition of Entry)
Article 386 The employer shall not allow workers other than those concerned to enter the following places:
(i) Places where the work to remove loose stones is being carried out or downward from the said places, where it is liable to cause dangers to workers due to fallen loose stones.
(ii) Places where the work to reinforcing or repairing tunnel shoring is being carried out and where it is liable to cause dangers to workers due to cave-in or falling of rocks.

(Maintenance of Visibility)
Article 387 The employer shall, in the case of a construction work of tunnels, etc., and when visibility in tunnels, etc., is highly limited by exhaust gas, dusts, etc., take measures such as ventilating tunnels, etc., spraying water in order to maintain the visibility necessary to carry out the said work safely.

(Application by Analogy)
Article 388 The provisions of Articles 364 to 367 shall apply mutatis mutandis to construction work of tunnels, etc.

Subsection 1-3 Prevention of Explosions, Fires, etc.

(Prohibition against Carrying Ignitable Articles, etc.)
Article 389 The employer shall, when it is found as a result of the measurement pursuant to the provision of Article 382-2 that flammable gas exists, exclude the case unavoidable due to the nature of the work, prohibit workers from carrying fire, matches, lighters or other ignitable articles into the inside of the tunnels, etc., and post a notice to that effect at a readily visible place near the entrance to the tunnels, etc.

(Measures in the Case of Automatic Alarms Sound)
Article 389-2 The employer shall establish measures in advance that the workers concerned should take to prevent an explosion or fire due to flammable gas when the automatic alarms set forth in Article 382-3 sound, and make the said measures known to the said workers.

(Measures to Remove Gas, etc.)
Article 389-2-2 The employer shall, in the case of excavating work of tunnels, etc., and when the flammable gases are liable to be generated, take measures to remove the gases by boring and other necessary measures to prevent the flammable gas from eruption in order to prevent explosion or fire due to the said flammable gas.

(Measures to Prevent Fire in the Case of the Work of Gas Welding, etc.)
Article 389-3 The employer shall, in the case of construction work of tunnels, etc., and when carrying out the work of welding, cutting or heating metals using the flammable gas and oxygen inside the tunnels, etc., take the following
measures to prevent fire:
(i) To remove rags, wood chips, paper scraps or other flammables substances that exist nearby, cover them with nonflammable substance or install partitions to prevent sparks arising associate with the said work from spatter.
(ii) To have the leader set forth in Article 257 carry out the following matters in addition to matters set forth in each item of the same Article.
(a) To make the location of fire extinguishing equipment and how to use it known to the worker engaging in the work.
(b) To monitor the work and take necessary measure when having found any abnormalities.
(c) To confirm that there is no danger to cause fire due to sparks, etc., after completed the work.

(Person Charged with Fire Prevention)
Article 389-4 The employer shall, in the case of construction work of tunnels, etc., as regards the places inside the tunnel, etc., where fire or arc is used (excluding places where the work set forth in the preceding Article is carried out), designate a person charged with fire prevention and have the said person carry out the following matters to prevent fire:
(i) To monitor the conditions in which fire or arc is used and take necessary measures immediately when having found any abnormalities.
(ii) To confirm that remaining fire has been properly extinguished.

(Fire Extinguishing Equipment)
Article 389-5 The employer shall, when carrying out the construction work of tunnels, etc., install the fire extinguishing equipment suited to the nature of a fire that may break out at the locations where fire or arc is used, or where a switch board, transformer or circuit breaker is installed, and make the location of the said fire extinguishing equipment and the method of use how to use it known to the workers concerned.

(Construction Work of a Vertical Shaft)
Article 389-6 The provisions of the preceding three Articles shall apply mutatis mutandis to the construction work of vertical shafts.

Subsection 1-4 Evacuation, etc.

(Evacuation)
Article 389-7 The employer shall, in the case of construction work of tunnels, etc., and when there is an urgent danger of an industrial accident being caused
by cave-in, inundation, etc., suspend work immediately and evacuate the workers to a safety zone.

Article 389-8  (1) The employer shall, in the case of construction work of tunnels, etc., and when having found that the concentration of the flammable gas reaches 30 % of the lower explosion limit or more, immediately evacuate the workers to a safety zone, stop using fire or other ignitable articles and take measures for ventilation, etc.

(2) The employer shall, in the case prescribed in the preceding paragraph, prohibit workers other than those concerned from entering the inside of the tunnels, etc., and display a notice to that effect at a readily visible location until it is ascertained that the concentration of the flammable gas has declined below 30 % of the lower explosion limit.

(Alarm Devices, etc.)

Article 389-9  (1) The employer shall, when carrying out the construction work of tunnels, etc., install the devices listed in the following each item, corresponding to the classifications listed in the said each item, in order to give immediate warning to the workers concerned in the case of cave-in, inundation, gas explosion, fire or other emergencies, and make the places of the said devices known to the workers concerned:

(i) When the distance from the entrance of the tunnels, etc., to the facing (hereinafter referred to as "distance to the facing" in this Subsection) reaches 100 m (excluding the case listed in the next item): Alarm devices such as sirens and emergency bells (hereinafter referred to as "alarm devices" in this Article).

(ii) When the distance to the facing reaches 500 m: Alarm devices, and telephones, etc., or other communicating equipment (limited to those enabling communication between the inside and the outside of the tunnel, etc., hereinafter referred to as "communicating equipment" in this Article).

(2) The employer shall maintain the alarm devices and communicating equipment set forth in the preceding paragraph properly functioning at all times.

(3) The employer shall install a reserve power source, which can be used immediately when any abnormalities arise in the power source for the alarm devices and communicating equipment set forth in paragraph (1).

(Apparatuses for Evacuation)

Article 389-10  (1) The employer shall, when carrying out the construction work of tunnels, etc., provide the apparatuses listed in the following each item corresponding to the classifications listed in the said each item at suitable
locations, in order to facilitate the evacuation of the workers concerned in the case of cave-in, inundation, gas explosion, fire or other emergencies, and make the locations of the said apparatuses and how to use them known to the workers concerned:

(i) For the tunnels, etc., other than those where flammable gas exists and is liable to cause explosion or fire (excluding the case listed in item (iii)), and when the distance to the facing reaches 100 m: Flashlight or other portable lighting apparatuses (hereinafter called "portable illumination apparatuses" in this Article) and other apparatuses necessary for evacuation.

(ii) For the tunnels, etc., where flammable gas exists and is liable to cause explosion or fire (excluding the case listed in the next item), and when the distance to the facing reaches 100 m: Survival equipment against carbon monoxide or other respiration apparatuses (hereinafter referred to as "respiration apparatuses" in this Article), portable illumination apparatuses and other apparatuses necessary for evacuation.

(iii) When the distance to the facing reaches 500 m: Respiratory protective equipment, portable illumination apparatuses and other apparatuses necessary for evacuation.

(2) The employer shall, as regards the respiratory protective equipment set forth in the preceding paragraph, provide as many or more than the number of workers at work at any given time (excluding a person engaging in the work near the entrance, the same shall apply in the next paragraph), and maintain them properly functioning and clean at all times.

(3) The employer shall, as regards the portable illumination apparatuses set forth in paragraph (1), provide as many or more than the number of workers at work at any given time, and maintain them properly functioning at all times. However, this shall not apply in the case set forth in item (i) of the same paragraph, and when measures have been taken to secure illumination to facilitate the evacuation of workers at work at any given time as a group.

(Evacuation Drill, etc.)

Article 389-11  (1) The employer shall, when carrying out the construction work of a tunnel, etc., where the distance to the facing is expected to reach 100 m (500 m for a tunnel, etc., other than those where flammable gas exists and is liable to cause explosion or fire) or more, conduct an evacuation drill and fire fighting training (hereinafter referred to as "evacuation drill, etc.") for the workers concerned once within the period during which the distance to the facing reaches 100 m and once every period within six months thereafter in order to prepare for cave-in, inundation, gas explosion, fire, etc.

(2) The employer shall, when having conducted the evacuation drill, etc., record the following matters and preserve the records for three years:
(i) The date of the training conducted.
(ii) The full name of the person who has undergone the training.
(iii) The details of the training.

Subsection 2 Tunnel Shoring

(Material)
Article 390  (1) The employer shall not use materials having marked damage, deformation or corrosions as materials for tunnel shoring.
(2) The employer shall, as regards the wooden materials for tunnel shoring, not use unless these are of good toughness such as Japanese red pine or black pine, and free from the marked defects for strength such as cracks, worm-eaten spots, gnarls and slanted fibres.

(Structure of Tunnel Shoring)
Article 391  The employer shall make the structure of tunnel shoring sufficiently sound corresponding to the condition of nature of the soil, strata, water content, spring water, cracks and loose stones pertaining to the natural ground where the said tunnel shoring was installed and method of excavation.

(Standard Drawing)
Article 392  (1) The employer shall, when constructing the tunnel shoring, prepare in advance a standard drawing, and construct such support by the said standard drawing.
(2) The standard drawing prescribed in the preceding paragraph shall describe the arrangement, size and materials of the members of tunnel shoring.

(Construction or Alteration)
Article 393  The employer shall, when constructing or altering the tunnel shoring, comply with the following provisions:
(i) To arrange a set of members composing the main members on the same plane;
(ii) For wooden tunnel shoring, to make the degree of compression of each member of said tunnel shoring the same level.

(Prevention of Dangers of Tunnel Shoring)
Article 394  The employer shall, as regards tunnel shoring, comply with the following provisions:
(i) To take measures such as providing sill plates at the foot portion to prevent from settling.
(ii) For steel arch shoring, to comply with followings:
(a) To make the distance between an interval 1.5 m or less.
(b) To take measures such as driving wedges so that the main members display arch functions sufficiently.
(c) To couple firmly main members with one another using connecting bolts and connecting girders, bracings, etc.
(d) To provide slant props at the entrance of tunnels, etc.
(e) When it is liable that steel arch shoring may fall or be twisted due to longitudinal load of tunnels, etc., applied to such shoring, for example, when longitudinal length of tunnels, etc., supported by steel arch shoring is short, to provide slant props also to portions other than the portions of the entrance of such tunnels, etc., or take other measures to prevent steel arch shoring from falling or being twisted.
(f) When it is liable to cause dangers to workers due to fall of rocks, to provide sheet piles, wooden sheets, liner plates, etc.

(iii) For wooden prop type shoring, to comply with followings:
(a) To fasten sleepers to the ground with nose girders, etc., to prevent displacement.
(b) To provide slant props at both ends.
(c) When it is liable that wooden prop type shoring may fall or be twisted due to longitudinal load of tunnels, etc., applied to such shoring, to provide slant props also to portions other than both ends or take other measures to prevent wooden prop typed shoring from falling or being twisted.
(d) To make the connecting portions of members fit and fasten them with clamps, etc.
(e) Not to arrange caps within the vertical plane including longitudinal bar braces or girders collar braces.
(f) To make longitudinal bar braces and girder collar braces display arch functions sufficiently.

(iv) For tunnel shoring other than steel arch shoring and wooden prop type shoring, to provide slant props at portion of the entrance of tunnels, etc.

(Removal of Members)
Article 395 The employer shall, when removing members of tunnel shoring to which a load is applied, not remove such members unless measures have been taken to remove the load applied to such members to tunnel concrete form shoring, etc.

(Checkup)
Article 396 The employer shall, when having installed tunnel shoring, check the following matters every day, after an earthquake of medium shock or heavier, and immediately reinforce or repair when having found any abnormalities:
(i) Existence and condition of damage, deformation, corrosion, displacements and coming off of members.
(ii) Degree of compression of members.
(iii) Conditions of the connecting portions and crossing portions of members.
(iv) Existence and condition of settling of the foot portion.

Subsection 3 Tunnel Concrete Form Shoring

(Material)
Article 397  The employer shall not use materials having marked damage, deformation or corrosion as materials for tunnel concrete form shoring.

(Structure)
Article 398  The employer shall make the structure of tunnel concrete form shoring sound corresponding to the load applied to such tunnel concrete form shoring, the shape of the concrete form, etc.

Section 3 Quarrying Work
Subsection 1 Investigation, Quarrying Work Plan, etc.

(Investigation and Record)
Article 399  The employer shall, when carrying out the quarrying work (meaning excavating work for collecting rocks, work cutting in·blocks, processing and transporting rocks at quarry, and other works associating with these works; the same shall apply hereinafter), investigate in advance the landform and condition of the nature of the soil and strata pertaining to the said quarrying work in order to prevent workers from dangers due to collapse of the natural ground, falling of an excavating machines, etc., and record the result of the investigation.

(Quarrying Work Plan)
Article 400  (1) The employer shall, when carrying out a quarrying work, establish in advance a quarrying work plan in conformity with what is known by the investigation pursuant to the provision of the preceding Article, and carry out the work by the said work plan.
(2) The quarrying work plan set forth in the preceding paragraph shall be the one describing the following matters:
(i) For distinction of open casting or underground casting and for open casting, distinction of the step quarrying system, slope quarrying system or glory hole system.
(ii) The height and gradient of the excavation surface.
(iii) The position and depth of the steps of the excavation surface.
(iv) The method of preventing cave-in, falls of rocks and collapse of sidewalls in the pit.
(v) The method of blasting.
(vii) The place of processing rocks.
(viii) The method of loading, transporting earth and sand or rocks and the route of transportation.
(ix) The type and capability of excavating machines, cut-in-block machines, loading machines or transporting machines to be used.
(x) The method of disposing surface earth or spring water.

(Checkup)
Article 401 The employer shall, when carrying out a quarrying work, take the following measures for preventing dangers to workers due to collapse of the natural ground or fallen earth and rocks:
(i) To designate a checker and have the said person check on the natural ground of the work place and its surroundings, before commencing the work for the day, after a heavy rain and an earthquake of medium shock or heavier, as to existence and condition of loose stones and cracks, and as to changes in the condition of water content, spring water and freezing.
(ii) To designate a checker and have the said person check after blasting the place where the blasting has been carried out and its surroundings as to existence and condition of loose stones and cracks.

(Alteration in Quarrying Work Plan)
Article 402 The employer shall, when carrying out a quarrying work in which the quarrying work plan described in paragraph (1) of Article 400 becomes unsuitable to the conditions of natural ground which was known by the checkup, etc. pursuant to the provision of the preceding Article, etc., alter without delay the said quarrying work plan so as to suit such conditions of such ground, and carry out the quarrying work by the changed quarrying work plan.

(Appointment of an Operations Chief of Excavating for Quarrying)
Article 403 The employer shall, as regards the work set forth in item (xi) of Article 6 of the Order, appoint an operations chief of excavating for quarrying from the persons who have completed the skill training course for operations chief of excavating for quarrying.

(Duties of an Operations Chief of Excavating for Quarrying)
Article 404  The employer shall have an operations chief of excavating for quarrying carry out the following matters:

(i) To decide a work method and supervise the work directly.

(ii) To check defects in material, an instrument and a tool, and remove defective ones.

(iii) To monitor the use of a safety belt, etc., and a safety helmet.

(iv) To instruct in advance the method of evacuation.

(Maintenance of Communication with Adjacent Quarries)

Article 405  The employer shall, to prevent workers from dangers due to collapse of natural ground, flying earth and rocks, etc., maintain communication with adjacent quarries as to the necessary matters such as time of blasting, the method of removal of loose stones which are adopted in the adjacent quarries.

(Maintenance of Illumination)

Article 406  The employer shall, as regards a place where carrying out the quarrying work, maintain the necessary illumination for carrying out the said work safely.

**Subsection 2 Prevention of Dangers Due to Collapse of Natural Ground, etc.**

(Standards of Gradient of Excavation Surface)

Article 407  The employer shall, when carrying out the excavating work for quarrying (excluding the work in a pit, hereinafter the same shall apply in this Article), make the gradient of the said excavation surface the value listed in the right column of the following table or less corresponding to the type of natural ground listed in the left column of the same table and the height of the excavation surface listed in the middle column of the same table respectively. However, this shall not apply to the case of carrying out the excavating work using an excavating machines such as a power shovel and a tractor shovel, and when it is unlikely to cause danger to the operator of the said excavating machine due to collapse of natural ground or fallen earth and rocks:

<table>
<thead>
<tr>
<th>Type of natural ground</th>
<th>Height of excavation surface (m)</th>
<th>Gradient of excavation surface (degree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Natural ground composed of rock beds having no cracks that may cause collapse or fall</td>
<td>Less than 20</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>20 or more</td>
<td>75</td>
</tr>
</tbody>
</table>
(2) Natural ground composed of rock beds other than those listed in the preceding item

<table>
<thead>
<tr>
<th>Less than 5</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or more</td>
<td>60</td>
</tr>
</tbody>
</table>

(3) Natural ground other than those listed in the preceding each item

<table>
<thead>
<tr>
<th>Less than 2</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 or more</td>
<td>45</td>
</tr>
</tbody>
</table>

(Prevention of Dangers Due to Collapse, etc.)

Article 408 The employer shall, in the case of carrying out quarrying work (excluding work carried out in a pit) and when there exist earth and rocks, standing trees, etc., which are liable to cause dangers to workers due to collapse or fall, take measures to prevent the said dangers by removing them, providing a protective net, etc.

(Prevention of Dangers Due to Cave-inch, etc.)

Article 409 The employer shall, in the case of carrying out a quarrying work in a pit and when it is liable to cause dangers to workers due to cave-in, fallen rocks or collapsed sidewalls, take measures to prevent the said dangers by providing supports or residual poles, making the ceiling an arch, using lock bolts, etc.

(Prohibition of Work Adjacent to Excavation Sites)

Article 410 The employer shall not carry out the small cant or rock processing work adjacent to an excavation site. However, this shall not apply to when it is extremely difficult to move the said rocks to other places.

(Prohibition of Entry)

Article 411 The employer shall not allow a worker to enter a place downward of place where carrying out an excavating work for collecting rocks and where it is liable to cause dangers to workers due to fallen earth and rocks.

(Wearing of a Safety Helmet)

Article 412 (1) The employer shall, when carrying out quarrying work, have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.

(2) A worker shall, when having been instructed to wear a safety helmet set forth in the preceding paragraph, wear the safety helmet set forth in the same paragraph.

Subsection 3 Prevention of Dangers Due to Transporting Machines, etc.
(Travelling Route of Transporting Machines, etc.)

Article 413  (1) The employer shall, when carrying out quarrying work, determine in advance the travelling route of transporting machines, etc., and cut in-block machines and the method of entering and leaving from the loading and unloading site of earth and rocks of the said machines, and make the travelling route and method known to the workers concerned.

(2) The employer shall, as regards the travelling route set forth in the preceding paragraph, take the following measure:
   (i) To maintain a sufficient width.
   (ii) To prevent collapse of shoulders.
   (iii) To prevent the ground from weakening.
   (iv) To provide signs or a railing at necessary places.

(3) The employer shall, when carrying out repair or other work for maintaining the travelling route set forth in paragraph (1), arrange a watcher or post a notice indicating that the said operation is under way.

(Prohibition of Work on the Travelling Route)

Article 414  The employer shall not carry out small cant or rocks processing operation on the travelling route set forth in paragraph (1) of the preceding Article. However, this shall not apply to the case that it is inevitable and when taking the measures to prevent workers from danger due to contact with transporting machines and cut-in block machines, such as arranging a watcher or posting a notice indicating that the said operation is under way.

(Prohibition of Entry)

Article 415  The employer shall, when carrying out quarrying work, not allow a worker to enter a place where is liable to cause dangers to workers due to contact with a transporting machine and a small cant machine during operation.

(Arrangement, etc., of a Guide)

Article 416  (1) The employer shall, in the case of carrying out a quarrying work, and when a transport machine, etc., and a small cant machine approach the work place by the reverse operation, or are liable to fall or turn over, arrange a guide person and have the said person guide the said transporting machine, etc., and small cant machine.

(2) The worker operating the transporting machine, etc., and the small cant machine set forth in the preceding paragraph shall follow the instruction given by the guide set forth in the same paragraph.

Chapter VII Prevention of Dangers in Cargo Handling Works, etc.
Section 1 Freight Handling Work, etc.
Subsection 1 Loading and Unloading, etc.

Article 417 (Deleted)

(Prohibition of the Use of an Inadequate Fibre Rope)
Article 418 The employer shall not use a fibre rope falling under any of the following each item for roping cargoes on a freight vehicle:
(i) Those with cut strands
(ii) Those with marked damage or corrosion

(Checkup)
Article 419 The employer shall, when using a fibre rope for roping cargoes on a freight vehicle, check the said rope before commencing the use for the day, and immediately replace it when having found any abnormalities.

(Appointment and Duties of Operations Leader)
Article 420 The employer shall, when carrying out the work loading a cargo with the weight of 100 kg or more on a freight vehicle (including the work roping and sheeting) or unloading the said cargo from a freight vehicle (including the work unroping and unsheeting), designate a leader for the said work, and have the said person carry out the following matters:
(i) To decide the method and procedure of the work, and supervise the work directly;
(ii) To check an instrument and a tool, and remove defective ones.
(iii) Not to allow workers other than those concerned to enter the place where the said work is carried out.
(iv) When carrying out unroping operations and unsheeting, to instruct the commencement of the said operation after having confirmed that there is no danger that cargo on the vehicle platform may fall off.

(Prohibition of Pulling Out Middle Cargo from the Pilings)
Article 421 (1) The employer shall, when carrying out the work unloading cargoes from a freight vehicle, not allow the worker engaging in the said work to pull out middle cargo from the pilings.
(2) The worker engaging in the work set forth in the preceding paragraph shall not pull out middle cargo from the pilings.

Articles 422 to 425 (Deleted)

(Workshop for Stevedoring at Wharves, etc.)
Article 426  The employer shall take the following measures for places where stevedoring work is carried out such as wharfs and quays:
(i) To take safe and effective measures to provide illumination for dangerous parts of workshop and passages.
(ii) When providing a passage along the wharf or quay, to make the width of the said passage 90 cm or wider, and remove from such an area obstacles other than stationary facilities and devices in use.
(iii) To provide an appropriate enclosure, railing, etc., for dangerous parts of passages and workshop on shore, such as angular corner, bridges, and footpaths over the lock gate of a dock.

Subsection 2 Making and Breaking Cargo Piles, etc.

(Raising and Lowering Equipment for Cargo piles)
Article 427  (1) The employer shall, when carrying out the work on a cargo piles (a group of piled cargoes (excluding bulk cargoes of wheat, soy beans, ores, etc.) piled up in a warehouse, shed or cargo piling place, the same shall apply hereinafter) with the height of the work place exceeds 1.5 m from the floor surface, provide the equipment for the worker engaging in the said work to go up and down safely between the floor surface and the said work place. However, this shall not apply to the case where a safe ascent and descent is possible by the cargoes composing the said cargo pile.
(2) The worker engaging in the work set forth in the preceding paragraph shall, when going up and down between the floor surface and the said work place, use the equipment for raising and lowering set forth in the same paragraph, excluding in the case set forth in the proviso of the same paragraph.

(Appointment of an Operations Chief of Cargo Piling)
Article 428  The employer shall, as regards the work set forth in item (xii) of Article 6 of the Order, appoint an operations chief of cargo piling from the persons who have completed the skill training course for operations chief of cargo piling.

(Duties of an Operations Chief of Cargo Piling)
Article 429  The employer shall have an operations chief of cargo piling carry out the following matters:
(i) To decide the method and procedure of the work, and supervise the work directly;
(ii) To check instruments and tools, and remove defective ones;
(iii) To give the necessary instructions for a worker who passes by the said work place in order safely to have the said person pass by;
(iv) When carrying out cargo pile breaking operation, to instruct the commencement of the said operation after having confirmed that there is no danger of collapse of such stacks of cargo;
(v) To monitor the use of the equipment for ascending and descending set forth in paragraph (1) of Article 427, and a safety helmet.

Spacing between Cargo Piles
Article 430 The employer shall, as regards the cargo pile (limited to those composed of cargoes, containers of which are sacks, straw bags or bales) having a height of 2 m or more from the floor surface, ensure the spacing between cargo piles with 10 cm or more at the bottom.

Cargo Pile Breaking Work
Article 431 (1) The employer shall, when carrying out the work breaking a cargo pile having a height of 2 m or more from the floor surface, have the worker engaging in the said work carry out the following matters:
(i) Not to pull out middle cargo from the pilings.
(ii) For a cargo pile composed of cargoes of which containers are sacks, straw bags or bales, to break the said cargo pile in tiers, and make the height of each tier (excluding the lowest tier) 1.5 m or less.
(2) The Worker engaging in the work set forth in the preceding paragraph shall carry out the matters listed in each item of the same paragraph.

Prevention of Dangers of Collapse, etc., of Cargo Piles
Article 432 The employer shall, when it is liable to cause dangers to workers due to collapsed cargo piles or fallen cargoes, take measures to prevent dangers by fastening with ropes, setting over nets, providing preventive posts, restacking cargo piles, etc.

Prohibition of Entry
Article 433 The employer shall not allow workers other than those concerned to enter the place where the work making and breaking cargo piles is being carried out and where it is liable to cause dangers to workers due to collapsing cargo piles or falling cargoes.

Maintenance of Illumination
Article 434 The employer shall, as regards a place where carrying out the work making or breaking cargo piles, maintain necessary illumination for carrying out the said work safely.

Wearing of a Safety Helmet
Article 435  (1) The employer shall, when carrying out the work on a cargo pile (limited to the work at the height of 2 m or more from the floor surface), have workers engaged in the said operation wear safety helmets in order to prevent dangers to workers from falling from height.

(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

Articles 436 to 448 (Deleted)

Section 2 Stevedoring Work
Subsection 1 Facilities, etc., for Passage

(Facilities for Passage to the Hold)
Article 449  (1) The employer shall, when carrying out the cargo handling work in a hold having a depth exceeding 1.5 m from the exposed deck, provide facilities that enable the worker engaging in the said work to pass safely between the said deck and the said hold. However, this shall not apply to the ship where facilities for safe passage have been already provided in the ship.

(2) The worker engaging in the work set forth in the preceding paragraph shall use the facilities for passage set forth in the same paragraph when passing between the exposed deck and the hold.

(Appointment of an Operations Chief of Stevedores)
Article 450  The employer shall, as regards the work set forth in item (xiii) of Article 6 of the Order, appoint an operations chief of stevedores from the persons who have completed the skill training course for operations chief of stevedores.

(Duties of an Operations Chief of Stevedores)
Article 451  The employer shall have an operations chief of stevedores carry out the following matters:

(i) To decide a work method and supervise the work directly.

(ii) To check and maintain the facilities for passage, a cargo handling machine, personal protective equipment, an instrument and a tool, and monitor the use of the said facilities, etc.

(iii) To communicate and coordinate with workers at surrounding work sites.

(Prohibition of Passage)
Article 452  The employer shall, in the case where carrying out raising or lowering operations using a cargo lifting appliance, cranes, mobile cranes, or derricks (hereinafter referred to as "cargo lifting appliance, etc." in this
Section) and when it is liable that cargoes may fall or hit on workers who pass using the facilities for passage set forth in paragraph (1) of Article 449, not allow workers to pass through the said facilities.

(Prohibition of Entry)
Article 453 The employer shall not allow a worker to enter the following places:
(i) Places located downward of the place where the work opening or shutting a hatch board or mounting or removing a hatch beam is carried out, and where is liable to cause dangers to workers due to a fallen hatch board or hatch beam.
(ii) Places where the work raising or lowering the boom of cargo lifting appliance is carried out, and where is liable to cause dangers to workers due to a fallen boom.

(Maintenance of Illumination)
Article 454 The employer shall, when carrying out the work stevedoring (meaning the work loading cargoes to a vessel, unloading cargoes from a vessel or moving cargoes in a vessel; the same shall apply hereinafter), maintain necessary illumination for carrying out the said work safely.

Subsection 2 Loading and Unloading of Cargo

(Prevention of Dangers Due to Harmful Substances, Dangerous Substances, etc.)
Article 455 The employer shall, before commencing the stevedoring work, investigate whether or not substances that may cause acute poisoning such as chlorine, cyanic acid and tetraalkyl lead, corrosive liquids or other corrosive substances, gunpowder or dangerous substances exist in the cargo in the hold, on the exposed deck or on the quay where the said work is carried out, and when the said substances exist, take the following measures:
(i) To determine the method of safe handling of the said substances and make them known to the worker engaging in the said work, and have them follow the said method in carrying out the work.
(ii) To determine the measures to be taken in case the said substances are scattered or leak and make them known to the workers engaging in the said work, and have them take the said measures in case where scattering or leaking of the said substances.

(Checkup of Hatch Beam, etc.)
Article 456 The employer shall, when carrying out the work hoisting cargo from the hold or lowering cargo into the hold with cargo lifting appliance, etc.,
before commencing the said work, check the condition of fastening of the hatch beam or the opened hatch board with a hinge, and not have workers engage in the said work unless otherwise having confirmed that they have been fastened.

(Confirmation of Removal of Shifting Board, etc.)
Article 457 The employer shall, in the case of carrying out the work unloading bulk cargoes such as wheat, soy beans or corn in the hold, and when it is liable to cause dangers to the worker engaging in the said work due to collapsed or fallen partitions to prevent cargo from moving such as shifting boards and feeder boxes, not have the worker engage in the said work unless the said board have been removed.

(Prohibition of Simultaneous works)
Article 458 The employer shall not carry out the work on different tiers in the same hold at the same time. However, this shall not apply to where facilities to prevent cargo from falling such as protective nets, protective sheets are provided.

(Use of Drag Lines, etc.)
Article 459 The employer shall, when carrying out the work hoisting with cargo lifting appliance, etc., the cargo in the hold other than those located directly under the hatch, move the cargos to the place directly under the hatch using drag lines, etc., before commencing the work.

(Mounting of Sheaves)
Article 460 The employer shall, when carrying out the work dragging out or in cargos using cargo lifting appliance, etc., mount sheaves firmly on the frames of the vessel with beam clamps, shackles, etc.

(Prohibition of Entry)
Article 461 The employer shall, while dragging cargoes with drag lines using a cargo lifting appliance, etc., not allow workers to enter places located within the interior angle of the said lines where is liable to cause dangers to workers due to the said lines or sheaves coming off.

(Use of Slings with Hooks)
Article 462 The employer shall, when carrying out the work hoisting drums, barrels, etc. with slings with hooks using cargo lifting appliance, etc., use drum slings or other slings with hooks having a structure, which is unlikely to cause coming-off of cargos.
(Handling of Baled Cargo)
Article 463  (1) The employer shall, when carrying out the work hoisting cotton, wool, cork etc., packaged with a bale package using cargo lifting appliance, etc., not allow workers to hitch sling hooks on the band irons, ropes or wires used for the said cargo packaged with a bale package.
(2) The worker engaging in the work set forth in the preceding paragraph shall not hitch sling hooks on the band iron, rope or wire set forth in the same paragraph.

(Wearing of a Safety Helmet)
Article 464  (1) The employer shall, when carrying out the stevedoring work, have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

Subsection 3 Handling of Cargo Lifting Appliance

(Checkup)
Article 465  The employer shall, when carrying out the work hoisting or lowering cargos using a cargo lifting appliance, check up the working conditions of the appliance before commencing the said work and not have the worker use the appliance unless otherwise having conformed there has been no abnormality.

(Strict Observance of Limited Capacity)
Article 466  The employer shall not use a cargo lifting appliance with a load exceeding its limited capacity.

(Signals)
Article 467  (1) The employer shall, when carrying out the work using a cargo lifting appliance, set fixed signals for the operation of the cargo lifting appliance, designate a person who gives the signals for each cargo lifting appliance, and have the said person give the signals.
(2) The person who is designated set forth in the preceding paragraph shall, when engaging in the work set forth in the same paragraph, give the signals set forth in the same paragraph.
(3) The worker engaging in the work set forth in paragraph (1) shall follow the signals set forth in the same paragraph.

(Prohibition of Leaving Work Station Unattended)
Article 468  (1) The employer shall not allow the operator of cargo lifting
appliance to leave the work station unattended while suspending the cargo.

(2) The operator set forth in the preceding paragraph shall not leave the work station unattended while suspending the cargo.

(Safety Coefficient of Wire Rope)
Article 469  (1) The employer shall, as regards the value of the safety coefficient of wire ropes used for slinging of a cargo lifting appliance, ensure six or more.
(2) The safety coefficient set forth in the preceding paragraph shall be the value of the breaking load of a wire rope divided by the value of the maximum load applied to the said wire rope.

(Safety Coefficient of Chains)
Article 469-2  (1) The employer shall ensure the safety coefficient of a chain used for slinging of cargo lifting appliance, values equivalent or more those listed in the following each item corresponding to categories listed in the said each item.
   (i) Chains falling under the following every condition: 4
         (a) Those with an elongation not more than 0.5 % when loaded with one half of the breaking load.
         (b) Those with a tensile strength of 400 N/mm2 or more, and the elongation of the value listed in the right column of the following table or more corresponding to tensile strength listed in the left column.

<table>
<thead>
<tr>
<th>Tensile strength (Unit: N/mm2)</th>
<th>Elongation (Unit: %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 or more but less than 630</td>
<td>20</td>
</tr>
<tr>
<td>630 or more but less than 1000</td>
<td>17</td>
</tr>
<tr>
<td>1000 or more</td>
<td>15</td>
</tr>
</tbody>
</table>

   (ii) Chains other than those falling under the preceding item: 5

(2) The safety coefficient provided for in the preceding paragraph shall be the value of the breaking load of the chain divided by the value of the maximum load applied onto the said chain.

(Safety Coefficient of Hooks, etc.)
Article 470  (1) The employer shall ensure the safety coefficient of hooks or shackles used for slinging of cargo lifting appliance, the value of five or more.
(2) The safety coefficient set forth in the preceding paragraph shall be the value of the breaking load of a hook or a shackle divided by the value of the maximum load applied onto the said hook or shackle.

(Prohibition of the Use of an Inadequate Wire Rope)
Article 471  The employer shall not use a wire rope falling under any of the following each item for slinging of cargo lifting appliance:
(i) Those with 10% or more of the element wires (excluding filler wires) are cut in one strand.
(ii) Those with the reduction ratio of a diameter exceeding 7% of the nominal diameter.
(iii) Those with kink.
(iv) Those with marked deformation or corrosion.

(Prohibition of the Use of an Inadequate Chain)
Article 472 The employer shall not use a chain falling under any of the following each item for slinging of cargo lifting appliance:
(i) Those with elongation exceeding 5% of the original length of such a chain at the time of manufacture.
(ii) Those with the reduction ratio of a diameter of the cross section exceeding 10% of the original diameter of the cross section of such a chain at the time of manufacture.
(iii) Those with crack.

(Prohibition of the Use of an Inadequate Hook etc.)
Article 473 The employer shall not use a hook, a shackle or a ring with deformation or crack for slinging of cargo lifting appliance.

(Prohibition of the Use of an Inadequate Fibre Rope, etc.)
Article 474 The employer shall not use the fibre rope or fibre belt falling under any of the following each item for slinging of a cargo lifting appliance:
(i) Those with cut strands
(ii) Those with marked damage or corrosion

(Wire Rope and Chain)
Article 475 (1) The employer shall, as regards the non-endless type of wire ropes or chains, not use unless they are fitted with hooks, shackles, rings or eyes on both their ends for slinging of cargo lifting appliance.
(2) The eyes set forth in the preceding paragraph shall be those of eyesplicing, compressed fitting methods or other methods with the strength equal to or greater than those methods. In this case, the eye-splicing method shall be made by splicing every strand of a wire rope three times or more, then cutting half of the wires of each strand, and further splicing the remaining wires at least twice (when every strand is spliced four times or more, at least once).

(Checkup of Sling)
Article 476 The employer shall, when carrying out the work using a cargo lifting appliance, check the condition of sling used for the said work such as a sling
with a hook, a net sling and a wire sling before commencing the work for the day, and immediately repair or replace when having found any abnormalities.

Chapter VIII Prevention of Dangers in Tree Felling Work, etc.
Section 1 Tree Felling, Logging, etc.

(Prevention of Dangers in Tree Felling Work)
Article 477  (1) The employer shall, when carrying out the work of tree felling, have the worker intended to engage in the felling of standing trees carry out the following matters for each tree. However, the provisions set forth in item (i) and (iii) shall not apply to cases where hydraulic felling machines are used:
(i) To determine in advance the place of evacuation for when felling;
(ii) To remove shrubs, branches, vines, loose stones and other objects, which is liable to cause dangers during work.
(iii) When chest-high diameter of trees to be felled is 40 cm or more, to make a receiving groove of a depth of one-fourth or more of the root diameter of the said trees.
(2) The worker intends to felling of standing tree shall carry out the matters listed in each item of the preceding paragraph.

(Head Guard of Hydraulic Felling Machine)
Article 478  The employer shall, as regards a hydraulic felling machine, not use the one without a sound head guard.

(Signals of Felling)
Article 479  (1) The employer shall, when carrying out the work of tree felling, set fixed signals for felling and make them known to the workers concerned with the said work.
(2) The employer shall, when carrying out the work of tree felling when it is liable to cause dangers to workers other than those engaged in the said work felling of standing trees (hereinafter referred to as "other workers" in this Article) due to felling, have in advance workers engaged in the felling work of standing trees give the signals set forth in the preceding paragraph, and shall not have the workers commence felling unless otherwise having conformed that other workers have evacuated.
(3) The worker engaging in the felling work set forth in the preceding paragraph shall, when it is liable to cause dangers set forth in the same paragraph, give signals in advance and not have the workers commence felling procedure unless otherwise having confirmed that other workers have been evacuated.

(Prevention of Dangers in Logging Work)
Article 480  (1) The employer shall, when carrying out the work of logging, have workers engaged in the said work provide stakes, stoppers, etc., or take other measures to prevent the dangers due to falling or sliding of felled trees, processed lumber, dead or damaged trees, etc.  
(2) The worker engaging in the work set forth in the preceding paragraph shall take the measures set forth in the same paragraph.

(Prohibition of Entry)
Article 481  The employer shall not allow a worker to enter a place downward of place where carrying out the work of afforestation, tree felling, logging, tree collecting, or yarding by chute, or log conveying (hereinafter referred to as "work of afforestation, etc." in this Section) where it is liable to cause dangers due to falling or sliding felled trees processed lumber, dead or damaged trees, etc.

(Prevention of Dangers in Yarding by Chute or Log Conveying)
Article 482  The employer shall, when carrying out the work yarding by chute or log conveying, take the following measures:
(i) Not to allow workers to enter the slideway while logs are being slid.  
(ii) When having workers handle logs that are stopped at stopping aprons, turning devices or other parts of the slideway, to have the said worker give a signal to those who are sliding logs at upper locations instructing that tree sliding be stopped, and have the said workers handle the said logs only after they have confirmed that sliding of trees has been stopped.

(Prohibition of Work in Bad Weather)
Article 483  The employer shall, when dangers regarding the implementation of the work of afforestation, etc., are forecast due to bad weather conditions such as strong wind, heavy rain, heavy snow, not have a worker engage in the said work.

(Wearing of a Safety Helmet)
Article 484  (1) The employer shall, when carrying out the work of afforestation, etc., have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.  
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

Section 2 Log Conveying Work by Wooden Sleigh and Snow Sledge

(Path of Wooden Sleigh)
Article 485 The employer shall conform the paths of wooden sleighs used in log conveying work (hereinafter referred to as "paths of wooden sleighs") to the following provisions. However, this shall not apply to the paths of incline type wooden sleighs:

(i) To ensure the longitudinal gradient of the wooden sleigh path one half or less (one third or less for the section of landing pier), and one tenth or less for the section of 10 m immediately before the curved section with a radius of less than 5 m (excluding the second curved section and after in the case that there are a series of curved sections at the intervals of less than 10 m) excluding monorail paths or sleigh paths for wooden sleigh with effective braking devices and paths equipped with braking wire ropes.
(ii) To ensure the transversal gradient of the curved section one fourth or less.
(iii) To ensure the width of the wooden sleigh path 30 cm or more larger than the width of the wooden sleigh platform, and for the section where the radius of the curvature is less than 5 m, the value of the width of sleigh platform plus 30 cm and one fifth of the length of the wooden sleigh or greater.
(iv) To maintain treads of the wooden sleigh path in a condition that will not cause dangers due to stumbling, stepping on a sliver, etc., to the workers.
(v) For the part where it is liable to cause dangers due to obstacles such as rocks and stumps lying along the outer curvature of the treads, to remove the said obstacles and level the ground.
(vi) To set up warning signs readily visible to the workers at the point of 10 m immediate before the sections where the longitudinal gradients are one eighth or more, the visibility of less than 30 m, the cross sections and any other points 10 m before the sections where it is liable to cause dangers in travelling the wooden sleighs.
(vii) To ensure the landing piers of sound structure and take measures to prevent dangers due to stepping out such as providing joined planks and supplementary joined boards.
(viii) To provide wooden guardrails of 5 cm or more in height at the outer curvature of the path with the radius of less than 5 m and the landing pier excluding monorail paths for wooden sleighs.

Article 486 (1) The employer shall, when sections of paths of wooden sleighs (excluding paths of monorail wooden sleighs, incline-type wooden sleighs and other wooden sleighs equipped with effective braking device) extend 10 m or more of which the longitudinal gradient is one-eighth or more, provide with braking wire ropes, and have workers use the said wire ropes.
(2) The worker engaging in the log conveying work at the paths of wooden sleigh set forth in the preceding paragraph shall use the braking wire rope set forth in the same paragraph.
Article 487 (1) The braking wire ropes set forth in paragraph (1) of the preceding Article shall be free of marked wear, corrosion, cuts or other defects, and shall have a diameter of 6 mm or more when the longitudinal gradient of paths of wooden sleighs is one-third or less, and 9 mm or more when the said gradient exceeds one-third.

(2) The employer shall fasten the wire ropes set forth in the preceding paragraph securely to sound stationary objects such as standing trees, stake, a stump, etc.

(Loading onto Wooden Sleighs)

Article 488 The employer shall, when loading onto a wooden sleigh, fix the load securely with such tools as clamps and ropes, and make the height of the load equivalent to four times the width at the center of the said wooden sleigh or less, excluding wooden sleighs of the incline system.

(Wooden Sleigh Work)

Article 489 (1) The employer shall, when carrying out the work pulling a loaded wooden sleigh, have the worker engaging in the said work carry out the following matters. However, as regards item (i), this shall not apply to level sections of paths of wooden sleighs:

(i) To keep a distance of 30 m or more between wooden sleighs excluding monorail wooden sleighs and wooden sleighs of the incline system.

(ii) To make the length of a shoulder rope long enough not to be caught in wooden sleighs while pulling a wooden sleigh, and also at sections where the longitudinal gradient of paths of wooden sleighs is one-eighth or more, not to use diagonally, excluding when the said rope is easily removed from the wooden sleighs.

(iii) To exchange the braking wire ropes set forth in paragraph (1) of Article 486 only after a wooden sleigh has been stopped completely.

(2) The worker engaging in the work set forth in the preceding paragraph shall carry out the matters listed in each item of the same paragraph.

(Checkup)

Article 490 (1) The employer shall, when carrying out the log conveying work by a wooden sleigh, check the following matters before commencing the work for the day:

(i) Condition of the paths of wooden sleighs.

(ii) When using paths of wooden sleighs equipped with the braking wire ropes set forth in paragraph (1) of Article 486, the conditions of the said braking wire ropes.

(iii) When using a wooden sleigh equipped with a braking device, the function
of the said braking device.

(2) The employer shall, when carrying out a log conveying work by wooden sleigh using paths of wooden sleighs having landing piers that have not been used for one month or more, examine in advance corrosions on the bents, girders, beams, stays and bracings of such piers, the condition of the fastening portions, connecting portions and mounting portions of such bents, etc., and the condition of loosening of such bents.

(3) The employer shall, when having found any abnormalities at the checkup set forth in the preceding two paragraphs, immediately repair them.

(Paths of Snow Sledges)

Article 491 The employer shall, as regards paths of snow sledges in the case of carrying out log conveying work using snow sledges (excluding snow sledges using cattle power and those of the incline system, the same shall apply hereinafter), (hereinafter referred to as "paths of snow sledges"), conform to the following provisions:

(i) To conform the longitudinal gradient of paths of snow sledges to following provisions corresponding to the structure of the snow sledges:

(a) When using snow sledges having a structure in which part of the cargo touches the treads of snow sledge, one fourth or less (for sections where the length of straight section is less than 20 m, one third or less), and for a sections of 20 m immediately before a curved section of which radius of curvature is less than 10 m (excluding the second curved section and beyond when curved section exists continuously at interval(s) of less than 20 m), one-fifth.

(b) When using snow sledges having a structure in which the cargo does not touch the treads of snow sledges, one-fifth.

(ii) As regards treads or outer circumferences of paths where are liable to cause dangers due to obstacles such as rocks and stumps, to remove the said obstacles, or to level them.

(iii) To put up a warning sign in such manner that workers may easily become aware of them at locations 20 m immediately before sections of which the longitudinal gradient is one-tenth or more, sections where the visibility is less than 50 m in the paths of snow sledges, crossing with another path, bridges, and places where is liable to cause dangers due to the operation of snow sledges.

(iv) To take measures for reducing the speed of snow sledges, such as spreading soil, straw, chaff, etc., at sections where is liable to cause danger due to over speed of snow sledges.

Article 492 The employer shall not use a snow sledges for log conveying
operations unless it is equipped with an effective braking device.

(Loading into Snow Sledges)
Article 493 The employer shall, when carrying out the log conveying operations, fix logs securely with such tools as clamps and ropes, and make the height of the load equivalent to two and half times the width at the center of the said snow sledge or less.

(Running of Snow Sledges)
Article 494 (1) The employer shall, when carrying out the work travelling a snow sledge loaded with cargo on paths of snow sledge, have the worker engaging in the said work carry out the following matters. However, as regards item (i), this shall not apply to the level sections of paths of snow sledges:
(i) To keep a distance of 50 m or more between snow sledges.
(ii) When in stopping a snow sledge, when it is liable to cause a rear-end collision by a following snow sledge, to give a signal promptly to workers who travel the following snow sledge instructing them to stop it.
(2) The worker engaging in the work set forth in the preceding paragraph shall carry out the matters listed in each item of the same paragraph.

(Checkup)
Article 495 The employer shall, when carrying out the log conveying work by a snow sledge, check the condition of paths and braking device of the snow sledge before commencing the work for the day, and immediately repair when having found any abnormalities.

(Prohibition of Work in Bad Weather)
Article 496 The employer shall, when dangers in the implementation of log conveying work by a wooden sleigh or snow sledge are forecast due to bad weather conditions such as strong wind, heavy rain, heavy snow, not have a worker engage in the said work.

(Wearing of a Safety Helmet)
Article 497 (1) The employer shall, when carrying out the log conveying work by wooden sleigh or snow sledge, have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

Section 3 Skyline Logging Cable Crane and Logging Cableway
(Installation of Skyline Logging Cable Cranes, etc.)

Article 498  The employer shall, when intending to install a skyline logging cable crane or logging cableway, notify in advance an operations chief of forestry cableway of the following matters:

(i) Places where supports and principal machines are installed.
(ii) Type and diameter of wire ropes to be used.
(iii) Central dangling ratio.
(iv) Maximum working load and the maximum loading capacity of each carrier.
(v) Maximum traction force of the yarder of the skyline logging cable crane.

(Braking Device, etc.)

Article 499  The employer shall conform a skyline logging cable crane or a logging cableway to the following provisions:

(i) To provide an effective braking device for stopping carriers or lifted cargoes as necessary except when there is no need to brake such carriers or lifted cargoes.
(ii) To wind up main cable, stay ropes and work ropes at least twice onto the sound stationary objects such as standing trees, stumps, etc., which are stationary and rigid, and fasten such ropes securely using clips, clamps or other fastening tools.
(iii) To use two stays or more to stabilize the top of the supports, and make the angle formed by a stay and a support 30 degrees or more.
(iv) To fasten saddle blocks, guide blocks, etc., securely using shackles, anchor ropes or other fittings that unlikely to be broken or coming off by the load applied to the fastened portions.
(v) To use carriers, main cable supporting devices and other accessories that has sufficient strength.
(vi) When fastening the end of the towing ropes or work ropes to a carrier or a loading block, to fasten securely with clips, eye splices or other methods.

(Safety Coefficient of Wire Rope)

Article 500  (1) The employer shall, as regards the ropes for skyline logging cable cranes or logging cableways listed in the left column of the following table, use wire ropes having a safety coefficient listed in the right column of the said table or more corresponding to the use of such cables:

<table>
<thead>
<tr>
<th>Uses of wire rope</th>
<th>Safety coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main cable</td>
<td>2.7</td>
</tr>
<tr>
<td>Towing rope</td>
<td>4.0</td>
</tr>
<tr>
<td>Work rope (excluding hoisting rope)</td>
<td>4.0</td>
</tr>
<tr>
<td>Hoisting rope</td>
<td>6.0</td>
</tr>
<tr>
<td>Stay rope</td>
<td>4.0</td>
</tr>
<tr>
<td>--------------</td>
<td>-----</td>
</tr>
<tr>
<td>Anchor rope</td>
<td>4.0</td>
</tr>
<tr>
<td>Cargo lifting rope</td>
<td>6.0</td>
</tr>
</tbody>
</table>

(2) The safety coefficient set forth in the preceding paragraph shall be the value of the breaking load of wire ropes divided by the value of maximum tension corresponding to the constructing condition of the said skyline logging cable cranes or logging cableways and the load applied to the said wire ropes.

(Prohibition of the Use of an Inadequate Wire Rope)

Article 501 The employer shall, as regards a wire rope for a skyline logging cable crane or a logging cableway, not use a wire rope falling under any of the following item:
(i) Those with one-tenth or more of the element wires are cut in one strand.
(ii) Those with the reduction ratio of a diameter due to wear-out, of which are exceeding 7% of the nominal diameter.
(iii) Those with kink.
(iv) Those with marked deformation or corrosion.

(Work Ropes)

Article 502 The employer shall, as regards the work ropes for skyline logging cable cranes (excluding endless cables), take the following measures:
(i) The length of operations cables shall be one that may leave two or more windings around the drum of the yarder when the said cables are used at the maximum length.
(ii) The end of operation cables shall be fastened securely to the drum of the yarder with clamps, clips or other fastening tools.

(Prevention of Over-Winding)

Article 503 The employer shall, as regards skyline logging cable cranes, in order to prevent over-winding of hoisting ropes, take measures such as attaching a sign on the hoisting ropes, installing a signal device.

(Yarder or Cableway)

Article 504 The employer shall, as regards the yarder of skyline logging cable crane or the cableway of logging cableway, take the following measures:
(i) To install the said yarder or cableway so as not to float, slip out of place or swing.
(ii) To provide ratchet or brakes fitted with studs.

(Indication of Maximum Working Load, etc.)
Article 505  (1) The employer shall, as regards skyline logging cable cranes, indicate the maximum working load at a readily visible location, and make them known to workers.

(2) The employer shall, as regards skyline logging cable cranes, not use the said cranes at a load exceeding the maximum working load set forth in the preceding paragraph.

Article 506  (1) The employer shall, as regards logging cableways, indicate the following matters at a readily visible location, and make them known to workers:

(i) The maximum working load

(ii) The distance between carriers

(iii) The maximum loading capacity for each carrier

(2) The employer shall, as regards logging cableways, not use the said cableways at a load exceeding the maximum working load set forth in item (i) of the preceding paragraph and the maximum loading capacity for each carrier set forth in item (iii) of the same paragraph.

(Signals, etc.)

Article 507  The employer shall, when carrying out a forestry cableway work (meaning the work constructing, dismantling, altering or repairing a skyline logging cable crane or a logging cableway, or yarding or log conveying by the said devices; the same shall apply hereinafter), provide devices of a telephone, an electric bell, etc., designate persons who use each said device and have the said persons use them, or set fixed signals, designate a person who gives the signals and have the said person give the signals, in order to ensure the communications between the operator of the crane or cableway and the worker hitching cargoes.

(Prohibition of Entry)

Article 508  The employer shall, when carrying out the work of forestry cableway, not allow a worker to enter the following places:

(i) Places under the main cable where it is liable to cause dangers to workers due to fallen or lowered cargoes.

(ii) Place located within the interior angle of the work rope, which is liable to cause dangers to workers due to rebounding or loose ropes, guide blocks, etc.

(Restriction of Riding)

Article 509  (1) The employer shall not allow a worker to ride on the carrier, lifted cargo, weight, etc. of a skyline logging cable crane or a logging cableway that are hung. However, this shall not apply to the case where carrying out the
temporary work of checking, repairing, etc., for equipment of a carrier, ropes, etc., and when taking measures, which is unlikely to cause danger due to falling.

(2) A worker shall not ride on the carriers, etc., that are hung set forth in the preceding paragraph, excluding the case set forth in the proviso of the same paragraph.

(Prohibition of Work in Bad Weather)

Article 510  The employer shall, when dangers regarding the implementation of a forestry cableway are forecast due to bad weather conditions such as strong wind, heavy rain, heavy snow, not have a worker engage in the said work.

(Checkup)

Article 511  The employer shall, as regards a forestry cableway work, check the matters listed in the right column of the following table corresponding to the case listed in the left column of the same table, and immediately repair or replace it when having found any abnormalities.

<table>
<thead>
<tr>
<th>Case requiring inspection</th>
<th>Matter to be checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>When constructing or altering work was carried out</td>
<td>Condition of supports and anchors:</td>
</tr>
<tr>
<td>When test run was carried out</td>
<td>Abnormality in yarders, cableways and brakes, and condition of installation of the said machines;</td>
</tr>
<tr>
<td></td>
<td>Abnormality in main cable, towing ropes, work ropes, stay ropes and anchor ropes and condition of installation of the said ropes;</td>
</tr>
<tr>
<td></td>
<td>Condition of the fastening portions between carriers or loading blocks and wire ropes;</td>
</tr>
<tr>
<td></td>
<td>Abnormality in the device such as a telephone and an electric bell set forth in Article 507.</td>
</tr>
<tr>
<td>After bad weather conditions such as strong wind, heavy rain, heavy snow, and after an earthquake of medium shock or heavier</td>
<td>Condition of supports and anchors:</td>
</tr>
<tr>
<td></td>
<td>Abnormality in yarders, cableways and brakes and condition of installation of the said machines;</td>
</tr>
<tr>
<td></td>
<td>Condition of installation of main cable, towing ropes, work ropes, stay ropes and anchor ropes;</td>
</tr>
<tr>
<td></td>
<td>Abnormality in the device such as a telephone and an electric bell set forth in Article 507.</td>
</tr>
<tr>
<td>Before commencing the work for the day</td>
<td>Function of braking device;</td>
</tr>
<tr>
<td></td>
<td>Abnormality in cargo lifting ropes;</td>
</tr>
</tbody>
</table>
Abnormality in the carriers of logging cableways and condition of the fastening portions between carriers and towing ropes; Function of the device such as a telephone and an electric bell set forth in Article 507.

(Prohibition of Leaving Operating Station Unattended)
Article 512 (1) The employer shall not allow the operator of skyline logging cable cranes or logging cableways to leave an operating station unattended during operation.
(2) Operators set forth in the preceding paragraph shall not leave an operating station unattended during operation of skyline logging cable cranes or logging cableways.

(Appointment of an Operations Chief of Forestry Cableways)
Article 513 The employer shall, as regards the work set forth in item (iii) of Article 6 of the Order, appoint an operations chief of forestry cableway from the persons who have obtained the license for operations chief of forestry cableway.

(Duties of an Operations Chief of Forestry Cableways)
Article 514 The employer shall have an operations chief of forestry cableways carry out the following matters:
(i) To decide a work method and arrangement of workers, and supervise the work directly.
(ii) To check defects in material and function of an instrument and a tool, and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet during work.

(Examination, etc., of Safety Coefficient of Main Cable)
Article 515 The employer shall, when having constructed a skyline logging cable crane or logging cableway or having made an alteration that causes changes in the tension of the main cable, examine the safety coefficient of the main cable, and perform the test run with the maximum working load.

(Wearing of a Safety Helmet)
Article 516 (1) The employer shall, when carrying out the forestry cableway work, have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.
Exemption

Article 517  The provisions of paragraph (1) of Article 500 and Article 515 shall not apply to those logging cableways that the maximum working load is less than 200 kg and the total of sloped distances of effective spans is less than 350 m.

Chapter VIII-2 Prevention of Dangers in Erection, etc. of Steel Frame of Buildings, etc.

(Work Plan)

Article 517-2  (1) The employer shall, when carrying out the work set forth in item (xv)-2 of Article 6 of the Order, establish in advance a work plan and carry out the work by the said work plan.

(2) The work plan set forth in the preceding paragraph shall be the one describing the following matters:

(i) The method and procedure of the work.

(ii) The method of preventing members from falling or structures composed of members from collapsing.

(iii) The method of installation of equipment for preventing the worker engaging in the work from dangers due to falling.

(3) The employer shall, when having established the work plan set forth in paragraph (1), make the matters set forth in each item of the preceding paragraph known to the workers concerned.

(Work of Erection, etc., of a Steel Frame of a Building, etc.)

Article 517-3  The employer shall, when carrying out the work set forth in item (xv)-2 of Article 6 of the Order, take the following measures:

(i) To prohibit workers other than those concerned from entering the area where the work is carried out:

(ii) To suspend the work when dangers regarding the implementation of the said work are forecast due to strong wind, heavy rain, and heavy snow;

(iii) When lifting or lowering material, an instrument, a tool, etc., to have workers use lifting ropes, lifting bags, etc.

(Appointment of an Operations Chief of Erection, etc., of Steel Frame of Buildings, etc.)

Article 517-4  The employer shall, as regards the work set forth in item (xv)-2 of Article 6 of the Order, appoint an operations chief of erection, etc., of steel frame of buildings, etc., from the persons who have completed the skill training course for operations chief of erection, etc., of steel frame of buildings, etc.
(Duties of an Operations Chief of Erection, etc., of Steel Frame of Buildings, etc.)

Article 517-5  The employer shall have an operations chief of erection, etc., of steel frame of buildings, etc., carry out the following matters:
(i) To decide a work method and arrangement of workers, and supervise the work directly.
(ii) To check the function of an instrument, a tool, a safety belt, etc., and a safety helmet, and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet.

Chapter VIII-3 Prevention of Dangers in Installing, etc. of Steel Bridges

(Work Plan)

Article 517-6  (1) The employer shall, when carrying out the work set forth in item (xv)-3 of Article 6 of the Order, establish in advance a work plan and carry out the work by the said work plan.
(2) The work plan set forth in the preceding paragraph shall be the one describing the following matters:
(i) The method and procedure of the work.
(ii) The method for preventing members (including those composed of members) from falling or collapsing.
(iii) The method of installation of equipment for preventing the worker engaging in the work from dangers due to falling.
(iv) The type and capability of the machine, etc., to be used.
(3) The employer shall, when having established the work plan set forth in paragraph (1), make the matters set forth in each item of the preceding paragraph known to the workers concerned.

(Work of Installing, etc., of a Steel Bridge)

Article 517-7  The employer shall, when carrying out the work set forth in item (xv)-3 of Article 6 of the Order, take the following measures:
(i) To prohibit workers other than those concerned, from entering the area where the work is carried out.
(ii) To suspend the work when dangers regarding the implementation of the said work are forecast due to bad weather conditions such as strong wind, heavy rain, and heavy snow:
(iii) To have workers use lifting ropes, lifting bags, etc., when lifting or lowering materials, equipment or tools, etc.;
(iv) When it is liable to cause dangers to workers due to fall or collapse of members or installing equipment, to take measures such as installing stays and attaching reinforcing materials to prevent the buckling or deformation of
the members and the installing equipment.

(Appointment of an Operations Chief of Installing, etc., of Steel Bridges)
Article 517-8 The employer shall, as regards the work set forth in the item (xv)-3 of Article 6 of the Order, appoint an operations chief of installing, etc., of steel bridges from the persons who have completed the skill training course for operations chief installing, etc., of steel bridge.

(Duties of an Operations Chief of Installing, etc., of Steel Bridges)
Article 517-9 The employer shall have an operations chief of installing, etc., of steel bridges carry out the following matters:
(i) To decide a work method and arrangement of workers, and supervise the work directly.
(ii) To check the functioning of an instrument, a tool, a safety belt, etc., and a safety helmet, and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet.

(Wearing of a Safety Helmet)
Article 517-10 (1) The employer shall, when carrying out the work set forth in item (xv)-3 of Article 6 of the Order, have a worker engaging in the said work wear a safety helmet in order to prevent the worker from dangers due to flying or falling objects.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

Chapter VIII-4 Prevention of Dangers in Erection, etc. of Wooden Buildings.

(Work of Erection, etc., of a Wooden Building)
Article 517-11 The employer shall, when carrying out the work set forth in item (xv)-4 of Article 6 of the Order, take the following measures:
(i) To prohibit workers other then those concerned from entering the area where the work is carried out;
(ii) To suspend the work when dangers regarding the implementation of the said work are forecast due to bad weather conditions such as strong wind, heavy rain, and heavy snow;
(iii) To have workers use lifting ropes, lifting bags, etc., when lifting or lowering materials, equipment or tools, etc.

(Appointment of an Operations Chief of Erection, etc., of Wooden Buildings)
Article 517-12 The employer shall, as regards the work set forth in item (xv)-4 of
Article 6 of the Order, appoint an operations chief of erection, etc., of wooden buildings from the persons who have completed the skill training course for operations chief of erection, etc., of wooden buildings.

(Duties of an Operations Chief of Erection, etc., of Wooden Buildings)

Article 517-13 The employer shall have an operations chief of erection, etc., of wooden buildings carry out the following matters:
(i) To decide the method and procedure of the work, and supervise the work directly;
(ii) To check the function of an instrument, a tool, a safety belt, etc., and a safety helmet, and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet.

Chapter VIII-5 Prevention of Dangers in Demolishing, etc., of Concrete Structures

(Investigation and Work Plan)

Article 517-14 (1) The employer shall, when carrying out the work set forth in item (xv)-5 of Article 6 of the Order, investigate the shape of the structure, cracks and the surrounding environment, etc., and establish a work plan in conformity with what is known by the said investigation in order to prevent workers from dangers due to collapsing of the structure, flying and falling, etc., of objects, and carry out the work by the said work plan.

(2) The work plan set forth in the preceding paragraph shall be the one describing the following matters:
(i) The method and procedure of the work.
(ii) The type and capability of the machine, etc., to be used.
(iii) The method of installation of stays, establishment of prohibited entry area, and any other measures for preventing workers from dangers due to the collapse or falling of outer walls, posts, girders, etc.

(3) The employer shall, when having established the work plan set forth in paragraph (1), make the matters set forth in the item (i) and (iii) of the preceding paragraph known to the workers concerned.

(Work of Demolition, etc., of a Concrete Structure)

Article 517-15 The employer shall, when carrying out the work set forth in item (xv)-5 of Article 6 of the Order, take the following measures:
(i) To prohibit workers other than those concerned from entering the area where the work is carried out.
(ii) To suspend the work when dangers regarding the implementation of the said work are forecast due to bad weather conditions such as strong wind,
heavy rain, and heavy snow:
(iii) When lifting or lowering equipment, tools, etc., to have workers use lifting ropes, lifting bags, etc.

(Signal for Pulling Down, etc.)
Article 517-16 (1) The employer shall, when carrying out the work pulling down, etc., of outer walls, post, etc., in the case where carrying out the work set forth in item (xv)-5 of Article 6 of the Order, set fixed signals for pulling down operation, etc., and make them known to the workers concerned.
(2) The employer shall, in the case where carrying out a pulling down operation set forth in the preceding paragraph, when it is liable to cause dangers to workers other than those engaged in the said pulling down operation (hereinafter referred to as "other workers" in this Article), have the said worker give the signals and not start the said pulling down operations unless otherwise having confirmed that the other workers have evacuated the area.
(3) The worker engaging in the work pulling down set forth in paragraph (1) shall, when it is liable to cause dangers in the preceding paragraph, give signals in advance, and not start the said pulling down work unless otherwise having confirmed that the other workers have evacuated the area.

(Appointment of an Operations Chief of Demolition, etc., of Concrete Structures)
Article 517-17 The employer shall, as regards the work set forth in item (xv)-5 of Article 6 of the Order, appoint an operations chief of demolition, etc., of concrete structures from the persons who have completed the skill training course for operations chief of demolition, etc., of concrete structures.

(Duties of an Operations Chief of Demolition, etc., of Concrete Structures)
Article 517-18 The employer shall have an operations chief of demolition, etc., of concrete structures carry out the following matters:
(i) To decide a work method and arrangement of workers, and supervise the work directly.
(ii) To check the function of an instrument, a tool, a safety belt, etc., and a safety helmet and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet.

(Wearing of a safety Helmet)
Article 517-19 (1) The employer shall, when carrying out the work set forth in item (xv)-5 of Article 6 of the Order, have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

Chapter VIII-6 Prevention of Dangers in Installing, etc. of Concrete Bridges.

(Work Plan)
Article 517-20 (1) The employer shall, when carrying out the work set forth in item (xvi) of Article 6 of the Order, establish in advance a work plan and carry out the work by the said work plan.
(2) The work plan set forth in the preceding paragraph shall be the one describing the following matters:
   (i) The method and procedure of the work.
   (ii) The method for preventing members (including those composed of members) from falling or collapsing.
   (iii) The method of installation of equipment for preventing the worker engaging in the work from dangers due to falling.
   (iv) The type and capability of the machine, etc., to be used.
(3) The employer shall, when having established the work plan set forth in paragraph (1), make the matters set forth in each item of the preceding paragraph known to the workers concerned.

(Work of Installing, etc., of a Concrete Bridge)
Article 517-21 The employer shall, when carrying out the work set forth in item (xvi) of Article 6 of the Order, take the following measures:
   (i) To prohibit workers other than those concerned, from entering the area where the work is carried out;
   (ii) To suspend the work when dangers regarding the implementation of the said work are forecast due to bad weather conditions such as strong wind, heavy rain, and heavy snow;
   (iii) Have workers use lifting ropes, lifting bags, etc. when lifting and lowering materials, equipment and tools;
   (iv) When it is liable to cause dangers to workers due to fall or the collapse of members or installing equipment, to take measures such as installing stays and attaching reinforcing materials to prevent the buckling or deformation of the members and the installing equipment.

(Appointment of an Operations Chief of Installing, etc., of Concrete Bridges)
Article 517-22 The employer shall, as regards the work set forth in the item (xvi) of Article 6 of the Order, appoint an operations chief of installing, etc., of concrete bridges from the persons who have completed the skill training course
for operations chief of installing, etc., of concrete bridges.

(Duties of an Operations Chief of Installing, etc., of Concrete Bridges)
Article 517-23 The employer shall have an operations chief of installing, etc., of concrete bridges carry out the following matters:
(i) To decide a work method and arrangement of workers, and supervise the work directly.
(ii) To check the function of an instrument, a tool, a safety belt, etc., and a safety helmet and remove defective ones.
(iii) To monitor the use of a safety belt, etc., and a safety helmet.

(Wearing of a Safety Helmet)
Article 517-24 (1) The employer shall, when carrying out the work set forth in item (xvi) of Article 6 of the Order, have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

Chapter IX Prevention of Dangers Due to Falls, Flying Objects, Collapse, etc.
Section 1 Prevention of Dangers Due to Falls, etc.

(Provisions of the Working Floor, etc.)
Article 518 (1) The employer shall, in the case where carrying out an operation at a place having a height of 2 m or more (excluding the end of a working floor, an opening, etc.) and when it is liable to cause dangers to workers due to a fall, provide a working floor by installation of scaffolding or by other methods.
(2) The employer shall, when it is difficult to provide a working floor pursuant to the provision of the preceding paragraph, take the measures of setting a protective net, having workers use safety belts, etc., to prevent workers from dangers due to fall.

Article 519 (1) The employer shall provide enclosures, handrails, covers, etc., (hereinafter referred to as "enclosures, etc." in this Article), to places having a height of 2 m or more and where it is liable to cause dangers to workers due to a fall, such as at an end of a working floor and an opening.
(2) The employer shall, when it is extremely difficult to provide enclosures, etc., pursuant to the provision of the preceding paragraph, or when removing enclosures, etc., temporarily for necessity for work, take the measures of setting a protective net, having workers use safety belts, etc., to prevent the
workers from dangers due to fall.

Article 520  A worker shall, when having been instructed to use a safety belt, etc., in the case set forth in paragraph (2) of Article 518 and paragraph (2) of the preceding Article, use it.

(Facilities, etc., for Fixing Safety Belts, etc.)
Article 521  (1) The employer shall, when carrying out the work at a place having a height of 2 m or more, and having workers use safety belts, etc., have the said workers provide facilities, etc., to fix safety belts, etc., safely.
(2) The employer shall, when having workers use safety belts, etc., inspect safety belts, etc., and facilities, etc., for their fixing, for any abnormalities as needed.

(Prohibition of Work in Bad Weather)
Article 522  The employer shall, in the case where the work is carried out at a place having a height of 2 m or more, and when dangers regarding the implementation of the said work are forecast due to bad weather conditions such as strong wind, heavy rain, heavy snow, not have worker to engage in the said work.

(Maintenance of Illumination)
Article 523  The employer shall, when carrying out the work at a place having a height of 2 m or more, maintain necessary illumination for carrying out the said work safely.

(Prevention of Dangers on a Roof Made of Slate, etc.)
Article 524  The employer shall, in the case of carrying out a work on a roof made of such material as slate and excelsior, and when it is liable to cause dangers to workers due to collapsed roof, provide foot boards having a width of 30 cm or wider, set a protective net or take other measures to eliminate the danger to workers due to a collapsed roof.

(Prevention of Dangers in Unused Vertical Shafts, etc.)
Article 525  (1) The employer shall provide vertical shafts, wells, or inclined shafts with slope of 40 degrees or more that are not in use with a blockade of the entrance or other measures to prevent the danger to workers due to falls.
(2) The employer shall provide unused tunnels or remains of mining with a railing, an enclosure or other facilities to cut off passage.

(Installation, etc., of Facilities for Ascending and Descending)
Article 526  (1) The employer shall, when carrying out a work at a place having a
height or a depth exceeding 1.5 m, provide facilities that enable the worker engaging in the said work to go up and down safely. However, this shall not apply to when providing facilities to ascend or descend safely is extremely difficult due to the nature of the work.

(2) The worker engaging in the work set forth in the preceding paragraph shall use the facilities for safe ascending and descending when such facilities have been provided pursuant to the provision of the text of same paragraph.

(Movable Ladder)
Article 527 The employer shall not use a movable ladder unless otherwise prescribed as follows:
(i) To be of sound structure.
(ii) To be made of materials without marked damage, corrosion, etc.
(iii) To have the width of 30 cm or wider.
(iv) To set slip-proof device or to take other measures to prevent the foot displacement.

(Stepladder)
Article 528 The employer shall not use a stepladder unless otherwise prescribed as follows:
(i) To be of sound structure.
(ii) To be made of materials without marked damage, corrosion, etc.
(iii) To have the angle made by the foot and the floor of 75 degrees or less, and for folding stepladders, to be equipped with fittings, etc., to keep the angle made by the foot and the floor secure.
(iv) To be equipped with steps having an area sufficient for safe operation.

(Work of Erection, Dismantling or Alteration of a Building, etc.)
Article 529 The employer shall, in the case where carrying out a work of erection, dismantling or alteration of buildings, bridges, scaffolding, etc., (excluding work requiring the appointment of an operations chief), and when it is liable to cause dangers to workers due to a fall, take the following measures:
(i) To appoint a person to supervise the work, and have the said person supervise the operation directly.
(ii) To make workers engaged in the said work know in advance the method and procedure of the work.

(Prohibition of Entry)
Article 530 The employer shall not allow workers other than those concerned to enter the place where it is liable to cause dangers to workers due to a falling.
(Prevention of Dangers in the Case of Transporting Workers by Vessel)
Article 531 The employer shall, when transporting workers to a work site by vessel, take necessary measures to prevent workers from dangers due to the capsize or submergence of the vessel or fall of the workers into the water, such as not boarding workers exceeding the maximum capacity of the vessel set pursuant to the Vessel Safety Act (Act No. 11 of 1933) and the provisions of the order based on the same Act and providing the vessel with life preservers or other lifesaving equipment.

(Life-Saving Equipment, etc.)
Article 532 The employer shall, in the case where carrying out the work on a log, a raft on water, or boats using oars or paddles, etc., when it is liable to cause danger of drawing to the worker engaging in the said work due to falling into the water, provide the place where carrying out the said work with life preservers or other life-saving equipment, arrange a vessel for life-saving near to the said place, or take other measures necessary to save workers' life.

(Restriction on Work in a Hopper, etc.)
Article 532-2 The employer shall not have workers work in a hopper or a muck bin or other places where it is liable to cause dangers to workers due to workers' being buried in soil and sand. However, this shall not apply to when workers are provided with safety belts or other measures are taken to prevent such dangers.

(Prevention of Dangers Due to Falls into Boiling Basins, etc.)
Article 533 The employer shall, when there exists a boiling basin, hopper, pit, etc., which is liable to cause dangers to workers due to a fall during work or passage, such as burns and suffocation, in order to prevent such dangers, provide a strong railing, etc., having a height of 75 cm or higher to necessary parts. However, this shall not apply to when having taken the measures to prevent workers from dangers such as having workers use safety belts, etc.

Section 2 Prevention of Dangers Due to Flying Objects or Collapse

(Prevention of Dangers Due to Collapse of Natural Ground, etc.)
Article 534 The employer shall, when it is liable to cause dangers to workers due to collapse of natural ground or fallen earth and rocks, take the following measures:
(i) To make the gradient of the natural ground safe, remove earth and rocks that may fall, or provide a retaining wall, shoring, etc.
(ii) To remove rainwater, underground water, etc., that may cause collapse of
Article 535  The employer shall, when it is liable to cause dangers due to cave-ins, fall of rocks or collapse of sidewalls in a tunnel, provide shoring, remove loose stones or take other measures to prevent such dangers.

Article 536  (1) The employer shall, when throwing objects from a high place of 3 m or higher, provide appropriate throwing facilities, station a watcher or take other measures to prevent the dangers to workers.
(2) A worker shall, when measures pursuant to the provision of the preceding paragraph have not been taken, not throw objects from a high place with height of 3 m or higher.

Article 537  The employer shall, when it is liable to cause dangers to workers due to falling objects, provide protective nets, establish a prohibited entry area or take other measures to prevent the said danger.

Article 538  The employer shall, when it is liable to cause dangers to workers due to flying objects, provide facilities for preventing flying objects, have workers wear personal protective equipment, or take other measures to prevent the said dangers.

Article 539  (1) The employer shall, when carrying out the work near a building berth, at high-rise structure construction site, etc., over which other workers are carrying out other works, have the worker engaging in the said work wear a safety helmet in order to prevent workers from dangers due to flying or falling objects.
(2) The worker engaging in the work set forth in the preceding paragraph shall wear the safety helmet set forth in the same paragraph.

Chapter X Passage, Scaffolding, etc.

Section 1 Passage, etc.

Article 540  (1) The employer shall provide places leading to a workshop and inside of the workshop with safe passages for workers, and maintain the said
passages effectively at all times.

(2) Of the passages prescribed in the preceding paragraph, the main ones shall have a sign indicating they are passages in order to maintain their effectiveness.

(Illumination for Passage)
Article 541 The employer shall provide passages with measures of lighting or illumination to the extent that they may not stand in the way of normal passage. However, this shall not apply to tunnels, basements normally not used for passage, etc., when passing workers are provided with an appropriate illumination tool.

(Indoor Passage)
Article 542 The employer conform indoor passages to the following provisions:
(i) To ensure sufficient widths corresponding to the purpose of use;
(ii) To maintain the surface of the passage in a condition that causes no stumbling, slips, treading on a prick, etc.;
(iii) Not to place obstacles within a height of 1.8 m from the floor.

(Passage between Machines, etc.)
Article 543 The employer shall, as regards passages provided between machines or a machine and other facilities, provide a width of 80 cm or more.

(Floor surface of a Workshop)
Article 544 The employer shall ensure that the floor surface of a workshop is in a condition that causes no stumbling, slips or other dangers, and shall maintain the said floor surface in a safe condition.

(Footstool)
Article 545 The employer shall, when a lathe, a rolling mill or other machines are too high as compared with the height of the workers engaged in an operation pertaining to the said machines, provide footstools that are safe and have an appropriate height.

(Workshop, etc., Handling Dangerous Substances, etc.)
Article 546 (1) The employer shall provide a workshop where dangerous substances or other explosive or ignitable substances are manufactured or handled, and the evacuation floor (meaning a floor having an entrance directly leading to the ground; the same shall apply hereinafter) of a building having the said workshop with two or more entrances through which workers may escape to a safe place on the ground easily in an emergency.
(2) The doors of the entrances set forth in the preceding paragraph shall be sliding doors or those that can be opened by pushing to the outside.

Article 547  (1) The employer shall provide the floors other than the evacuation floor of a building having the workshop set forth in the preceding Article with two or more direct stairs or slope passages that lead to the evacuation floor or to the ground. In this case, one of the said direct stairway or slope passage may be substituted for by a chute, an escape ladder or other evacuation tool.
(2) One of the direct stairs or slope passages set forth in the preceding paragraph shall be provided outdoors. However, this shall not apply to when a chute, an escape ladder or other evacuation tool is provided.

Article 548  The employer shall provide the workshop set forth in paragraph (1) of Article 546 or an indoor workshop where 50 or more workers are regularly engaged with automatic alarm facilities, emergency bells or other alarming facilities or portable loud-speakers, manual sirens or other alarming tools to give a warning to workers promptly at an emergency.

(Indication, etc., of Evacuation Exits)  
Article 549  (1) The employer shall provide indications to emergency exits, emergency passages or evacuation tools that are not used regularly showing that such exits, etc., are for emergency use, and maintain such exits, etc., in a readily available condition.
(2) The provisions of paragraph (2) of Article 546 shall apply mutatis mutandis to the doors of the exits or passages set forth in the preceding paragraph.

(Railway Crossing with Passage)  
Article 550  The employer shall, when using vehicles on a rail tracks crossing with a passage, arrange a watcher, ring an alarming bell or take other appropriate measures.

(Passage between Vessel and Quay, etc.)  
Article 551  (1) The employer shall, when workers pass between a vessel and a quay or between a vessel and another vessel alongside such a vessel, provide footboards, ladders or other appropriate facilities for passage. However, this shall not apply in the case where safe vessel-side stairs are provided.
(2) Workers shall use the facilities for passage or the vessel-side stairs set forth in the preceding paragraph.

(Temporary Passage)  
Article 552  The employer shall not use temporary passages unless they conform
to the following provisions:
(i) To be of sound structure;
(ii) To make the gradient 30 degrees or less. However, this shall not apply to those are equipped with stairs or those are equipped with handrails with the height of less than 2 m.
(iii) For those having the slope exceeding 15 degrees, to provide step pieces or other slide-proof measures;
(iv) To provide sound handrails with the height of 75 cm or more at a place where is liable to cause falling dangers to workers. However, in case where it is unavoidable due to the nature of work, only necessary parts of such handrails may be removed temporarily.
(v) For a temporary passage in a vertical shaft having a length of 15 m or longer, to provide a landing at an interval of 10 m or less:
(vi) For an ascending pier for construction work having a height of 8 m or more, to provide a landing at an interval of 7 m or less.

(Shelter in a Tunnels, etc., Equipped with a Rail Tracks)
Article 553 (1) The employer shall, when workers pass a tunnel, a bridge, etc., in which a rail tracks is laid, provide shelters at appropriate intervals. However, this shall not apply to when there is sufficient space on both sides of the said rail tracks and there is no danger of being hit by vehicles travelling on the said rail tracks.
(2) The provisions of the preceding paragraph shall not apply to tunnels, etc., under construction.

(Measures for Monitoring Works on Rail Tracks, etc.)
Article 554 The employer shall, when carrying out the work on a rail tracks or at a place near a rail tracks, provide a monitoring device or arrange a watcher to prevent the dangers that workers may be hit by a vehicle travelling on the said rail tracks.

(Maintenance of Illumination in Rail track Maintenance Work, etc.)
Article 555 The employer shall, when carrying out the work of rail track maintenance, or work of exchanging, connecting or disconnecting vehicles travelling on a rail tracks, maintain the illumination necessary to carry out the said works safely.

(Ladder Paths)
Article 556 (1) The employer shall not use ladder paths unless they conform to the following provisions:
(i) To be of sound structure;
(ii) To provide step pieces at equal intervals;
(iii) To maintain appropriate clearance between a step piece and the wall.
(iv) To take measures to prevent displacement of the ladder.
(v) To project the top end of the ladder from the floor by 60 cm or more.
(vi) For a ladder path in a pit having a length of 10 m or more, to provide a
landing platform shall at an interval of 5 m or less.
(vii) To make the gradient of a ladder path in a pit 80 degrees or less.
(2) The provisions of item (v) to (vii) of the preceding paragraph shall not apply
to ladder paths in a caisson, etc.

(Passages, etc., in a Pit)
Article 557  The employer shall provide a passage or a ladder path installed in a
pit where it is liable to cause dangers due to contact between hoisting devices
and workers with partition boards or other barriers.

(Use of Safety Shoes, etc.)
Article 558  (1) The employer shall, corresponding to the structure of passages,
etc., or the condition of the work, determine appropriate footwear such as
safety shoes for workers, and have workers use the said footwear.
(2) Workers set forth in the preceding paragraph shall, when having been
instructed to wear footwear pursuant to the provision of the same paragraph,
wear them.

Section 2 Scaffolding
Subsection 1 Materials, etc.

(Materials, etc.)
Article 559  (1) The employer shall, as regards the materials of scaffolding, not
use those having marked damage, deformation or corrosion.
(2) The employer shall, as regards the lumbers used for scaffolding, not use
unless they are free from cracks, worm-eaten spots, knars, slant fibres or other
defects affecting the strength of the lumber greatly, and of which the bark is
removed.

(Steel Pipe, etc., for Steel Pipe Scaffolding)
Article 560  (1) The employer shall, as regards the steel pipes used for steel pipe
scaffolding, not use unless they conform to the standards of steel pipes of the
Japanese Industrial Standard A 895l, (Steel Pipe Scaffolding) (hereinafter
referred to as the "steel pipe standards"), or conform to the following
provisions:
(i) The material is to be of tensile strength of 370 N/mm2 or more and
elongation of the value listed in the right column of the following table corresponding to the value of tensile strength listed in the left column of the same table.

<table>
<thead>
<tr>
<th>Tensile strength (N/mm²)</th>
<th>Elongation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>370 or more but less than 390</td>
<td>25 or more</td>
</tr>
<tr>
<td>390 or more but less than 500</td>
<td>20 or more</td>
</tr>
<tr>
<td>500 or more</td>
<td>10 or more</td>
</tr>
</tbody>
</table>

(ii) The thickness to be one-thirty first or more of the outer diameter.

(2) The employer shall, as regards the fittings used for steel pipe scaffoldings, not use unless they conform to the standards of fittings of the Japanese Industrial Standard A 8951 (Steel Pipe Scaffoldings) or conform to the following provisions:

(i) Materials (excluding those of parts used in portions that may not be subject to shock) to be rolled steels, forged steels or cast steels.

(ii) As regards couplings, in the case that they are used to couple steel pipes at the center of fulcrums (meaning fulcrums having the maximum distance between them during work) and the maximum load during work is applied to them as concentrated load, the strain of the said couplings to be 1.5 times or less of that of steel pipes of the same type without such coupling under the same condition.

(iii) As regards clamps, in the case that they are used to fasten steel pipes at a right angle and a load two times of the maximum operational load is applied onto the fastened portion, the slip to be 10 mm or less.

(Structure)

Article 561 The employer shall, as regards scaffoldings, not use unless they are of sound structure.

(Maximum Loading Capacity)

Article 562 (1) The employer shall determine the maximum loading capacity of a working floor of scaffolding corresponding its structure and materials, and shall not take on exceeding that.

(2) The maximum loading capacity of the working floor set forth in the preceding paragraph shall, as regards hanging scaffoldings (excluding hanging scaffoldings of gondolas; hereinafter the same shall apply in this Section), be so determined as to ensure the safety coefficient of 10 or more for hanging wire ropes and hanging steel wires, the safety coefficient of 5 or more for hanging chains and hanging hooks, and the safety coefficient of hanging steel bands and of fulcrums at the bottom and top of the hanging scaffoldings of 2.5 for steels and 5 or more for logs.
(3) The employer shall make the maximum loading capacity set forth in paragraph (1) known to workers.

(Working Floor)
Article 563 (1) The employer shall provide a work place on scaffolding (excluding single-row scaffolding) having a height of 2 m or more with a working floor as prescribed in the followings:
(i) The floor materials to be with bending stress calculated corresponding to the distance between fulcrums and the load applied during work not exceeding the value of allowable bending stress listed in the right column of the following table corresponding to the type of lumber listed in the left column of the same table.

<table>
<thead>
<tr>
<th>Type of lumber</th>
<th>Allowable bending stress (N/cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese cedar, fir, silver fir, abies, red cedar, or Western hemlock</td>
<td>1,030</td>
</tr>
<tr>
<td>Oak</td>
<td>1,910</td>
</tr>
<tr>
<td>Japanese chestnut, Japanese oak, Japanese beech or Keyaki</td>
<td>1,470</td>
</tr>
<tr>
<td>Plywood manufactured by gluing apitong or kapur with phenol resin</td>
<td>1,620</td>
</tr>
</tbody>
</table>

(ii) The width to be of 40 cm or more and the clearance between floor boards to be of 3 cm or less, excluding hanging scaffoldings.
(iii) To provide places where is liable to cause dangers to workers due to fall with handrails, etc., prescribed as follows. However this shall not apply to the case that it is extremely difficult to provide the said handrails, etc., due to the nature of the work, or in the case the said handrails, etc., are temporarily removed according to the needs of the work and a protective net is set, safety belts are provided to workers or other measures are taken to prevent the dangers to workers due to a fall this shall not apply.
(a) To be of sound structure;
(b) To be made of materials without marked damage, corrosion, etc.;
(c) To have the height of 75 cm or more.
(iv) To use brackets, ledgers, girders, trestle or other supporting materials for the working floor having strength sufficient to bear the load applied.
(v) To fix the floor boards to two supports or more to prevent displacement or coming off, excluding hanging scaffoldings.
(2) The provisions set forth in item (v) of the preceding paragraph shall not apply when they fall under any of the following each item:
(i) When boards having a width of 20 cm or more, a thickness of 3.5 cm or more and a length of 3.6 m or more are used for the floor materials and the said boards are to be moved according to the work, and when the following measures are taken:
   (a) Scaffolding boards to be supported by three or more supports.
   (b) The length of projection of scaffolding boards from the fulcrums to be of 10 cm or more, and is one-eighteenth of the length of the said scaffolding boards or less, excluding when there is no possibility that workers will step on the said projections.
   (c) When scaffolding boards to be lapped longitudinally, they are lapped on their fulcrum, and the length of such lapped portion to be of 20 cm or more.
(ii) When boards having a width of 30 cm or more, a thickness of 6 cm or more and a length of 4 m or more are used, and the measures provided in (b) and (c) of the preceding item are taken.
(3) A worker shall, in the case of the proviso of item (iii) of paragraph (1), when having been instructed to use safety belts, etc., use them.

Subsection 2 Prevention of Dangers in Assembling, etc., of Scaffoldings

(Assembling, etc., of Scaffoldings)

Article 564  (1) The employer shall, when carrying out the work set forth in item (xv) of Article 6 of the Order, take the following measures:
   (i) To make timing, scope and procedure of assembling, dismantling or altering known to workers engaging in the said works;
   (ii) To prohibit workers other than those concerned from entering the areas where assembling, dismantling or altering works are to be carried out;
   (iii) To suspend works when dangers due to strong wind, heavy rain, heavy snow or other bad weather are forecast;
   (iv) When carrying out works of fastening, removing or handling over materials for scaffoldings, to provide scaffolding boards having a width of 20 cm or more, have workers use safety belts or take other measures in order to prevent the danger to workers due to falls.
   (v) When lifting or lowering materials, equipment, tools, etc., to have workers use lifting ropes, lifting bags, etc.
(2) Workers shall, in the work set forth in item (iv) of the preceding paragraph, when having been instructed to use safety belts, etc., use them.

(Appointment of an Operations Chief of Assembling, etc., of Scaffoldings)

Article 565  The employer shall, as regards the work set forth in item (xv) of Article 6 of the Order, appoint an operations chief of assembling, etc., of scaffolding from those who have completed the skill training course for
(Duties of an Operations Chief of Assembling, etc., of Scaffolding)

Article 566 The employer shall have an operations chief of assembling, etc., of scaffolding carry out the following matters. However, the provisions of item (i) shall not apply to the work of dismantling:

(i) To check defects in material, and remove defective ones;
(ii) To check the function of an instrument, a tool, a safety belt, etc., and a safety helmet, and remove defective ones;
(iii) To decide a work method and the arrangement of workers, and supervise the work directly.
(iv) To monitor the use of a safety belt, etc., and a safety helmet.

(Checkup)

Article 567 The employer shall, when carrying out work on scaffoldings after strong wind, heavy rain, heavy snow or other bad weather, an earthquake of medium shock or heavier, assembling, partially dismantling or altering of scaffoldings, check up the following matters before commencing the said work, and when having found any abnormality, immediately repair:

(i) Condition of damage, mounting and placing of floor materials.
(ii) Condition of loosening at the fastening, connecting and mounting portions of standards, ledgers, brackets, etc.
(iii) Condition of damage and corrosion of clamping materials and clamps.
(iv) Existence of removal and coming off of handrails, etc.
(v) Condition of settling and sliding of foot portions.
(vi) Condition of mounting and existence of removal of diagonal bracings, stays, ties to wall and other reinforcement materials.
(vii) Existence of damage of standards, ledgers and brackets.
(viii) Condition of the mounting portion of projected girders and lifting cables, and the function of lifting devices.

(Checkup of Hanging Scaffolding)

Article 568 The employer shall, when carrying out the work on hanging scaffolding, check up matters listed in item (i) to (iv), item (vi) and (viii) of the preceding Article before commencing the work of the day, and when having found any abnormality, immediately repair.

Subsection 3 Log Scaffolding

Article 569 (1) The employer shall, as regards log scaffoldings, not use unless they conform to the following provisions:
(i) The interval between standards to be of 2.5 m or less, and to provide the first ledger over the ground at a place having a height of 3 m or less.
(ii) For the leg of standards, to bury the foot of standards, provide bridge batten of foot posts, and use sills or take other measures in order to prevent standards from sliding or settling.
(iii) In the case that the couplings of standards are lap joints, to band the jointing portion at two locations or more with overlapping of 1 m or more; in the case that the couplings of standards are butt joints, to construct the standards with two logs, or band the jointing portion at four locations or more with a splint having a length of 1.8 m or more.
(iv) The jointing portions and crossing portions of standards, ledgers, brackets, etc., to be firmly bound with wires or other strong materials.
(v) To reinforce by diagonal bracings.
(vi) For single row scaffolding, double row scaffolding and cantilever scaffolding, to provide ties to wall or stays prescribed as follows:
   (a) The interval to be of 5.5 m or more in the vertical direction and 7.5 m or more in the horizontal direction.
   (b) To make the scaffolding strong with steel pipes, logs, etc.
   (c) When the scaffoldings are composed of tension members and compression members, the interval between these members to be within 1 m.

(2) The provision of item (i) of the preceding paragraph shall not apply to the case that it is difficult to conform to the said provision due to the necessity of the work and the said portions are reinforced with bent ledgers, two logs combined, etc.

(3) The provision of item (vi) of paragraph (1) shall not apply to the case that ties to wall or stays are removed for the works of mounting of window frames and finishing of walls, or it is unavoidable due to necessity of the works, and when taking a measures in order to prevent the said scaffoldings from collapsing, such as providing diagonal members to standards or ledgers instead of the said ties to wall or stays.

**Subsection 4 Steel Pipe Scaffolding**

(Steel Pipe Scaffolding)

Article 570 (1) The employer shall, as regards steel pipe scaffoldings, not use unless they conform to the following provisions:

(i) For the leg of scaffolding (excluding movable scaffoldings with casters), to take measures such as providing bridge batten of foot posts with base fittings, and plankings, square timbers, etc., in order to prevent the scaffolding from sliding or settling;
(ii) For movable scaffolding with casters, to take measures such as securely
fixing the casters with a brake, or other brakes, pawl, etc. or fastening a part of the scaffolding to a sound building, in order to prevent scaffoldings from moving unexpectedly;

(iii) To joint or fasten the jointing portions or crossing portions of steel pipes securely with suitable fittings.

(iv) To reinforce the scaffolding with bracings.

(v) For single row scaffolding, double row scaffolding or cantilever scaffolding, to provide ties to wall or stays prescribed as follows:

(a) The interval to be the value listed in the right column of the following table or less corresponding to the type of steel pipe scaffolding listed in the left column of the same table.

<table>
<thead>
<tr>
<th>Type of steel pipe scaffolding</th>
<th>Interval (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vertical direction</td>
</tr>
<tr>
<td>Tube and coupler scaffolding</td>
<td>5</td>
</tr>
<tr>
<td>Prefabricated scaffolding</td>
<td>9</td>
</tr>
<tr>
<td>(excluding those having height of less than 5 m)</td>
<td></td>
</tr>
</tbody>
</table>

(b) To make the scaffolding strong with materials such as steel pipes and logs.

(c) When the scaffoldings are composed of tension members and compression members, the interval between these members to be within 1 m.

(vi) When a scaffolding is installed near an overhead power line, to take measure to prevent contact with the said overhead power line such as moving the said overhead power line or installing protecting equipment for insulating.

(2) The provision of paragraph (3) of the preceding Article shall apply mutatis mutandis to the application of the provision of item (v) of the preceding paragraph. In this case, the term "item (vi) of paragraph (1)" in paragraph (3) of the preceding Article shall be deemed to be replaced with "item (v) of paragraph (1) of Article 570".

(Steel Pipe Scaffolding Conforming to the Steel Pipe Standards)

Article 571 (1) The employer shall, as regard the steel pipe scaffoldings composed of steel pipes conforming to the steel pipe standards, in addition to the provisions of paragraph (1) of the preceding Article, not use unless they conform to following item (i) to (iv) for single pipe scaffoldings and item (v) to (vii) for prefabricated scaffoldings:

(i) The intervals of the standards to be of 1.85 m or less in the direction of the crossbeam and 1.5 m or less in the direction of the beam;

(ii) To provide the first ledger above the ground at the height of 2 m or less;

(iii) The standards exceeding 31 m measured from the highest point of the standards to consist of the combination of two steel pipes;
(iv) To limit the loading capacity between the standards to 400 kg.
(v) To provide the horizontal members at the top level and at every fifth level or less.
(vi) To take measures to prevent the beam frames and bracket frames from moving laterally with horizontal bracings.
(vii) When the scaffolding having a height exceeding 20 m, and when the work involves carrying heavy material are carried out, the main frame to be with the height of 2 m or less, and the intervals of 1.85 m or less.
(2) The provisions of item (i) or item (iv) of the preceding paragraph shall not apply to the case that it is difficult to comply with the said provisions due to necessity of works and when the employer takes the measures prescribed by the next Article as to the value of the maximum bending moment obtained by the calculation supposing that members between each fulcrum are those of simple beams.
(3) The provision of item (ii) of paragraph (1) shall not apply to the case that it is difficult to comply with the said provisions due to necessity of works and when the said portions are reinforced with two steel pipes combined, etc.

(Steel Pipe Scaffolding Constructed by Steel Pipes Other Than Those Conforming to the Steel Pipe Standards)

Article 572 The employer shall, as regards steel pipe scaffoldings composed of steel pipes other than those conforming to the steel pipe standard, in addition to conform to the provisions of paragraph (1) of Article 570, not use them unless the value of the maximum bending moment between fulcrums calculated by assuming as simple beam structure does not exceed the value obtained by multiplying the section modulus of steel pipe with 1/1.5 of yield point of material of steel pipe (for the yield point is not known, 1/2 of the tensile strength) and coefficients listed in the right column of the following table (in the case that the yield point is unknown, joints are used, 3/4 of the value of the factor) corresponding to the ratio of thickness to outer diameters listed in the left column of the same table.

<table>
<thead>
<tr>
<th>Ratio of thickness to outer diameter of steel pipe</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness, 1/14 or more of outer diameter.</td>
<td>1</td>
</tr>
<tr>
<td>Thickness, 1/20 or more and less than 1/14 of outer diameter.</td>
<td>0.9</td>
</tr>
<tr>
<td>Thickness, 1/31 or more and less than 1/20 of outer diameter.</td>
<td>0.8</td>
</tr>
</tbody>
</table>

(Distinction of Strength of Steel Pipes)

Article 573 (1) The employer shall, when using steel pipes of the same or similar outer diameter and thickness which differ in strength in the same workplace, in order to prevent dangers to workers due to confused use of such steel pipes, take measures to distinguish the strength by colouring on pipe surface, affixing
symbols, etc.

(2) The measure in the preceding paragraph shall not be the distinction by color only.

**Subsection 5 Hanging Scaffolding**

(Hanging Scaffolding)

Article 574 (1) The employer shall, as regards the hanging scaffoldings, not use unless they conform to the following provisions:

(i) To not use hanging wire ropes falling under any of the following provision:
   (a) Those with 10% or more of element wires (excluding filler wires) of which are cut in one strand of wire ropes.
   (b) Those with reduction ratio of a diameter exceeding 7% of the nominal diameter.
   (c) Those with kink.
   (d) Those with marked deformation or corrosion.

(ii) To not use hanging chains falling under any of the following provision:
   (a) Those with the elongation exceeding 5% of the original length at the time of manufacture.
   (b) Those with a reduction ratio of a diameter of links of the said hanging chains exceeding 10% of the original diameter of the said links at the time of manufacture.
   (c) Those with cracks.

(iii) Not to use hanging steel wires and hanging steel belts with marked damage, deformation or corrosion.

(iv) Not to use hanging fibre ropes falling under any of the following provision:
   (a) Those with cut strand
   (b) Those with marked damage or corrosion

(v) To fasten securely one end of hanging wire ropes, hanging chains, hanging steel wires, hanging steel belts or hanging fibre ropes to the scaffolding girder, stirrup, etc., and other end to projected girders, anchor bolts, girders of building, etc.

(vi) The working floor to be with width of 40 cm or more, and without clearance between floor boards.

(vii) To fasten the floor materials to the scaffolding girder, stirrup, etc., in order to prevent them from displacing or coming off.

(viii) To take measures in order to prevent movement or displacement such as providing of stays to the scaffolding girders, stirrups, working floors, etc.

(ix) For shelf scaffoldings, to connect or fasten securely the jointing portions and crossing portions of girders with steel wires, couplings or clamps.

(2) The provision of item (vi) of the preceding paragraph shall not apply to the
case that measures are taken to prevent dangers to workers due to fall or falling objects such as installing a net or a sheet under the working floor or beside the working floor.

(Prohibition of Work)
Article 575  The employer shall not allow workers to use a stepladder, a ladder, etc., on hanging scaffolding.

Chapter XI Working Platform

(Materials, etc.)
Article 575-2  (1) The employer shall, as regards materials used for the facilities composed of makeshift supports, working floors, etc., for the purpose of piling up materials or temporary equipment, or of installing or moving construction machines, etc., and having a height of 2 m or more (hereinafter referred to as "working platform"), not use those with marked damage, deformation or corrosion.
(2) The employer shall, as regards the lumbers for working platforms, not use unless they are free from cracks, worm-eaten spots, gnarls, slant fibres that are marked defects for their strength.
(3) The employer shall, as regards steel materials for main parts of supports, working floors, girders, sleepers, etc. to be used for working platforms, not use unless they conform to the Japanese Industrial Standard G 3101 (Rolled Steel for General Structure), Japanese Industrial Standard G 3106 (Rolled Steel for Welded Structure) Japanese Industrial Standard G 3191 (Hot Rolled Steel Bar), Japanese Industrial Standard G 3192 (Hot Rolled Steel Sections), Japanese Industrial Standard G 3444 (Carbon Steel Tubes for General Structural Purposes) or Japanese Industrial Standard G 3466 (Carbon Steel Square Pipes for General Structural Purposes), or have the strength and elongation equal to or superior to that prescribed in the said Standards.

(Structure)
Article 575-3  The employer shall, as regards the working platforms, not use unless they are of sound structure not causing marked twist, strain, etc.

(Maximum Loading Capacity)
Article 575-4  (1) The employer shall determine the maximum loading capacity of working floor corresponding to the structure and material of a working platform, and not load exceeding the maximum loading capacity.
(2) The employer shall make the maximum loading capacity set forth in the preceding paragraph known to workers.
(Erection Diagram)
Article 575-5  (1) The employer shall, when erecting working platform, prepare an erecting diagram and build working platform by the said erection diagram. (2) The erection diagram set forth in the preceding paragraph shall describe the arrangement and size of supports, working floors, girders, sleepers, etc.

(Measures to Be Taken for Working platforms)
Article 575-6  The employer shall conform working platforms to following provisions:
(i) For the supports of the working platforms, to take measures such as embedding corresponding to the condition of the nature of the soil, etc., of the place where the said working platform is to be installed, providing of bridge battens of foot posts at the fixing part of the legs, using plankings, square timbers, etc., in order to prevent the said working platform from sliding or settling.
(ii) To fasten securely fastening, connecting and mounting portions of supports, girders, diagonal bracings, etc., with clamps, etc., in order to prevent their displacement, coming off, etc.
(iii) The clearance between floor materials of working floors having the height of 2 m or more to be of 3 cm or less.
(iv) To provide the ends of working floors having a height of 2 m or more, and where is liable to cause dangers to workers due to a fall with handrails, etc., prescribed as follows. However, this shall not apply to the case that providing the handrails, etc., is extremely difficult due to the nature of the work, or the case that the said handrails, etc., are temporarily removed due to the necessity of work and when taking measures in order to prevent the danger to workers due to a fall such as setting a protective net and having workers use safety belts.
(a) To be of sound structure;
(b) To be made of materials without marked damage, corrosion, etc.
(c) To have the height of 75 cm or higher.

(Erecting, etc., of a Working platform)
Article 575-7  The employer shall, when carrying out the work of erecting, dismantling or altering of a working platform, take the following measures:
(i) To make the time, scope and procedures of erecting, dismantling or altering known to the worker engaging in the said work.
(ii) To prohibit workers other than those concerned from entering the area where the work of erecting, dismantling or altering is carried out;
(iii) To suspend the work when dangers regarding the implementation of the
said work are forecast due to bad weather conditions such as strong wind, heavy rain or heavy snow:
(iv) When lifting or lowering materials, equipment, tools, etc., to have workers use lifting ropes, lifting bags, etc.

(Checkup)
Article 575-8 The employer shall, when carrying out the work on a working platform after the bad weather conditions such as strong wind, heavy rain or heavy snow or an earthquake of medium shock or heavier, or erecting, partially dismantling or altering of a working platform, check the following matters before commencing the said work, and immediately repair when having found any abnormalities:
(i) Condition of sliding and settling of supports.
(ii) Damage of supports, girders, etc.
(iii) Condition of damage, mounting and placing of floor materials.
(iv) Condition of loosening at the fastening, connecting and mounting portions of supports, girders, diagonal bracings, etc.
(v) Condition of damage and corrosion of clamping materials and clamps.
(vi) Condition of mounting and removal of horizontal collar braces, diagonal bracings and other reinforcement materials.
(vii) Removal and coming off of handrails, etc.

Chapter XII Prevention of Dangers Due to Debris Flow

(Investigation and Record)
Article 575-9 The employer shall, when carrying out the construction work (excluding temporary work, the same shall apply hereinafter) on a river where it is liable to occur debris flow incidental due to rain, melting snow or earthquake (hereinafter referred to as "river with a danger of debris flow"), investigate in advance the condition of upper reaches of the river from the work place and the surrounding area in order to prevent workers from dangers due to debris flow, and record the result of the investigation.

(Rules Concerning Prevention of Industrial Accidents Due to Debris flows)
Article 575-10 (1) The employer shall, when carrying out construction work on river with a danger of debris flows, establish in advance rules relating to the prevention of industrial accidents due to debris flows.
(2) The provisions set forth in the preceding paragraph shall be the one describing the following matters:
(i) The method of ascertaining the amount of rainfall.
(ii) Measures to be taken in case of rainfall, melting snow or an earthquake
have taken place.
(iii) Measures to be taken in case of phenomena that precede a debris flow have
been noted.
(iv) Alarm and the method of evacuation in the case of a debris flow occurs.
(v) Details and times of evacuation drills.
(3) The employer shall make the provisions set forth in paragraph (1) suitable to
what is known by the investigation pursuant to the provision of the preceding
Article.

(Ascertaining and Recording)
Article 575-11 The employer shall, when carrying out the construction work on
river with a danger of debris flows, ascertain the amount of rainfall in the 24
hours before commencing work and the amount of rainfall every hour after
having commenced work using a rain gauge or other method and keep a record
of them.

(Measures to be Taken when Rainfall)
Article 575-12 The employer shall, when carrying out the construction work on
river with a danger of debris flows and where is liable to cause a debris flow
due to rainfall, take measures to quickly know the occurrence of a debris flow
such as arranging a watcher. However, this shall not apply when having
suspended work promptly and had workers evacuate to a safe place.

(Evacuation)
Article 575-13 The employer shall, when carrying out the construction work on
river with a danger of debris flows and there is an immediate danger of an
industrial accident due to a debris flow, immediately suspend the work and
have the workers evacuate to a safe place.

(Alarm Equipment)
Article 575-14 (1) The employer shall, when carrying out the construction work
on river with a danger of debris flows, provide alarm equipment of a siren, an
emergency bell, etc., to inform the workers concerned at the occurrence of
debris flow, and make the place of the equipment known to the workers
concerned.
(2) The employer shall maintain the alarm equipment set forth in the preceding
paragraph in properly functioning at all times.

(Evacuation Equipment)
Article 575-15 (1) The employer shall, when carrying out the construction work
on river with a danger of debris flows, provide equipment for evacuation of
ascending piers, ladders, etc., at appropriate places for the safe evacuation of workers at the occurrence of debris flow, and make the location of the equipment and how to use them known to the workers concerned.

(2) The employer shall maintain the evacuation equipment set forth in the preceding paragraph properly functioning at all times.

(Evacuation Drills)

Article 575-16 (1) The employer shall, when carrying out the construction work on river with a danger of debris flows, conduct an evacuation drill for workers concerned after the commencement of the work without delay and once every period within six months thereafter in order to prepare for a debris flow.

(2) The employer shall, when having conducted evacuation drill, record the following matters and preserve the records for three years:

(i) The date of the training.

(ii) The name of the person who has undergone the training.

(iii) The details of the training.

Part III Health Standards
Chapter I Harmful Working Environment

(Removal of Causes of Harmfulness)

Article 576 The employer shall, in a workshop where handling harmful substances, exuding gas, vapor or dust, workers are exposed to harmful light or ultrasonic waves, or sending noise or producing vibration, or is contaminated with pathogens, take necessary measures such as using of substitutes and improvement of working methods or machine, etc., to eliminate the causes of these harmful situations.

(Control of Exuding of Gas, etc.)

Article 577 The employer shall take necessary measures such as making emission sources airtight and installation of a local exhaust ventilation system or general ventilation system at an indoor workshop where exuding gas, vapor, or dust in order to keep the concentration of gas, vapor or dust in the air in the said indoor workshop below harmful levels.

(Prohibition of Use of an Internal Combustion Engine)

Article 578 The employer shall not use machines using internal combustion engines in pits, well curbs, caissons, tanks, hold and other places where natural ventilation is insufficient. However, this shall not apply to when ventilating the said places to prevent health impairment caused by the exhaust gas of the said internal combustion engine.
(Disposal of Exhaust Gas)
Article 579  The employer shall, as regards a local exhaust ventilation system and other facilities of which let out exhausted gas containing a harmful substance, install exhaust gas disposal device, such as absorption, combustion, dust collection and other effective method corresponding to the kind of the said harmful substance.

(Disposal of Waste Fluid)
Article 580  The employer shall, as regards waste fluid containing harmful substance, discharge them only after processing by neutralization, precipitation, filtration, or other effective method, corresponding to the kind of the said harmful substance.

(Disposal of Pathogens)
Article 581  The employer shall, as regards exhaust gas, waste fluids or other waste material contaminated with pathogens, discharge or discard them only after appropriate processing such as disinfecting and sterilization.

(Prevention of Scattering of Dust)
Article 582  The employer shall sprinkle water or take other necessary measures to prevent dust from being scattered at outdoor workshop or in a pit where a great deal of dust is scattered.

(Standards of Concentration of Carbon Dioxide Gas in a Pit)
Article 583  The employer shall ensure that the concentration of carbonic dioxide gas in the air is kept at 1.5% or less in workshop in pits. However, this shall not apply to lifesaving or danger prevention work using air respirators, oxygen respirators or hose masks.

(Indication, etc., of the Place Sending Noise)
Article 583-2  The employer shall, when having a worker engages in the work in an indoor workshop where sending extreme noise, take measures such as indicating this with a sign so that the workers will be readily aware that the said indoor workshop sending extreme noise.

(Prevention of Noise Propagation)
Article 584  The employer shall, in an indoor workshop sending extreme noise, take necessary measures of providing partition, etc., in order to prevent the noise from being propagated.
(Prohibition of Entry, etc.)
Article 585  (1) The employer shall prohibit persons other than those concerned from entering the following places and so indicate by displaying a notice to that effect at a readily visible location:
(i) Places where a large quantity of high-temperature substances is handled or the temperatures are extremely high.
(ii) Places where a large quantity of low-temperature substances is handled or the temperatures are extremely low.
(iii) Places exposed to harmful light or ultrasonic waves.
(iv) Places where the concentration of the carbon dioxide gas is exceeding 1.5%, or that of oxygen is less than 18% or that of hydrogen sulfide exceeding 10 ppm.
(v) Harmful places where gas, vapor or dust are exuded.
(vi) Places where harmful substances are handled.
(vii) Places deemed considerably contaminated with pathogens.
(2) A worker shall not enter the place where it is prohibited from entering pursuant to the provision of the preceding paragraph without reason.

(Indication, etc.)
Article 586  The employer shall ensure that harmful substances, pathogens and substances contaminated with them are piled in a fixed place and display a notice to that effect at a readily visible location.

(Workshop Subject to Carry Out Working Environment Measurement)
Article 587  The indoor workshops having hot, cold or humid condition prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (ii) of Article 21 of the Order shall be as follows:
(i) Indoor workshops where the work smelting or refining minerals or metals by blast furnaces, open-hearth furnaces, converters or electric furnaces, is carried out;
(ii) Indoor workshops where the work melting ores, metals or glass by cupola, crucible or others is carried out;
(iii) Indoor workshops where the work heating ores, metals or glass by annealing furnace, soaking furnace, quenching furnace, heating furnace, etc., is carried out;
(iv) Indoor workshops where the work baking ceramic ware, bricks, etc., is carried out;
(v) Indoor workshops where the work roasting or sintering ores is carried out;
(vi) Indoor workshops where the work carrying, rolling, casting, hardening, drawing heated metals is carried out;
(vii) Indoor workshops where the work carrying, casting molten metals is
carried out:
(viii) Indoor workshops where the work casting molten glass into glass products is carried out;
(ix) Indoor workshops where the work vulcanizing rubber in a vulcanizing pan is carried out;
(x) Indoor workshops where the work drying substances by a dryer using a heat source is carried out;
(xi) Indoor workshops where the work handling a large quantity of liquid air, dry ice, etc., is carried out;
(xii) Refrigerators, ice plants, ice storage facilities, freezing plants or others in which workers carrying out work;
(xiii) Indoor workshops where the work dyeing using a dyeing bath, which uses a large quantity of vapor, is carried out;
(xiv) Indoor workshops where the work cleaning or plating metals or nonmetals by using a large quantity of vapor;
(xv) Humidifying indoor workshops where the work of cotton-spinning or cotton-weaving is carried out;
(xvi) In addition to what is listed in the preceding each item, the indoor workshops provided by the Minister of Health, Labour and Welfare.

Article 588  The indoor workshops sending extreme noise prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (iii) of Article 21 of the Order shall be as follows:
(i) Indoor workshops where the work handling riveting machines, chipping machines, molding machines or other machines or tools that are driven by compressed air is carried out;
(ii) Indoor workshops where the work rolling, drawing out, strain correcting or plate bending metals by rolling mills, etc., (excluding strain correction and plate bending by hydraulic press and drawing out by dies) is carried out;
(iii) Indoor workshops where the work forging or casting metals by power-driven hammers is carried out;
(iv) Indoor workshops where the work polishing or sand-washing metallic products by tumblers is carried out;
(v) Indoor workshops where the work cleaning drums by chains or other tools driven by power is carried out;
(vi) Indoor workshops where the work peeling off the bark of wood by drum barkers is carried out;
(vii) Indoor workshops where the work chipping by chippers is carried out;
(viii) Indoor workshops where the work manufacturing paper by a multi-cylinder paper manufacturing machine is carried out;
(ix) In addition to what is listed in the preceding each item, the indoor workshops provided by the Minister of Health, Labour and Welfare.
workshops provided by the Minister of Health, Labour and Welfare.

Article 589 The workshops in pits prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (iv) of Article 21 of the Order shall be as follows:

(i) Workshops in pits where carbon dioxide gas stagnates or is liable to stagnate;
(ii) Workshops in pits where atmospheric temperature exceeds or is liable to exceed 28 °C;
(iii) Workshops in pits provided with ventilation facilities.

(Measurement, etc., of Noise Level)
Article 590 (1) The employer shall, as regards an indoor workshop sending extreme noise prescribed by Article 588, measure equivalent noise level, periodically once every period within six months.

(2) The employer shall, when having carried out measurements pursuant to the provision of the preceding paragraph, record the following matters and preserve the record for three years:

(i) The date of the measurements
(ii) The method of the measurements
(iii) The location where the measurements were performed
(iv) The conditions under which the measurements were made
(v) The results of the measurements
(vi) The name of the person who has carried out the measurements
(vii) When the remedies have been taken based on the results of the measurements, the outline of the remedies.

Article 591 (1) The employer shall, when having altered the plant or facility or having changed work processes or work methods in an indoor workshop sending extreme noise prescribed by Article 588, measure the equivalent noise level without delay.

(2) The provisions of paragraph (2) of the preceding Article shall apply mutatis mutandis to the case that the measurements pursuant to the provision of the preceding paragraph have been carried out.

(Measurement, etc., of Concentration of Carbon Dioxide Gas in a Pit)
Article 592 (1) The employer shall, as regards a workshop in pit set forth in item (i) of Article 589, measure concentration of carbon dioxide gas, periodically once every period within a month.

(2) The provisions of paragraph (2) of Article 590 shall apply mutatis mutandis to the case that measurements pursuant to the provision of the preceding paragraph have been carried out.
Chapter 1-2 Work Pertaining to Incineration Facilities of a Waste Material

(Measurement of Concentration and Content of Dioxins)
Article 592-2 (1) The employer shall, as regards a workshop carrying out the work listed in item (xxxiv) and (xxxv) of Article 36, measure concentration of dioxins (meaning dioxin etc., prescribed by paragraph (1) of Article 2 of the Special Act on Dioxin, etc., Prevention Measures (Act No. 105 of 1999); the same shall apply hereinafter) in the air of the said workshop, periodically once every period within six months.

(2) The employer shall, when carrying out the work pertaining to the operation listed in item (xxxvi) of Article 36, measure the content of dioxins being contained in the substances adhering to the inside of the equipment pertaining to the said work before the commencement of the work.

(Removal of Adhered Substances)
Article 592-3 The employer shall, when carrying out the work pertaining to the dismantling, etc., prescribed by the item (xxxvi) of Article 36, carry out the work after the dioxins adhering to the inside of the equipment has been removed.

(Moistening of Scattering Source of Substances Containing Dioxins)
Article 592-4 The employer shall, when having workers engage in the work pertaining to the work listed in item (xxxiv) and (xxxvi) of Article 36, maintain the scattering source of substances containing dioxins in the workshop humid. However, this shall not apply to the case of maintaining humidity of scattering source is extremely difficult.

(Personal Protective Equipment)
Article 592-5 (1) The employer shall, when having workers engage in the work pertaining to the work listed in item (xxxiv) to (xxxvi) of Article 36, have the worker engaging in the said work use suitable personal protective equipment such as protective clothes, eye protector and respiratory protective equipment corresponding to the measurement result of concentration and content of dioxins pursuant to the provision of paragraph (1) and (2) of Article 592-2. However, this shall not apply when the employer takes effective measures to prevent the scattering of substances containing dioxins such as the installation of facilities to seal the scattering source of substances containing dioxins.

(2) A worker shall, when having been instructed to use personal protective equipment pursuant to the provision of preceding paragraph, use the said
personal protective equipment.

( Operation Leader )
Article 592-6 The employer shall, when carrying out the work pertaining to the operation listed in item (xxxiv) to (xxxvi) of Article 36, designate a leader for the said work, and have the said leader direct the said work and check whether the measures set forth in the preceding three Articles are taken complying with these provisions or not.

(Special Education)
Article 592-7 The employer shall, when having workers engage in the work listed in item (xxxiv) to (xxxvi) of Article 36, conduct the special education for the said workers as to the following subjects:
(i) Toxicity of dioxins.
(ii) The method of work and the measures in the case of accident.
(iii) Checkup of the facilities at the time of commencement of the work.
(iv) How to use the personal protective equipment.
(v) In addition to what is listed in the preceding each item, necessary matters as to the prevention of the exposure to dioxins.

Chapter II Personal Protective Equipment, etc.

(Respiratory Protective Equipment, etc.)
Article 593 The employer shall, in the work in extremely hot or cold places, work handling a large quantity of high-temperature or low-temperature or harmful substances, work exposed to harmful light, work in places exuding gas, vapor or dust, work threatened with extreme contamination with pathogens and other harmful work, provide suitable personal protective equipment such as protective clothes, eye protector and respiratory protective equipment in order to have workers engaging in the said work use them.

(Personal Protective Equipment to Prevent Skin Complaint)
Article 594 The employer shall, in the work handling substances harmful to skin or work in which harmful substances is liable to be absorbed through skin or penetrate into the body through the skin to cause poisoning or contagion, provide the suitable personal protective equipment such as plasters, anti-penetration clothes, gloves, footgear, etc., in order to have workers engaging in the said works use them.

(Personal Protective Equipment for Preventing Disorder from Noise)
Article 595 (1) The employer shall, in the work carried out at the place sending
extreme noise, provide earplugs or other personal protective equipment in order to have the worker engaging the said work use them.

(2) The employer shall, when having instructed workers engaging in work set forth in the preceding paragraph to use earplugs or other protective equipment, without delay, display the instruction to use the said protective equipment in a readily visible place so that workers engaging in work are readily aware of it.

(Quantity of Personal Protective Equipment, etc.)
Article 596 The employer shall, as regards the personal protective equipment prescribed by the preceding three Articles, ensure that the same number of pieces of protective equipment as the number of the workers concerned or more is provided and maintained in workable condition and clean at all time.

(Workers’ Obligation to Use Personal Protective Equipment)
Article 597 The worker engaging in the work prescribed by Article 593 to 595 shall, when having been instructed to use personal protective equipment necessary for the said work by the employer, use the said personal protective equipment.

(Personal Protective Equipment for Personal Use, etc.)
Article 598 The employer shall, when it is liable to cause contagion of any disease to the worker due to use of personal protective equipment or tools, provide the workers concerned with personal protective equipment or tools for their personal use or take measures to prevent such contagion of disease.

Article 599 (Deleted)

Chapter III Cubic Volume of Air and Ventilation

(Air Volume)
Article 600 The employer shall secure the air volume per a worker at an indoor workshop where workers are regularly engaged in work, excluding the volume occupied by the facilities and part of the space that is exceeding 4 m high above the floor surface, by 10 m³ or more.

(Ventilation)
Article 601 (1) The employer shall, in an indoor workshop where workers are regularly engaged in work, ensure that the total area of the windows and other openings that can be opened directly to the open air is one-twentieth or more of the floor area at all times. However, this shall not apply to the case the indoor workshop is provided with facilities capable of sufficient ventilation.

267
(2) The employer shall, when the atmospheric temperature of the indoor workshop in the preceding Article is 10 °C or lower, ensure that workers are not exposed to an air current of 1 m/sec or more in the process of ventilation.

(Ventilation System in a Pit)
Article 602 The employer shall provide the workshop with a ventilation system in order to supply enough air to a workshop in a pit for hygienic purposes. However, this shall not apply to the said workshop where the sufficient air supply is made by natural ventilation.

(Measurement of Ventilation Volume in a Pit)
Article 603 (1) The employer shall, as regards a workshop in pit set forth in item (iii) of Article 589, measure ventilation volume in the said workshop, periodically once every period within half month.
(2) The provisions of paragraph (2) of Article 590 shall apply mutatis mutandis to the case measurements pursuant to the provision of the preceding paragraph have been carried out.

Chapter IV Lighting and Illumination

(illumination)
Article 604 The employer shall conform illumination on the working face of place where workers are regularly engaged in work to the standards listed in the right column of the following table corresponding to the type of work listed in the left column of the same table. However this shall not apply to workshops where photosensitive materials are handled, a workshop in a pit and other workshops where special works are carried out.

<table>
<thead>
<tr>
<th>Types of Work</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision work</td>
<td>300 luces or more</td>
</tr>
<tr>
<td>Ordinary work</td>
<td>150 luces or more</td>
</tr>
<tr>
<td>Rough work</td>
<td>70 luces or more</td>
</tr>
</tbody>
</table>

(Lighting and Illumination)
Article 605 (1) The employer shall ensure that lighting and illumination are provided in such a way that they do not cause dazzling or a striking contrast of light and darkness.
(2) The employer shall inspect for illumination apparatus of the place where workers engaging regularly, periodically once every period within six months.

Chapter V Temperature and Humidity
(Adjustment of Temperature and Humidity)
Article 606 The employer shall, as regards the indoor workshop having hot, cold or humid condition and where it is liable to be detrimental to health, take appropriate measure for adjustment of temperature and humidity such as air-conditioning, heating or ventilation.

(Measurement of Atmospheric Temperature and Humidity)
Article 607 (1) The employer shall, as regards an indoor workshop having hot, cold or humid conditions prescribed by Article 587, measure the atmospheric temperature, humidity and radiation heat in the said indoor workshop (for the radiation heat, limited to the indoor workshop set forth in item (i) to (viii) of the same Article), periodically once every period within half month.
(2) The provision of paragraph (2) of Article 591 shall apply mutatis mutandis to when measurements pursuant to the provision of preceding paragraph have been carried out.

(Protection from Radiation Heat)
Article 608 The employer shall, in a case when an indoor workshop has facilities such as a blast furnace which generate a great deal of heat, etc., discharge the heated air directly to the open air or take measures to protect workers from the radiated heat.

(Repair of Heated Furnace)
Article 609 The employer shall, in repairing a furnace being heated, not allow workers to enter the furnace until it has cooled off to a reasonable extent.

(Humidification)
Article 610 The employer shall, when performing humidification due to the nature of the work, make within the extent that it is not harmful, and use that clean water for atomizing.

(Atmospheric Temperature in a Pit)
Article 611 The employer shall maintain the atmospheric temperature inside a pit 37 °C or lower. However, this shall not apply to when having workers engage in lifesaving or danger prevention work with necessary measures to prevent health impairment due to the high temperature.

(Measurement, etc., of Atmospheric Temperature in a Pit)
Article 612 (1) The employer shall, as regards a workshop in pit set forth in item (ii) of Article 589, measure the atmospheric temperature, in the said workshop, periodically once every period within half month.
(2) The provision of paragraph (2) of Article 590 shall apply mutatis mutandis to when measurements pursuant to the provision of preceding paragraph have been carried out.

**Chapter VI Rest**

(Rest Facilities)
Article 613 The employer shall endeavor to provide workers with rest facilities, which they can effectively use.

(Rest Facilities in a Harmful Workshop)
Article 614 The employer shall, in workshops having extremely hot, cold or humid condition, workshop where exude harmful gas, vapor or dust, or any other harmful workshops, provide rest facilities outside such harmful workshops. However, this shall not apply to under unavoidable circumstances of special workshops such as work in a pit, etc.

(Chair for Standing Works)
Article 615 The employer shall, when workers engaged in work with continuous standing postures have frequent chances to sit, provide them with suitable chairs available for the said workers.

(Facilities for Sleeping or a Nap)
Article 616 (1) The employer shall, when it is necessary to give workers time for sleeping at night or when workers are given time for taking a nap while working, provide them with suitable sleeping separate facilities for men and women.

(2) The employer shall provide the bedding and other necessities and take the preventive measures against the spread of infectious diseases in the place set forth in the preceding paragraph.

(Measures Concerning Sweating Work)
Article 617 The employer shall, in workshops where cause workers to sweat a great deal, provide them with salt and water.

(Resting Room, etc.)
Article 618 The employer shall, when regularly employing 50 workers or more, or 30 female workers or more, provide them with separate resting rooms or resting facilities for men and women.

**Chapter VII Cleanliness**
(Cleaning, etc.)

Article 619  The employer shall take the measures listed in the following each item:

(i) In addition to daily cleaning, to carry out the general cleaning periodically once every period within six months in the standardized procedures.

(ii) To implement investigation on locations, habitat and invasion routes of rodents, insects, etc., and damages caused by them periodically once every period within six months in the standardized procedures, and take necessary measures to prevent infestation of rodents, insects, etc., based on the results of the said investigation.

(iii) To use drugs or quasi-drugs that is approved pursuant to the provision of Article 14 or 19-2 of the Pharmaceutical Affairs Act (Act No. 145 of 1960) when using rodenticides or insecticides to control rodents, insects, etc.

(Workers’ Obligation to Maintain Cleanness)

Article 620  A worker shall endeavor to clean the workshops and not dump waste materials at places other than those provided for that purpose.

Article 621  (Deleted)

(Cleaning of a Contaminated Floor, etc.)

Article 622  The employer shall clean the floor and the wall of which are liable to be contaminated with harmful, perishable or stinking substances as required.

(Structure of a Floor, etc.)

Article 623  The employer shall paint an impermeable material on the floors and walls of workshop as provided for by the preceding Article and other floors and walls liable to be moistened by the use of a large quantity of water or other liquids and that the floors and walls are constructed in such a way as to facilitate draining.

(Disposal of Filth)

Article 624  (1) The employer shall dispose filth of without being exposed, at places provided for that purpose.

(2) The employer shall disinfect floors, walls, containers, etc., liable to be contaminated with pathogens as required.

(Cleaning Facilities, etc.)

Article 625  (1) The employer shall, when having workers engage in work liable to contaminate the body or clothes, provide them with facilities for washing
their eyes and bodies, or gargling, facilities for changing their clothes, or facilities for washing their clothes.

(2) The employer shall provide the facilities set forth in the preceding paragraph with necessary tools respectively.

(Facilities to Dry Clothes)
Article 626 The employer shall, in workshops where clothes are liable to be extremely moistened, provide facilities to dry clothes.

(Supply of Water)
Article 627 (1) The employer shall supply workers with a sufficient amount of drinking water or other drinks.

(2) The employer shall, when installing water supply facilities other than those prescribed by paragraph (9) of Article 3 of the Waterworks Act (Act No. 177 of 1957) and supplying the water for drinking and washing tableware, comply with the following provisions:

(i) To confirm that the water to be supplied complies with the water quality standards pursuant to the provision of Article 4 of the Waterworks Act based on the result of the examination of water carried out by local government, etc.
(ii) To maintain the content of free residual chlorine at the water tap 0.1 ppm or more (in case of combined residual chlorine, 0.4 ppm or more). However, when the water to be supplied is suspected to be contaminated with pathogens or when it is liable to contain a large quantity of organisms or substances suspected to be contaminated with pathogens, the content of free residual chlorine at the water tap be maintained 0.2 ppm or more (in case of combined residual chlorine, 1.5 ppm or more).
(iii) To take appropriate measures to prevent water from being contaminated by harmful substances or waste fluid, etc.

(Lavatory)
Article 628 (1) The employer shall install lavatories as provided by followings. However, this shall not apply to when a suitable number of lavatories or toilets are provided in the case of an unavoidable reason in special workshops such as work in a pit, etc.:

(i) To be constructed separately for men and women.
(ii) To provide one or more toilets for every 60 men or less working at the same time.
(iii) To provide one or more urinals for every 30 men or less working at the same time.
(iv) To provide one or more toilets for every 20 women or less working at the same time.
(v) To construct receptacles for excrement in such a way that excrement may not penetrate into the soil.
(vi) To provide washstands supplying a sufficient amount of clean water.
(2) The employer shall keep clean the lavatories, toilets, and urinals set forth in the preceding paragraph and dispose excrement in a suitable manner.

Chapter VIII Dining Hall and Kitchen

(Dining Hall)
Article 629 The employer shall, in the workshops prescribed by the text of Article 614, provide dining facilities outside the workshops. However, this shall not apply to when workers do not dine at the workplace.

(Dining Hall and Kitchen)
Article 630 The employer shall conform a dining hall and kitchen attached to the workplace to the following provisions:
(i) To provide a dining hall and kitchen separately, and to be sufficient in lighting and ventilation and make structure easy for cleaning.
(ii) To ensure the floor area of the dining hall with 1 m² or more per one dining worker.
(iii) To provide tables and chairs for dining workers (for chairs, excluding the case that workers dine while sitting on the floor).
(iv) To provide the dining hall at a suitable distance from a lavatory or dumping ground.
(v) To provide facilities to disinfect tableware, foodstuffs, etc.
(vi) To provide suitable facilities to keep tableware, foodstuffs and seasonings.
(vii) To provide facilities to keep out flies and other insects, rats, dogs, cats, etc.
(viii) To provide a sufficient amount of clean water for drinking and cleaning.
(ix) To ensure the floor of the kitchen is made of impermeable materials and of a structure capable of easy cleaning and draining.
(x) To ensure waste fluid and materials is disposed of without being exposed outside the kitchen and discharged harmlessly as through a settling tank.
(xi) To provide a rest room and lavatory exclusive for kitchen.
(xii) Not to have kitchen workers with an infectious disease who are not appropriate for cooking work.
(xiii) To have kitchen workers wear clean working clothes exclusive for cooking.
(xiv) Not to allow persons other than kitchen workers enter the kitchen without reason.
(xv) To provide footwear exclusive for the kitchen and not to allow entering the kitchen with their shoes on.
(Securing and Improvement of Nourishment)

Article 631 The employer shall, when providing the workers with meals in a workplace, endeavor to take necessary measures in order to secure and improve the nourishment as to the meals.

(Dietician)

Article 632 (1) The employer shall, when providing workers with 100 meals or more at a time or 250 meals or more a day in a workplace, endeavor to employ a dietician.

(2) The employer shall ensure that the dietician carries out investigation or selection of foodstuffs, preparation of menus, calculate of nutritive values, investigation of amounts wasted and the tastes of workers, guidance on nourishment, etc., in cooperation with the health officers and those who are related to providing meals.

Chapter IX First-aid Kit

(First-aid Kit)

Article 633 (1) The employer shall provide a first-aid kit and other materials necessary for the treatment of an injured person, and make the place of the kits and how to use them known to the workers.

(2) The employer shall keep clean at all times the first-aid kits and other materials set forth in the preceding paragraph.

(Articles Contained in a First-aid Kit)

Article 634 The employer shall ensure that the first-aid kits and other materials set forth in paragraph (1) of the preceding Article contain the following items at a minimum:

(i) Medical dressing, tweezers and antiseptic solution.

(ii) Burn ointment in the case of a workshop where workers handle materials of high temperatures or where workers are liable to get burnt.

(iii) Tourniquets, splints, stretchers, etc., in the case of a workshop where workers are liable to sustain a serious injury.

Part IV Special Regulations

Chapter I Special Regulations Concerning Specified Principal Employer, etc.

(Places Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Article 29-2 of the Act)

Article 634-2 The places prescribed by the Ordinance of the Ministry of Health,
Labour and Welfare set forth in Article 29-2 of the Act shall be as follows:

(i) Places where the soil, etc., is liable to collapse (limited to places where the workers of the contractor concerned are liable to be exposed to dangers);

(ii) Places where the debris flow is liable to take place (limited to places on rivers where the workers of the contractor concerned are liable to be exposed to dangers);

(ii) Places where machines, etc., are liable to overturn (limited to places where there is a danger of overturning of the vehicle type construction machine used by the workers of the contractor concerned listed in item (3) of Appendix Table 7 of the Order and a danger of overturning of a mobile crane);

(iii) Places where come close to the charged circuit of overhead power lines and workers are liable to be exposed to electric shock danger due to that the bodies of the said workers come into contact with or to close to the said charged circuit (limited to places where construction, demolition, inspection, repair and painting, etc., of structure or work associated with them is carried out by the workers of the contractor concerned or work using pile drivers, pile drawers or mobile cranes, etc., is carried out);

(iv) Places where underground installations, etc., and buildings such as brick walls, concrete block walls and retaining walls are liable to collapse (limited to places where the open-cut excavating work is carried out in a location close to said underground installations or structures by the workers of the contractor concerned).

(Establishment and Administration of Consultative Organizations)

Article 635 (1) The specified principal employer (meaning those set forth in paragraph (1) of Article 15 of the Act, the same shall apply hereinafter) shall, as regards establishment and administration of the consultative organization set forth in item (i) of paragraph (1) of Article 30 of the Act, comply with the following provisions:

(i) To establish the consultative organization in which the specified principal employer and all related constructors participate.

(ii) To periodically hold a meeting of the consultative organization.

(2) The related contractor shall participate in the consultative organization established by the specified principal employer pursuant to the provision of the preceding paragraph.

(Liaison and Coordination Between Related Operations)

Article 636 The specified principal employer shall, as regards the liaison and coordination between related operations set forth in item (ii) of paragraph (1) of Article 30 of the Act, ensure that liaison and coordination are effected as
needed between the specified principal employer and the related contractors and between the related contractors themselves.

(Inspection Tours of Work Place)
Article 637  (1) The specified principal employer shall, as regards the inspection tours pursuant to the provision of item (iii) of paragraph (1) of Article 30 of the Act, carry out such tours at least once every working day.
(2) The related contractor shall not refuse, disturb or avoid any inspection tour carried out by the specified principal employer pursuant to the provision of the preceding paragraph.

(Guidance and Assistance to Education)
Article 638  The specified principal employer shall, as regards the guidance and assistance to education set forth in item (iv) of paragraph (1) of Article 30 of the Act, take measures such as providing places of education, materials used for the said education.

(Category of Industry Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Item (v) of Paragraph (1) of Article 30 of the Act)
Article 638-2  The category of industry prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (v) of paragraph (1) of Article 30 of the Act shall be the construction industry.

(Formulation of a Plan)
Article 638-3  The specified principal employer prescribed by item (v) of paragraph (1) of Article 30 of the Act shall, as regards the formulation of plans set forth in the same item, prepare plans concerning the process of the said work including a process chart, etc., and plans concerning the main machinery, equipment and the arrangement of makeshift work buildings at the said work place.

(Guidance on Measures to Be Taken by the Contractor Concerned)
Article 638-4  The specified principal employer prescribed by item (v) of paragraph (1) of Article 30 of the Act shall, as regards the guidance on measures to be taken by the contractor concerned set forth in the same item, comply with the following provisions:
(i) To instruct that the work plan established by the contractor concerned pursuant to the provision of paragraph (1) of Article 155 related to work using vehicle type construction machine listed in each item of Appended Table 7 of the Order (for machinery other than that listed in item (5) of the
same table, limited to the one with the base machine weight of 3 tons or
more) conforms to the plan set forth in item (v) of paragraph (1) of Article 30
of the Act.

(ii) To instruct that the matters listed in each item of paragraph (1) of Article
66-2 of the Crane Ordinance established by the subcontractor concerned
pursuant to the provision of the same paragraph that related to work using a
mobile crane with a lifting capacity of 3 tons or more conform to the plan set
forth in item (v) of paragraph (1) of Article 30 of the Act.

(Unification of Signals for Operating a Crane, etc.)
Article 639 (1) The specified principal employer shall, in case that workers of the
said specified principal employer and those of the related contractors carry out
work at the same place using cranes, etc., (meaning cranes, mobile cranes,
derricks, light capacity lifts and lifts for construction work among those subject
to the Crane Ordinance, the same shall apply hereinafter), set unified signals
concerning the operation of cranes, etc., and make them known to the related
contractors.

(2) The specified principal employer and the related contractor shall, when
setting signals for operating a crane, etc., set forth in the preceding paragraph
as regards the work carried out, set signals identical to those set in a unified
manner pursuant to the provision of the same paragraph.

(Unification, etc., of Signs at an Accident Site, etc.)
Article 640 (1) The specified principal employer shall, in the case that workers of
the said specified principal employer and those of the related contractors carry
out work at the same place and when the accident site, etc., listed in the
following each item exists at the said place, set unified signs and make them
known to the related contractors:

(i) The accident site where prohibits workers from entering pursuant to the
provision of the text of paragraph (2) of Article 27 of the Organic Solvent
Ordinance.

(ii) The working chamber set forth in item (iii) of Article 1 of the High Pressure
Work Ordinance and the air lock set forth in item (iv) of the same Article.

(iii) The area set forth in paragraph (1) of Article 3 of the Ionizing Radiation
Ordinance, rooms set forth in paragraph (1) of Article 15 of the Ionizing
Radiation Ordinance, places prohibited entry pursuant to the provision of the
text of paragraph (1) of Article 18 of the Ionizing Radiation Ordinance and
areas set forth in paragraph (1) of Article 42 of the Ionizing Radiation
Ordinance.

(iv) The place with the oxygen deficiency danger set forth in paragraph (1) of
Article 9 of the Ordinance on Prevention of Anoxia (Ordinance of the
Ministry of Labour No. 42 of 1972, hereinafter referred to as "Anoxia Ordinance") or the place where evacuates workers pursuant to the provision of paragraph (1) of Article 14 of the Anoxia Ordinance.

(2) The specified principal employer and the related contractors shall clearly indicate an accident site, etc. listed in each item of the preceding paragraph pertaining to their work in the said place by using a signs identical to those set in a unified manner pursuant to the provision of the same paragraph.

(3) The specified principal employer and the related contractors shall not allow workers other than those required to enter the accident site, etc. listed in each item of paragraph (1).

(Unification of Place Keeping Containers of Organic Solvents, etc.)

Article 641 (1) The specified principal employer shall, in the case workers of the said specified principal employer and those of the related contractors carry out work at the same place and when the following containers are to be kept at the said place (for the containers listed in item (ii), limited to the case when they are kept outdoor), set unified place to keep the said containers and make it known to the related contractors:

(i) Containers of organic solvents (meaning those set forth in item (ii) of paragraph (1) of Article 1 of the Organic Solvent Ordinance, the same shall apply hereinafter).

(ii) Empty containers of organic solvents from which are liable to exude the vapor of the organic solvents.

(2) The specified principal employer shall, when keeping the containers set forth in the preceding paragraph, keep them at the place set in an unified manner pursuant to the provision of the same paragraph (for containers listed in item (ii) of the same paragraph, limited to those to be kept outdoor).

(Unification, etc., of an Alarm)

Article 642 (1) The specified principal employer shall, when workers of the said specified principal employer and those of the related contractors carry out work at the same place, set unified alarms to be used in the following cases and make it known to the related contractors:

(i) In the case that X-ray apparatus (meaning those set forth in item (v) of Article 6 of the Order, the same shall apply hereinafter) installed at the said place is charged with electricity.

(ii) In the case that the irradiation is being effected by an apparatus installed at the said place which is loaded with a radioactive substances prescribed by paragraph (2) of Article 2 of the Ionizing Radiation Ordinance.

(iii) In case that the blasting is to be carried out at the said place.

(iv) In case that a fire breaks out at the said place.
(v) In case that a collapse of soil, flood or avalanche has occurred or is liable to occur.

(2) The specified principal employer and related contractors shall, when supplying the electricity to X-ray apparatus, carrying out the irradiation by the apparatus set forth in item (ii) of the preceding paragraph or the blasting operation, give alarms set in a unified manner pursuant to the provision of the same paragraph. The same shall apply when having noticed a fire, collapse of soil, flood or avalanche has occurred or these are liable to occur.

(3) The specified principal employer and the related contractors shall, in the case listed in item (iii) to (v) of paragraph (1), and when an alarm is given pursuant to the provision of the preceding paragraph, evacuate all workers being at dangerous area other than those required.

(Unification, etc., of the Implementation Method, etc., of Evacuation Drill, etc.)

Article 642-2  (1) The specified principal employer shall, in the case where carrying out the construction work of tunnels, etc., and when the worker of the said specified principal employer and of related contractors work at the same place, as regards the evacuation drill, etc., conducted by the specified principal employer and related contractors pursuant to the provision of paragraph (1) of Article 389-11, set unified timing and method of implementation of the said training and make them known to related contractors.

(2) The specified principal employer and related subcontractor shall, when conducting an evacuation drill, etc., carry out according to the timing and method of implementation of the training set in a unified manner pursuant to the provision of the preceding paragraph.

(3) The specified principal employer shall assist related contractors by providing them with guidance and materials, etc., for an evacuation drill, etc., carried out by the related contractor.

Article 642-2-2  The provisions of the preceding Article shall apply mutatis mutandis to the place where the specified principal employer carries out construction work on a river with a danger of debris flows. In this case, the term "the provisions of paragraph (1) of Article 389-11" in paragraph (1) of the same Article shall be deemed to be replaced with "the provisions of paragraph (1) of Article 575-16" and "evacuation drill, etc." in the provisions of the same paragraph to paragraph (3) of the same Article shall be deemed to be replaced with "evacuation drill".

(Provision, etc., of Data for Dissemination)

Article 642-3  The specified principal employer who carries out the work belonging to the construction industry shall, when workers of the said
employer and the related contractors are carry out the work at the same place, in order to contribute that the related contractors make their employees who engage newly in the work at the said place regarding the site conditions (including conditions of the places where the workers are liable to be exposed to dangers; the same shall apply hereinafter.) and the mutual relationship among works carried out at the said place known, take measures such as providing the venue, materials to be used for the related contractors to make their employees known. However this shall not apply when the said specified principal employer makes the workers of the said subcontractor known about the said site conditions and work relations.

(Designation of the Specified Principal Employer)
Article 643 (1) The designation pursuant to the provision of paragraph (2) of Article 30 of the Act shall be made as regards the following person with his prior consent:
(i) The contractor who carries out the work of the specified undertaking (meaning the specified undertaking set forth in paragraph (1) of Article 15 of the Act) at a place set forth in paragraph (2) of Article 30 of the Act and who contracts the main part of the construction work such as building frame construction (the earliest constructor in the case there are two or more contractors concerned due to the fact that the main part of the construction work consists of several steps of contracts).
(ii) In case of two or more persons set forth in the preceding item, the contractor elected from themselves.
(2) The original orderer who is subject to designate the specified principal employer pursuant to the provision of paragraph (2) of Article 30 of the Act (original orderer set forth in the same paragraph) or the contractors shall, in case unable to designate pursuant to the same paragraph, notify that effect to the Chief of the competent Labour Standards Inspection Office without delay.

(Liaison and Coordination between Related Operation)
Article 643-2 The provisions of Article 636 shall apply mutatis mutandis to the principal employer set forth in paragraph (1) of Article 30-2 of the Act (hereinafter referred to as the "principal employer" in next Article to 643-6). In this case, the term "item (ii) of paragraph (1) of Article 30" in Article 636 shall be deemed to be replaced with "paragraph (1) of Article 30-2."

(Unification of Signals for Operating a Crane, etc.)
Article 643-3 (1) The provision of paragraph (1) of Article 639 shall apply mutatis mutandis to the principal employer.
(2) The provision of paragraph (2) of Article 639 shall apply mutatis mutandis to
the principal employer and related contractors.

(Unification, etc., of Signs at an Accident Site)

Article 643-4 (1) The principal employer shall, when workers of the principal employer and those of the related contractors carry out the work at the same place and when the accident site listed in each of the following item exists in the said place, set unified signs indicating the said accident site and make them known to the related contractors.

(i) Accident sites where worker entry is prohibited pursuant to the provision of the text of paragraph (2) of Article 27 of the Organic Solvent Ordinance.

(ii) Areas set forth in paragraph (1) of Article 3 of the Ionizing Radiation Ordinance, rooms set forth in paragraph (1) of Article 15 of the Ionizing Radiation Ordinance, places where worker entry is prohibited pursuant to the provision of the text of paragraph (1) of Article 18 of the Ionizing Radiation Ordinance, or areas set forth in paragraph (1) of Article 42 of the Ionizing Radiation Ordinance.

(iii) Oxygen-deficient places pursuant to the provision of paragraph (1) of Article 9 of the Anoxia Ordinance or places where having workers evacuate pursuant to the provision of paragraph (1) of Article 14 of the Anoxia Ordinance.

(2) The principal employer and related contractors shall clearly indicate an accident site, etc., listed in each item of the preceding paragraph pertaining to the work carried out in the said place by using the signs identical to those set in a unified manner pursuant to the provision of the same paragraph.

(3) The principal employer and related contractors shall prohibit their workers other than those required from entering the accident sites listed in each item of paragraph (1).

(Unification of Place Keeping Containers of Organic Solvents, etc.)

Article 643-5 (1) The provision of paragraph (1) of Article 641 shall apply mutatis mutandis to the principal employer.

(2) The provision of paragraph (2) of Article 641 shall apply mutatis mutandis to the principal employer and related contractors.

(Unification, etc., of an Alarm)

Article 643-6 (1) The principal employer shall, when workers of the principal employer and those of related contractors carry out the work in the same place, set unified alarms to be used at the following cases and make them known to the related contractors:

(i) In the case that X-ray apparatus installed in the said place is charged with electricity;
(ii) In the case that the irradiation is being carried out by an apparatus which is loaded with radioactive substances prescribed by paragraph (2) of Article 2 of the Ionizing Radiation Ordinance and installed in the said place;
(iii) When a fire has broken out in the said place.

(2) The principal employer and related contractors shall, when supplying electricity to X-ray apparatus or performing the irradiation with an apparatus set forth in item (ii) of the preceding paragraph in the said place, give a alarms set in an unified manner pursuant to the provision of the same paragraph. The same shall apply when the principal employer and related contractors have noticed that a fire has occurred or is liable to occur.

(3) The principal employer and related contractor shall, in the case listed in item (iii) of paragraph (1), and when an alarm is given pursuant to the provision of the preceding paragraph, evacuate all workers being at the dangerous area other than those required.

(Designation of Principal Employer set forth in Paragraph (1) of Article 30-2 of the Act)

Article 643-7 The provisions of Article 643 shall apply mutatis mutandis to the designation set forth in paragraph (2) of Article 30 of the Act, which is applied mutatis mutandis pursuant to paragraph (2) of Article 30-2 of the Act. In this case, the phrases "the place set forth in paragraph (2) of Article 30", "the work of specified undertaking (meaning the specified undertaking set forth in paragraph (1) of Article 15 of the Act)" and "construction work such as building frame construction" in item (i) of paragraph (1) of Article 643 shall be deemed to be replaced with "the place set forth in paragraph (2) of Article 30 of the Act which is applied mutatis mutandis pursuant to paragraph (2) of Article 30-2 of the Act", "the work of undertaking prescribed in paragraph (1) of Article 30-2 of the Act" and "the said work" respectively; and the term "the specified principal employer" in paragraph (2) of the same Article shall be deemed to be replaced with "the principal employer".

(Designation of a Principal Employer Set Forth in Paragraph (1) of Article 30-3 of the Act)

Article 643-8 The provisions of Article 643 shall apply mutatis mutandis to the designation as pursuant to the provision of paragraph (2) of Article 30 of the Act, which is applied mutatis mutandis pursuant to paragraph (2) of Article 30-3 of the Act. In this case, the phrase "the place set forth in paragraph (2) of Article 30", "the work of specified undertaking (meaning the specified undertaking set forth in paragraph (1) of Article 15 of the Act)"and "construction work such as building frame construction" in item (i) of paragraph (1) of Article 643 shall be deemed to be replaced with "the place set
forth in paragraph (2) of Article 30 of the Act which is applied mutatis mutandis pursuant to paragraph (2) of Article 30-3 of the Act", "the work prescribed by paragraph (1) of Article 25-2 of the Act" and "excavation, etc., in tunneling work" respectively; and the term "the specified principal employer" in paragraph (2) of the same Article shall be deemed to be replaced with "the principal employer."

(Persons Responsible for Managing Technical Matters Relating to Relief and Protection)
Article 643-9 (1) The provisions of Article 24-7 and Article 24-9 shall apply mutatis mutandis to persons responsible for managing technical matters relating to relief and protection set forth in paragraph (2) of Article 25-2 of the Act, which is applied mutatis mutandis pursuant to paragraph (5) of Article 30-3 of the Act.
(2) A person who is in possession of the qualifications prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (2) of Article 25-2 of the Act, which is applied mutatis mutandis pursuant to paragraph (5) of Article 30-3 of the Act shall be the one prescribed by Article 24-8.

(Measures Concerning a Pile Driver and a Pile Drawer)
Article 644 The orderer set forth in paragraph (1) of Article 31 of the Act (hereinafter referred to as the "orderer") shall, in the case set forth in same paragraph and when having workers of the contractor (meaning those set forth in the same paragraph, hereinafter the same shall apply in this Chapter) use pile drivers or pile drawers, conform the pile drivers or pile drawers to be used to the standards of pile drivers and pile drawers prescribed by Section 2 of Chapter II of Part II (limited to Article 172, Article 174 to 176, Article 178 to 181 and Article 183).

(Measures Concerning Railway Equipment)
Article 645 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use the railway equipment, conform the railway equipment to be used to the standards of railway equipment prescribed by Section 3 of Chapter II of Part II (limited to Articles 196 to 204, Articles 207 to 209, Article 212, Article 213, and Articles 215 to 217).

(Measures Concerning a Concrete Form Shoring)
Article 646 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use concrete form
shorings, conform the concrete form shorings to the standards provided by the Minister of Health, Labour and Welfare pursuant to the provision of the provision of Article 42 of the Act and with the standards of concrete form shorings prescribed by Chapter III of Part II (limited to Article 237 to 239, Article 242 and Article 243).

(Measures Concerning Acetylene Welding Equipment)

Article 647 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use acetylene welding equipment, take the following measures concerning the acetylene welding equipment:

(i) To install the acetylene welding equipment in an acetylene gas generator room, which complies with the standards of the acetylene gas generator room prescribed by paragraph (2) and (3) of Article 302 and Article 303.

(ii) To ensure that the acetylene welding equipment, which generates or uses the acetylene gas of a pressure of 7 kPa or more complies with the standards prescribed by paragraph (1) of Article 305.

(iii) As regards the purifier and conduits of the acetylene welding equipment other than that set forth in the preceding item, not to use the copper for the part, which the acetylene gas is liable to contact.

(iv) To conform the acetylene gas generator and safety equipment to the standards provided by the Minister of Health, Labour and Welfare pursuant to the provision of Article 42 of the Act.

(v) To conform the safety equipment to the standards prescribed by Article 306.

(Measures Concerning AC Arc Welding Equipment)

Article 648 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use AC arc welding equipment (excluding automatic welding equipment), provide the AC arc welding equipment with an automatic voltage reducing device which complies with the standards provided by the Minister of Health, Labour and Welfare pursuant to the provision of the provision of Article 42 of the Act. However, this shall not apply to the equipment used at places other than the followings:

(i) The inside of a double-bottomed vessel or peak tank and other extremely narrow places surrounded by electric conductors.

(ii) Places with height of 2 m or more where it is liable to cause dangers to workers due to fall or places where workers are liable to contact grounding materials with high conductivity of steel frame, etc.

(Measures Concerning Motor-Driven Appliance)

Article 649 (1) The orderer shall, in the case set forth in paragraph (1) of Article
31 of the Act, when having workers of the contractor use machines or equipment driven by motors (hereinafter referred to as "motor-driven appliance" in this Article) including movable and portable ones whose voltage to ground exceeds 150 V and movable and portable ones intended for use at places moistened with water or other liquids of high electric conduction or on materials of high electric conduction such as iron plates, steel frames and surface plates ensure that such motor-driven appliance are provided with an earth-leakage circuit breaker for preventing electric shocks having good sensitivity and the function to reliably work which complies with the rating of the electrical circuit concerned.

(2) The orderer set forth in the preceding paragraph shall, when it is difficult to take the measure prescribed by the same paragraph, ensure that the metallic portion of the outer frame of the motor-driven appliance or the cover of the motor is grounded as provided for by the provision of each item of paragraph (2) of Article 333.

(Measures Concerning a Caisson, etc.)
Article 650 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and having workers of the contractor use a caisson, etc., and when the said workers engage in the open-cut excavating work in the caisson, etc., take the following measures concerning the caisson, etc.:
(i) To install the air supply line when the depth of excavating exceeds 20 m.
(ii) In addition to the provisions of the preceding item, to ensure to comply with the standards of caisson, etc., prescribed by Subsection 3 of Section 1 of Chapter VI of Part II (limited to item (ii) of Article 376 and item (ii) and (iii) of paragraph (1) of Article 377).

(Measures Concerning Tunnels, etc.)
Article 651 (1) The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act, when having workers of the contractor use tunnels, etc., and when the workers are engaged in the construction work of tunnels, etc., (limited to when it is liable to cause dangers to workers due to cave-ins or fall of rocks), take measures to prevent cave-ins or fall of rocks such as providing with tunnel shoring and installing lock bolts.
(2) The orderer shall, as regards the tunnel shoring set forth in the preceding paragraph, ensure to comply with the standards of the tunnel shoring prescribed by Subsection 2 of Section 2 of Chapter VI of Part II (limited to Article 390, Article 391 and Article 394).

(Measures Concerning Tunnel Concrete Form Shorings)
Article 652 The orderer shall, in the case set forth in paragraph (1) of Article 31
of the Act, and when having workers of the contractor use tunnel concrete form shorings, ensure that the tunnel concrete form shorings comply with the standards prescribed by Subsection 3 of Section 2 of Chapter VI of Part II.

(Measures Concerning a Raising and Lowering Openings, etc.)
Article 653  (1) The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act, and when having workers of the contractor use working floors, raising and lowering openings, pits and hatches of the vessel, install enclosures, handrails, covers, etc., at places with height of 2 m or more where workers are liable to fall. However, this shall not apply to when it is difficult to install enclosures, handrails, covers, etc., due to the nature of the work.
(2) The orderer shall, in the case set forth in preceding paragraph, for the working floor located at exceeding 1.5 m in height or in depth, install the facilities for workers to safely ascend and descend.

(Measures Concerning a Temporary Passage)
Article 654 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use a temporary passage, ensure that the said temporary passage comply with the standards of temporary passages prescribed by Article 552.

(Measures Concerning a Scaffolding)
Article 655 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use scaffoldings, take the following measures concerning the said scaffoldings:
(i) To determine the maximum loading capacity of working floor corresponding to the structure and material used and to display it at a readily visible place of the scaffolding.
(ii) To check up the following matters after the bad weather conditions such as strong wind, heavy rain and heavy snow, or an earthquake of medium shock or heavier, before commencing the work on the scaffoldings, and to repair promptly when they are liable to cause dangers:
(a) Condition of damage, mounting and placing of floor materials.
(b) Condition of loosening at the fastening, connecting and mounting portions of standards, ledgers, brackets, etc.
(c) Condition of damage and corrosion of clamping materials and clamps.
(d) Coming off of handrails, etc.
(e) Condition of settling and sliding of leg portions.
(f) Condition of mounting of bracings, stays, ties to wall and other reinforcement materials.
(g) Damage of standards, ledgers and brackets.
(h) Condition of the mounting portion of projected girders and lifting cables and the function of lifting devices.

(iii) In addition to the what is prescribed in the preceding two items, to ensure to comply with the standards provided by the Minister of Health, Labour and Welfare pursuant to the provision of the provisions of Article 42 of the Act and the standards of scaffoldings prescribed by Section 2 of Chapter X of Part II (limited to Article 559 to 561, paragraph (2) of Article 562, Article 563, Article 569 to 572 and Article 574).

(Measures Concerning a Working Platform)

Article 655-2  The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use working platforms, take the following measures concerning the working platforms used:

(i) To determine the maximum loading capacity of working floor corresponding to the structure and material used and to display it at a readily visible place of the working platform.

(ii) To check up the following matters after the bad weather conditions such as strong wind, heavy rain and heavy snow, or an earthquake of medium shock or heavier, before commencing the work on the working platforms, and to repair promptly, when they are liable to cause dangers:

(a) Condition of sliding and settling of supports.

(b) Condition of damage of supports, girders, etc.

(c) Condition of damage, mounting and placing of floor materials.

(d) Condition of loosening at the fastening, connecting and mounting portions of supports, girders, diagonal bracings, etc.

(e) Condition of damage and corrosion of clamping materials and clamps.

(f) Condition of mounting and removal of horizontal collar braces, diagonal bracings and other reinforcement materials.

(g) Removal and coming off of handrails, etc.

(iii) In addition to what is prescribed in the preceding two items, to ensure to comply with the standards of working platforms prescribed by Chapter XI of Part II (limited to Article 575-2, Article 575-3 and Article 575-6).

(Measures Concerning a Crane, etc.)

Article 656  The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use a crane, etc., ensure that the said cranes, etc., comply with the standards (limited to those pertaining to the structure of special machines, etc.) provided by the Minister of Health, Labour and Welfare pursuant to the provision of the provisions of paragraph (2) of Article 37 of the Act or the codes provided by the Minister of Health, Labour and Welfare pursuant to the provision of the provision of
Article 42 of the Act.

(Measures Concerning a Gondola)
Article 657 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use gondolas, ensure that the said gondolas comply with the standards (limited to those pertaining to structure of special machines, etc.) provided by the Minister of Health, Labour and Welfare pursuant to the provision of the provision of paragraph (2) of Article 37 of the Act.

(Measures Concerning Local Exhaust Ventilation System)
Article 658 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use the local exhaust ventilation system (limited to the case that the contractor is obligated to provide local exhaust ventilation system pursuant to the provisions of Article 5 or paragraph (2) of Article 6 of the Organic Solvent Ordinance and the provision of Article 4 or the proviso of paragraph (1) of Article 27 of the Dust Ordinance), ensure that the performance of the local exhaust ventilation system comply with the standards prescribed by Article 16 of the Organic Solvent Ordinance or Article 11 of the Dust Ordinance.

(Measures Concerning General Ventilation System)
Article 659 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use a general ventilation system (limited to the case that the contractor is obligated to install a general ventilation system pursuant to the provision of paragraph (1) of Article 6, paragraph (2) of Article 8, paragraph (1) of Article 9, Article 10 or Article 11 of the Organic Solvent Ordinance), ensure that the functions of the general ventilation system comply with the standards prescribed by Article 17 of the Organic Solvent Ordinance.

(Measures Concerning Compressed the Facilities Used for Air Construction Method)
Article 660 The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use the facilities for such as caisson construction method or other compressed air construction method that the inside pressure of the working chamber exceeds the atmospheric pressure, ensure that the said facilities comply with the standards prescribed by Articles 4 to 7-3 and paragraph (2) of Article 21 of the High Pressure Work Ordinance.
(Measures Concerning X-ray Apparatus)
Article 661  The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use X-ray apparatus set forth in item (xxii) of paragraph (3) of Article 13 of the Order, ensure that the X-ray apparatus complies with the standards provided by the Minister of Health, Labour and Welfare pursuant to the provision of the provisions of Article 42 of the Act.

(Measures Concerning Gamma-Ray Radiation Equipment)
Article 662  The orderer shall, in the case set forth in paragraph (1) of Article 31 of the Act and when having workers of the contractor use gamma-ray radiation equipment set forth in item (xxiii) of paragraph (3) of Article 13 of the Order, ensure that the gamma-ray radiation equipment complies with the standards concerning gamma-ray radiation equipment provided by the Minister of Health, Labour and Welfare pursuant to the provision of the provision of Article 42 of the Act.

(Group-2 Substance Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Item (ii) of Article 9-3 of the Order)
Article 662-2  The substance prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in item (ii) of Article 9-3 of the Order shall be the specified Group-2 substances prescribed by item (iii) of Article 2 of the Specified Chemical Ordinance.

(Work Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Article 31-2 of the Act)
Article 662-3  The work prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in Article 31-2 of the Act shall, as regard remodeling, repairing, cleaning, etc., of the facilities prescribed by the same Article, be the work disassembling the said facilities or entering inside the said facilities.

(Delivery, etc., of Document)
Article 662-4  (1) The orderers set forth in Article 31-2 of the Act (limited to those who place orders for work that is not subcontracted by any third party) shall prepare a document that indicating the following matters (including an electromagnetic record (meaning a record created by an electronic system, magnetic system or other systems that cannot be recognized by human perception and used for information processing by computers; the same shall apply hereinafter) that is created in place of the said document; hereinafter the same shall apply in next paragraph), and deliver it to contractors.
(i) Danger and toxicity of substances prescribed by Article 31-2 of the Act.
(ii) Matters concerning safety or health that subject to pay attention in the said work.
(iii) Measures that have been taken to ensure the safety or health for the said work.
(iv) Emergency measures to be taken in the case of the leakage of the said substance or the occurrence of any other accidents.

(2) The orderer set forth in the preceding paragraph (excluding those who place orders for work that is not subcontracted by any third party) shall deliver a copy of the document provided pursuant to the provision of the preceding or this paragraph to contractors.

(3) The delivery pursuant to the provision of the preceding two paragraphs shall be executed by the time a contractor starts the work prescribed in the preceding Article.

(Machine Prescribed by the Ordinance of the Ministry of Health, Labour and Welfare Set Forth in Paragraph (1) of Article 31-3 of the Act)

Article 662-5 The machine prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 31-3 of the Act shall be as follows:
(i) Of the vehicle type construction machine having the base machine weight of three tons or more, those listed in 1. 2. or 4. of item (2) of Appended Table 7 of the Order.
(ii) Of vehicle type construction machines, those listed in 1. to 3., or 6. of item (3) of Appended Table 7 of the Order.
(iii) Mobile cranes with a lifting capacity of three tons or more.

(Measures Concerning a Power Shovel, etc.)

Article 662-6 The orderer who carries out work pertaining to the specified work prescribed by paragraph (1) of Article 31-3 of the Act or the person who has contracted for all of the work from the orderer, and subcontracted part of the said work conducted in the worksite (hereinafter referred to as "the specified orderer, etc." in the following Article and Article 662-8) shall, when carrying out the work pertaining to lifting a load using machinery set forth in item (i) of the preceding Article as pertaining to the said work, carry out the necessary communication and coordination between the specified orderer, etc., and contractors of the specified orderer who engage in operation pertaining to said machines, sling work, guiding or other work pertaining to said machine, and between the contractors, with relation to the work content, a system of instructions for the work and prohibited entry areas.
(Measures Concerning a Pile Driver, etc.)
Article 662-7  The specified orderer, etc., shall, when carrying out the work as pertaining to machines set forth in item (ii) of Article 662-5 pertaining the said work, carry out the necessary communication and coordination between the specified orderer, etc., and contractors of the specified orderer who engage in operation of the machines, operation of working devices of the machines (excluding operations in the operator's seat on the body), sling work, piling, connection of piles or augers, guiding or other work pertaining to the said machines, and between the contractors, with relation to the work content, a system of instructions for the work and prohibited entry areas.

(Measures Concerning a Mobile Crane)
Article 662-8  The specified orderer, etc. shall, when carrying out the work pertaining to machines set forth in item (iii) of Article 662-5 as pertaining to the said work, carry out the necessary communication and coordination between the specified orderer, etc., and contractors of the specified orderer who engage in operation of the machines, sling work, signaling for driving or other work related to the said machines, and between the contractors, with relation to the work content, a system of instructions for the work and prohibited entry area.

(Obligations of Contractor Set Forth in Paragraph (3) of Article 32 of the Act)
Article 662-9  The contractor set forth in paragraph (3) of Article 32 of the Act shall cooperate with the principal employer or designated contractor, who is obligated to take the measures pursuant to the provision of paragraph (1) or (4) of Article 30-3 of the Act, in necessary training relating to the relief and protection of workers.

(Obligations of Contractors Set Forth in Paragraph (4) of Article 32 of the Act)
Article 663  (1) The contractor set forth in paragraph (4) of Article 32 of the Act shall, when having found that the measures prescribed by Article 644 to 662 have not been taken, promptly notify the orderer to that effect.
(2) The contractor set forth in paragraph (4) of Article 32 of the Act shall not refuse, disturb or avoid the inspection made, repairs carried out or other measures taken by the orderer in order to carry out the measures prescribed by Article 644 to 662.

(Obligations of a Contractor Set Forth in Paragraph (5) of Article 32 of the Act)
Article 663-2  The contractor set forth in paragraph (5) of Article 32 of the Act shall, when having found that the measures prescribed by paragraph (1) or (2) of Article 662-4 have not been taken, promptly notify the orderer to that effect.
Article 664  (1) The specified principal employer (excluding those that have been designated pursuant to the provision of paragraph (2) or (3) of Article 30 of the Act, hereinafter the same in this Article) shall, when workers of the specified principal employer and those of the related contractors work at the same place, report the following matters to the Chief of the competent Labour Standards Inspection Office without delay after the commencement of the work:
(i) Type of undertaking and the name and location of the workplace.
(ii) Type of undertaking of the related contractors and the names and locations of their workplaces.
(iii) The purport and the name of the overall safety and health controller when it is required to appoint an overall safety and health controller pursuant to the provision of Article 15 of the Act.
(iv) The purport and the name of the principal safety and health supervisor when it is required to appoint a principal safety and health supervisor pursuant to the provision of Article 15-2 of the Act.
(v) The purport and name of the site safety and health supervisor when it is required to appoint a site safety and health supervisor pursuant to the provision of Article 15-3 of the Act (the name of the person who carries out the duties of overall safety and health controller and the name of the person carrying out the duties of principal safety and health supervisor for an employer set forth in paragraph (2) of Article 18-6).
(2) The provisions of the preceding paragraph shall apply mutatis mutandis to the employer designated pursuant to the provision of paragraph (2) of Article 30 of the Act. In this case, the term "after the commencement of the work" shall be deemed to be replaced with "after the designation".

**Chapter II Special Regulations Concerning Machine Lessor, etc.**

Article 665  A person prescribed by the Ordinance of the Ministry of Health, Labour and Welfare set forth in paragraph (1) of Article 33 of the Act shall be those who lease machines, etc., listed in each item of Article 10 of the Order to other employers by trade for reasonable value equivalent.

Article 666  (1) A person prescribed by the preceding Article (hereinafter referred to as "machine lessors etc.") shall, when they lease machines, etc., take the following measures:
(i) To check in advance the said machine, etc., and carry out the repair or other
necessary maintenance when having found any abnormalities.

(ii) To deliver the document indicating the following matters to the employers to whom machines, etc., are leased.

(a) The capabilities of the said machines, etc.

(b) Characteristic of the said machines, etc., and other matters of the machines, etc., such as precautions for use.

(2) The provisions of the preceding paragraph shall not apply to the case that the selection of machines, etc., at the time of their purchase and their maintenance work after the lease which should originally be made by the owner are made by the employer to whom the machines, etc., are leased (including the small-scale enterprise facilities leasing business conducted by prefectural facilities leasing agency prescribed by paragraph (6) of Article 2 of the Act of Financial Aid on Facility Introduction for Small Scale Enterprises [Act No. 115 of 1956]).

(Measures to be Taken by Those to whom Machine, etc., are Leased)

Article 667 A person who has leased machines, etc., from a machine lessors shall, in the case that a person operating the said machines, etc., is not employed by the said person, take the following measures:

(i) To confirm that the operator of the machines, etc., has qualification or skill required pursuant to the legislation.

(ii) To notify the operator of the machines, etc., of the following matters:

(a) Details of work.

(b) System of command.

(c) Method of liaison and signals.

(d) Travelling routes, speed limit and other matters concerning the operation of the said machines, etc.

(e) Other necessary matters for preventing industrial accidents due to the operation of the said machines, etc.

(Obligations of Person Operating Machine, etc.)

Article 668 The person operating machine, etc. set forth in the preceding Article shall, when having been informed of matters listed in item (ii) of the same Article from the person to whom machines, etc., are leased, observe the said matters.

Article 669 (Deleted)

Chapter III Special Regulations Concerning Building Lessors

(Emergency Exit, etc., for Common Use)

Article 670 (1) The lessor of the buildings set forth in Article 34 of the Act
(hereinafter referred to as "building lessor") shall, as regards the emergency exits or passages of the said building, or chutes, escape ladder and other equipment for evacuation, etc., in common use for two or more employers to whom buildings are leased, showing that such exits, etc., are for emergency use, and maintain such exits, etc., in a readily available condition.

(2) The building lessor shall ensure that the emergency exits or passages set forth in the preceding paragraph are provided with sliding doors or opening out type doors.

(Warning Facilities, etc., for Common Use)

Article 671 The building lessor shall, when the employer to whom the said building is leased, manufacturers or handles dangerous substances or other explosive or flammable substances or when 50 or more workers of the employer to whom the said building is leased work within the said building, provide the said building with automatic alarm facilities, emergency bells, or other alarm facilities, or portable loud-speakers, manual sirens or other alarm tools to be used to give a warning to the workers promptly at an emergency, and maintain them properly functioning at all times.

(Effective Maintaining of a Building Leased)

Article 672 The building lessor shall, when leasing a building to be used as a factory provided with any of the equipment falling under the following items and when two or more employers to whom the building is leased use the part or the whole of the equipment in common, take necessary measures regarding checkup, repairs, etc., in order to maintain functional validity of part of the equipment common used:

(i) Local exhaust ventilation system
(ii) Push-pull type ventilation system
(iii) General ventilation system
(iv) Exhaust gas disposal device
(v) Waste liquid disposal device

(Water Supply Facilities of the Building Leased)

Article 673 The building lessor shall, when leasing a building to be used as a factory which is provided with facilities to supply water for drinking or washing tableware, ensure that the water supply facilities prescribed by paragraph (9) of Article 3 of the Waterworks Act, or that they supply water complying with the water quality standards set forth in Article 4 of the same Act.

(Draining Facilities of the Building Leased)
Article 674  The building lessor shall, when leasing a building to be used as a factory that is provided with draining facilities, ensure that repairs and other necessary measures are taken so as to prevent the leakage of waste water due to the disturbance of the normal function of the draining facilities.

(Cleaning, etc., of Buildings Leased)

Article 675  The building lessor shall, when leasing a building to be used as a factory, ensure that, in order to maintain building sanitation, the measures listed in the following each item are taken for cleaning and controlling rodents, insects, etc., based on consultations with employers who use the building:
(i) In addition to daily cleaning, to conduct general cleaning periodically once every period within six months in the standardized procedures.
(ii) To periodically implement investigation on locations, habitats and invasion routes of rodents, insects, etc., and damages caused by them periodically once every period within six months in the standardized procedures, and take necessary measures to prevent infestation of rodents, insects, etc. based on the results of the said investigation.
(iii) To use drugs or quasi-drugs that is approved pursuant to the provision of Article 14 or 19-2 of the Pharmaceutical Affairs Act when using rodenticides or insecticides to control rodents, insects, etc.

(Provision of Convenience)

Article 676  The building lessor shall, as regards the installation of local exhaust ventilation system, partitions for noise prevention and other necessary facilities for prevention of industrial accidents, when the employer to whom a building is leased requests the building lessor to give conveniences such as an approval to alter the building due to the installation of the said facilities, or use of the facilities necessary for the installing work of the said facilities, give such convenience to the said employer.

(Lavatories of the Building Leased)

Article 677  The building lessor shall, as regards the lavatories of the building to be leased which are in common use by two or more employers, to whom the building is leased, ensure that the lavatories comply with the standards prescribed by the each item of paragraph (1) of Article 628. In this case, the number of urinals and toilets to be provided corresponding to the number of workers shall be decided based on the total number of the workers of the employers who common use the lavatories.

(Unification of Warning and Sign)

Article 678 (1) The building lessor shall set unified alarms to be used in case of
emergency such as the outbreak of a fire, the leakage of a toxic chemical substance within the building leased, and make them known to the employer to whom the building is leased.

(2) The building lessor shall, in the case where leasing a building to be used as a factory and when there exists an accident site, etc., listed in item (i), (iii) or (iv) of paragraph (1) of Article 640 in the building, set unified signs indicating the accident site, etc., and make them known to the employer to whom the building is leased.

Appended Table 1 (related to Article 16 and 17)

<table>
<thead>
<tr>
<th>Division of Work</th>
<th>Persons who are in possession of Qualification</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work set forth in item (i) of Article 6 of the Order</td>
<td>A person who is in possession of a license for operations chief of work in pressurized chamber</td>
<td>Operations chief of work in pressurized chamber</td>
</tr>
<tr>
<td>Work set forth in item (ii) of Article 6 of the Order</td>
<td>A person who is in possession of a license for operations chief of gas welding</td>
<td>Operations chief of gas welding</td>
</tr>
<tr>
<td>Work set forth in item (iii) of Article 6 of the Order</td>
<td>A person who is in possession of a license for operations chief of forestry cableway</td>
<td>Operations chief of forestry cableway</td>
</tr>
<tr>
<td>Of the works set forth in item (iv) of Article 6 of the Order, work handling boilers with a total heating surface area exceeding 500 m² (excluding the case of handling once-through boilers only.)</td>
<td>A person who is in possession of special class boiler expert’s license</td>
<td>Operations chief of boiler</td>
</tr>
<tr>
<td>Of the works set forth in item (iv) of Article 6 of the Order, work handling boilers with a total heating surface area of 25 m² or more and 500 m² or less (including work handling only once-through boilers with a total heating surface area exceeding 500 m².)</td>
<td>A person who is in possession of special class or class-1 boiler expert's license</td>
<td></td>
</tr>
<tr>
<td>Of the works set forth in item (iv) of Article 6 of the Order, work handling boilers with a total heating surface area of less than 25 m²</td>
<td>A person who is in possession of special class, class-1 or class-2 boiler expert's license</td>
<td></td>
</tr>
<tr>
<td>Of the works set forth in item (iv) of Article 6 of the Order, work handling only boilers listed in (a) through (d) of item (v) of Article 20 of the Order</td>
<td>A person who is in possession of special class, class-1 or class-2 boiler expert's license or a person who has completed the skill training course for operation of boiler</td>
<td>Operations chief of boiler handling</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Work set forth in item (v) of Article 6 of the Order</td>
<td>A person who is in possession of a license for operations chief of radiography with X-rays</td>
<td>Operations chief of radiography with X-rays</td>
</tr>
<tr>
<td>Work set forth in item (v)-2 of Article 6 of the Order</td>
<td>A person who is in possession of a license for operations chief of radiography with gamma-rays</td>
<td>Operations chief of radiography with gamma-rays</td>
</tr>
<tr>
<td>Work set forth in item (vi) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of woodworking machine</td>
<td>Operations chief of woodworking machine</td>
</tr>
<tr>
<td>Work set forth in item (vii) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of press machine</td>
<td>Operations chief of press machine</td>
</tr>
<tr>
<td>Work set forth in item (viii) of Article 6 of the Order</td>
<td>A person who has completed the skill training for operations chief of industrial dryer</td>
<td>Operations chief of industrial dryer</td>
</tr>
<tr>
<td>Work set forth in item (viii)-2 of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of concrete breaking</td>
<td>Operations chief of concrete breaking</td>
</tr>
<tr>
<td>Work set forth in item (ix) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of excavating natural ground and shoring</td>
<td>Operations chief of excavating natural ground and shoring</td>
</tr>
<tr>
<td>Work set forth in item (x) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of shoring</td>
<td>Operations chief of shoring</td>
</tr>
<tr>
<td>Work set forth in item (x)-2 of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of excavating tunnel, etc.</td>
<td>Operations chief of excavating tunnel, etc.</td>
</tr>
<tr>
<td>Work set forth in item (x)-3 of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of lining tunnel, etc.</td>
<td>Operations chief of lining tunnel, etc.</td>
</tr>
<tr>
<td>Work set forth in item (xi) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of excavating for quarrying</td>
<td>Operations chief of excavating for quarrying</td>
</tr>
<tr>
<td>Work set forth in item (xii) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of cargo piling</td>
<td>Operations chief of cargo piling</td>
</tr>
<tr>
<td>Work set forth in item (xiii) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of stevedore</td>
<td>Operations chief of stevedore</td>
</tr>
<tr>
<td>Work set forth in item (xiv) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of assembling, etc., of concrete form shoring (construction)</td>
<td>Operations chief of assembling, etc., of concrete form shoring (construction)</td>
</tr>
<tr>
<td>Work set forth in item (xv) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of assembling, etc., of scaffolding</td>
<td>Operations chief of assembling, etc., of scaffolding</td>
</tr>
<tr>
<td>Work set forth in item (xv)-2 of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of erection, etc., of steel structure</td>
<td>Operations chief of erection, etc., of steel structure</td>
</tr>
<tr>
<td>Work set forth in item (xv)-3 of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of installing, etc., of steel bridge</td>
<td>Operations chief of installing, etc., of steel bridge</td>
</tr>
<tr>
<td>Work set forth in item (xv)-4 of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of erection, etc., of wooden building</td>
<td>Operations chief of erection, etc., of wooden building</td>
</tr>
<tr>
<td>Work set forth in item (xv)-5 of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of demolishing, etc., of concrete structure</td>
<td>Operations chief of demolishing, etc., of concrete structure</td>
</tr>
<tr>
<td>Work set forth in item (xvi) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of installing, etc., of concrete bridge</td>
<td>Operations chief of installing, etc., of concrete bridge</td>
</tr>
<tr>
<td>Of the works set forth in item (xvii) of Article 6 of the Order, work use class-1 pressure vessels pertaining to chemical facilities</td>
<td>A person who has completed the skill training course for operations chief of use of class-1 pressure vessel relating to chemical facilities</td>
<td>Operations chief of use of class-1 pressure vessel</td>
</tr>
<tr>
<td>Of the works set forth in item (xvii) of Article 6 of the Order, work other than those use chemical class-1 pressure vessels pertaining to the chemical facilities</td>
<td>A person who is in possession of a special class, class-1 or class-2 boiler expert’s license, or A person who has completed the skill training course for operations chief of use of class-1 pressure vessel relating to chemical facilities or of use of ordinary class-1 pressure vessel</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Work set forth in item (xviii) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of specified chemical substances and tetra alkyl lead, etc.</td>
<td>Operations chief of specified chemical substances</td>
</tr>
<tr>
<td>Work set forth in item (xix) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of lead</td>
<td>Operations chief of lead</td>
</tr>
<tr>
<td>Work set forth in item (xx) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of specified chemical substances and tetra alkyl lead, etc.</td>
<td>Operations chief of tetra alkyl lead, etc.</td>
</tr>
<tr>
<td>Of the works set forth in item (xxi) of Article 6 of the Order, work other than those listed in the following column</td>
<td>A person who has completed the skill training course for operations chief of oxygen deficient danger or operations chief of oxygen deficient/hydrogen sulfide danger</td>
<td>Operations chief of oxygen deficient danger</td>
</tr>
<tr>
<td>Of the works set forth in item (xxi) of Article 6 of the Order, work in a place with danger of oxygen deficiency listed in item (3)-3, (9) or (12) of Appended Table 6 of the Order (for places listed in the same items, limited to those where the Minister of Health, Labour and Welfare designated as places where is liable to cause anoxia or sulfide poisoning to workers)</td>
<td>A person who has completed the skill training course for operations chief of oxygen deficient/hydrogen sulfide danger</td>
<td></td>
</tr>
<tr>
<td>Work set forth in item (xxii) of Article 6 of the Order</td>
<td>A person who has completed the skill training course for operations chief of organic solvent</td>
<td>Operations chief of organic solvent</td>
</tr>
</tbody>
</table>
Work set forth in item (xxiii) of Article 6 of the Order | A person who has completed the skill training course for operations chief of asbestos | Operations chief of asbestos

Remarks

The total of the heating surface area pertaining to the work set forth in item (iv) of Article 6 of the Order shall be calculated pursuant to the following provisions.

(i) To calculate the heating surface area of a boiler pursuant to the provision of Article 2 of the Boiler Ordinance.

(ii) As regards a once-through boiler, to calculate the heating surface area by multiplying the value obtained pursuant to the preceding item by one-tenth.

(iii) As regards a waste heat boiler, to calculate the heating surface area by multiplying it's heating surface area by one-half.

(iv) As regards the boilers listed in (a) to (d) of item (v) of Article 20 of the Order, not to include their heating surface areas.

(v) As regards the boilers that are equipped with the automatic control device having the function, which enables to stop the said boilers safely and other function in the case that the said boilers have any abnormalities pertaining to its pressure, temperature, water level or ignition, and prescribed by the Minister of Health, Labour and Welfare, to may not include their heating surface areas.

Appended Table 2 (related to Article 30)

<table>
<thead>
<tr>
<th>Substances</th>
<th>Content (Weight Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylamide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Acrylonitrile</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Acetone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Alkyl mercury compounds (limited to the substances in which the alkyl radicals are methyl or ethyl radicals)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Isobutyl alcohol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Isopentyl alcohol (alias isoamyl alcohol)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethylamine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethyl ether</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethyleneimine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyleneglycol monoethyl ether (alias cellosolve)</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>Ethyleneglycol monoethyl ether acetate (alias cellosolve acetate)</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>Ethyleneglycol mono-n-buthyl ether (alias butylelcellosolve)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethyleneglycol monomethyl ether (alias methylcellosolve)</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Substance</td>
<td>Limit</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Auramine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>O-Dichlorobenzene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>O-Phthalodinitrile</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Cadmium compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Xylene</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>Cresol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chromic acid and its salts</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chloroform</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chloromethylether</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Vanadium pentoxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Coal tar</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Isobutyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Isopropyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Isopentyl acetate (alias isoamyl acetate)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>n-Butyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>n-Propyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>n-Pentyl acetate (alias n-amyl acetate)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Calcium hypochlorite</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetraalkyl lead</td>
<td>-</td>
</tr>
<tr>
<td>Potassium cyanide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium cyanide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,4-Dioxyn</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Cyclohexanolate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Cyclohexanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,2-Dichloroethane (alias Ethylene dichloride)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,2-Dichloroethylene (alias Acetylene dichloride)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dichloromethane (alias methane dichloride)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>3,3'·Dichloro·4,4'·Diaminodiphenyl methane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>N,N-Dimethylformamide</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>Methyl bromide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dichromic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>-</td>
</tr>
<tr>
<td>Mercury and its inorganic compounds (excluding mercury sulfide)</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>Styrene</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>1,1,2,2-Tetrachloroethane (alias acetylene tetrachloride)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetrachloroethylene (alias perchloroethylene)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tolylenediisocyanate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Toluene</td>
<td>less than 0.3%</td>
</tr>
</tbody>
</table>
Substances Excluded from Dangerous and Harmful Substances Subject to Indicate Their Names, etc.

(i) Of the preparations and other substances containing tetraalkyl lead, etc., lead additive gasoline.

(ii) Of the preparations and other substances containing nitroglycerin, those desensitized with desensitizing agent having nonvolatility of 98% or more, and containing nitroglycerin of less than 1%.

### Appended Table 2-2 (related to Article 34-2)

<table>
<thead>
<tr>
<th>Substances</th>
<th>Content (Weight Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead compounds (limited to lead oxide, lead hydroxide, and other substances designated by the Minister of Health, Labour and Welfare)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nickel compounds (limited to the powder-like substances excluding Nickel carbonyl)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nickel carbonyl</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nitroglycerine</td>
<td></td>
</tr>
<tr>
<td>Nitrocellulose</td>
<td></td>
</tr>
<tr>
<td>Carbon disulfide</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>p-Dimethylaminoazobenzene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>p-Nitrochlorobenzene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Picric acid</td>
<td></td>
</tr>
<tr>
<td>Arsenic or its compounds (excluding Arsine and Gallium arsename)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phenol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1-Butanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Butanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Hydrogen fluoride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>6-Propiolactone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Benzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Pentachlorophenol (alias PCP) and its sodium salts</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Magenta</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methanol</td>
<td>less than 0.3%</td>
</tr>
<tr>
<td>Methyl isobutyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methylcyclohexanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methylcyclohexanone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl n-butyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl iodide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium hydrogensulfide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium sulfide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dimethylsulfate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Substance</td>
<td>Limit</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Acrylamide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Acrylic acid</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethyl acrylate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>n-Butyl acrylate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Hydroxypropyl acrylate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl acrylate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Acrylonitrile</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Acrolein</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium azide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Adipic acid</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Adiponitrile</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Acetylsalicylic acid (alias Aspirin)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Acetamide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Acetophenone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Acetone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Acetone cyanohydrin</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Aniline</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ammonium amidosulfate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Aminoethanol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4-Amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5(4H)-one (alias Metribuzin)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>3-Amino-1H-1,2,4-triazole (alias Amitrole)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4-Amino-3,5,6-trichloropyridine-2-carboxylic acid (alias Picloram)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Aminopyridine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium bisulfite</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Allyl alcohol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1-Allyloxy-2,3-epoxypropane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Arylmercury compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Allyl n-propyl disulfide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Trimethyl phosphate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Alkylaluminum compounds</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Alkylmercury compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>3-(α-Acetonylbenzyl)-4-hydroxycoumarin (alias Warfarin)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>α,α-Dichlorotoluene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>α-Methylstyrene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Water-soluble aluminum salts</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Antimony and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ammonia</td>
<td>less than 1%</td>
</tr>
<tr>
<td>3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl isocyanate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Isoprene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>N-Isopropylaniline</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O-Ethyl-O-(3-methyl-4-methylthiophenyl) N-isopropylaminophosphonate: Ethyl 3-methyl-4- (methylthio)phenyl (isopropyl)phosphoramidate (alias Fenamiphos)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Substance</td>
<td>Concentration</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Isopropylamine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Isopropyl ether</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>3’-Isopropoxy-2-trifluoromethylbenzanilide (alias Flutolanil)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Isopentyl alcohol (alias Isoamylalcohol)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Isophorone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Sulfur monochloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nitrogen monooxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dinitrogen oxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Yttrium and its compounds</td>
<td>less than 1%</td>
</tr>
<tr>
<td>ε-Caprolactam</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Imidazolidinethione</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4,4’-(4-Iminocyclohexa-2,5-dielynldienemethylene)dianiline hydrochloride (alias CI basic red 9)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Indium and its compounds</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Indene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Urethane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>ethanol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethanol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethanol ethiol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethyldieneenorbornene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylamine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethyl ether</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyl sec-pentyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethyl-p-nitrophenylthionbenzenephosphonate (alias EPN)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O-Ethyl-S-phenyl ethylphosphonothiolThionate (alias Fonofos)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Ethylhexanoic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyl methyl ketone peroxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>N-Ethylmorpholine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyleneimine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylene glycol monoisopropyl ether</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ethylene glycol monoethyl ether (alias Cellosolve)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylene glycol monoethyl ether acetate (alias Cellosolve acetate)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylene glycol mono-n-butyl ether (alias Butyl cellosolve)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylene glycol monomethyl ether (alias Methyl cellosolve)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylene glycol monomethyl ether acetate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylene chlorohydrin</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethylenediamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,1’-Ethylene-2,2’-bipyridinium dibromide (alias Diquat)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Ethoxy-2,2-dimethylethane: 2-Ethoxy-2-methylpropane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Concentration</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>2-(4-Ethoxyphenyl)-2-methylpropyl 3-phenoxybenzyl ether (alias Etofenprox)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Epichlorohydrin</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,2-Epoxy-3-isopropoxypropane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2,3-Epoxy-1-propanal</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2,3-Epoxy-1-propanol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2,3-Epoxypropyl phenyl ether</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Emery</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Erionite</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Zinc chloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Allyl chloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ammonium chloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cyanogen chloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Hydrogen chloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Thionyl chloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Benzyl chloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Benzoyl chloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Phosphoryl chloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chlorine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chlorinated camphene (alias Toxaphene)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chlorinated diphenyloxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Yellow Phosphorus</td>
<td>less than 1%</td>
</tr>
<tr>
<td>4,4'-Oxybis(2-chloroaniline)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O,O,O',O'-Tetraethyl oxybis(thiophosphonate) (alias Sulfotepp,Sulfotep)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4,4'-Oxybis(benzenesulfonylhydrazide)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetrasodium oxybisphosphonate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Octachloronaphthalene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,2,4,5,6,7,8,8'-Octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methano-1H-indene (alias Chlordane)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Octanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Octane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ozone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>ω-Chloroacetophenone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Auramine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>o-Anisidine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>o-Chlorostyrene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>o-Chlorotoluene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>o-Dichlorobenzene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>o-sec-Butylphenol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>o-Nitroanisole</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>o-Phthalodinitrile</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Gasoline</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Catechol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cadmium and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Carbon black</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Calcium cyanamide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Substance</td>
<td>Concentration</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Formic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyl formate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl formate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Xylidine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Xylene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Silver and its water-soluble compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cumene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Glutaraldehyde</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Creosote oil</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cresol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chromium and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chloroacetyl chloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chloroacetaldelyde</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chloroacetone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chloroethane (alias Ethyl chloride)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Chloro-4'-ethylamino-6'-isopropylamino-1,3,5-triazine (alias Atrazine)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4-Chloro-o-phenylenediamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chlorodifluoromethane (alias HCFC-22)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Chloro-6'-trichloromethylpyridine (alias Nitrapyron)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Chloro-1,1,2-trifluoroethyl difluoromethyl ether (alias Enflurane)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1-Chloro-1-nitropropane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chloropicrin</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chlorophenol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Chloro-1,3-butadiene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Chloropropionic acid</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Chlorobenzylidenemalononitrile</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chloropentafluoroethane (alias CFC-115)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chloroform</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chloromethane (alias Methyl chloride)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4-Chloro-2-methylaniline and its hydrochloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chloromethyl methyl ether</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Light oil: Gas oil</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Shale oils</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ketene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Germanium tetrahydride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Mineral oil</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phosphorus pentachloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Paraffin wax</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Vanadium pentaoxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cobalt and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Bromine pentafluoride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Coal tar</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Coal tar naphtha</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Concentration</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>1,3-Dimethylbutyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Lead acetate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Vinyl acetate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Butyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Propyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Benzyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Pentyl acetate (alias Amyl acetate)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl acetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Subtilisins</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phosphorus trichloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Zinc oxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Titanium(IV) oxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,2-Butylene oxide; 1,2-Epoxybutane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Propylene oxide; 1,2-Epoxypropane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Mesityl oxide; 4-Methyl-3-penten-2-one</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Boron trioxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Boron tribromide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chlorine trifluoride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Boron trifluoride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Calcium hypochlorite</td>
<td>less than 1%</td>
</tr>
<tr>
<td>N,N'-Diacetylbenzidine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Diacetone alcohol; 4-Hydroxy-4-methylpentan-2-one</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Diazomethane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cyanamide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyl 2-cyanoacrylate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl 2-cyanoacrylate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2,4-Diaminoanisole</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4,4'-Diaminodiphenyl ether</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4,4'-Diaminodiphenyl sulfide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4,4'-Diamino-3,3'-dimethyldiphenylmethane; 4,4'-Methylenebis(2-methylbenzenamine)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2,4-Diaminotoluene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tetraalkyllead</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Potassium cyanide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Calcium cyanide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Hydrogen cyanide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium cyanate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Diisobutyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Diisopropylamine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Diethanolamine; 2,2'-Iminodiethanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-(Diethylamino)ethanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Diethylamine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Diethyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Diethyl p-nitrophenylthiophosphate; O,O-Diethyl O-4-nitrophenyl phosphorothioate (alias Parathion)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Substance</td>
<td>Concentration</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>1,2-Diethylhydrazine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Diethylenetriamine: 2,2'-Iminodi(ethylamine)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,4-Dioxane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O,O,O',O'-Tetraethyl 1,4-dioxane-2,3-diylidithiobis (thiophosphonate); S,S'-1,4-Dioxane-2,3-diylbis(O,O-diethyl phosphorodithioate) (alias Dioxathion)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,3-dioxolane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cyclohexanol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cyclohexanone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cyclohexylamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Cyclohexylbiphenyl</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Cyclohexene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Cyclopentadienyltricarbonyl manganese; Tricarbonyl(η-cyclopentadienyl) manganese</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Cyclopentadiene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Cyclopentane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dichloroacetylene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dichloroethylene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dichloroethylene: Dichloroethene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>3,3'-Dichloro-4,4'-diaminodiphenylmethane; 4,4'-methylenebis(2-chloroaniline)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dichlorodifluoromethane (alias CFC-12)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,3-Dichloro-5,5-dimethylimidazolidine-2,4-dione</td>
<td>less than 1%</td>
</tr>
<tr>
<td>3,5-Dichloro-2,6-dimethyl-4-pyridinol (alias Clopidol)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dichlorotetrafluoroethane (alias CFC-114)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2,2-Dichloro-1,1,1-trifluoroethane (alias HCFC-123)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,1-Dichloro-1-nitroethane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>3-(3,4-Dichlorophenyl)-1,1-dimethylurea (alias Diuron)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium 2,4-dichlorophenoxyethyl sulfate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>(2,4-Dichlorophenoxy)acetic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,4-Dichloro-2-butene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dichlorofluoromethane (alias HCFC-21)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,2-Dichloropropane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2,2-Dichloropropionic acid</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,3-Dichloropropene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dichloromethane (alias Methylenedichloride)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Osmium tetraoxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dicyan</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dicyclopentadienyl iron: Bis(η-cyclopentadienyl)iron</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dicyclopentadiene: 3a,4,7,7a-Tetrahydro-4,7-methanoindene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-4-cresol: 2,6-Di-tert-butyl-4-methylphenol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Diisopropyl 1,3-dithiolan-2-yldenemalonate (alias Isoprothiolane)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>O-Ethyl O-4'-methylthiopenyl S-propyl phosphorodithioate (alias Sulprofos)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Compound</td>
<td>Concentration</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>O,O-Diethyl-S-(2-ethylthioethyl) phosphorodithioate (alias Disulfoton)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O,O-Diethyl-S-ethylthiomethyl phosphorodithioate (alias Phorate)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O,O-Dimethyl-S-[(4-oxo-1,2,3-benzotriazine-3(4H)-yl)methyl] phosphorodithioate; S-(3,4-Dihydroxy-4-oxobenzoz[d][1,2,3]triazin-3-ylmethyl) O,O-dimethyl phosphorodithioate (alias Azinphosmethyl)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O,O-Dimethyl-S-1,2-bis(ethoxycarbonyl)ethyl phosphorodithioate; Diethyl[(dimethoxyphosphiniothioyl)thio]butanediol (alias Malathion)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Disodium 4'-[2,4-dimethylphenyl]azo-3-hydroxy-2,7-naphthalenedisulfonate (alias Ponceau MX)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Disodium 8'':[3,3'-dimethyl-4'-[4-'[(4-methylphenyl)sulfonyl]oxy] phenyl] azo[1,1'-biphenyl]-4-yl]azo-7-hydroxy-1,3-naphthalene disulfonate (alias CI acid red 114)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Disodium 3'-hydroxy-4'-[2,4,5-trimethylphenyl]azo-2,7-naphthalenedisulfonate (alias Ponceau 3R)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2,4-Dinitrotoluene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dinitrobenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-(Di-n-butylamino) ethanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Di-n-propyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Divinylbenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Diphenylamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Diphenyl ether</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,2-Dibromoethane (alias EDB)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,2-Dibromo-3-chloropropane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dibromodifluoromethane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dibenzoyl peroxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Diborane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>N,N-Dimethylaniline</td>
<td>less than 1%</td>
</tr>
<tr>
<td>[4-[(4'-Dimethylamino)phenyl][4-[ethyl(3-sulfobenzyl)amino]phenyl] methyldienecyclohexane-2,5-dien-1-ylidene(ethyl)(3-sulfonatobenzyl) ammonium sodium salt (alias Benzyl violet 4B)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dimethylamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dimethyl(ethyldimercaptopyrithiophosphate: S(andO)-2-Ethylthioethoxy O,O-dimethyl phosphorothioate (alias Methyl demeton)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dimethylthoxysilane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dimethylcarbamoyl chloride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dimethyl-2,2'-dichlorovinylphosphate: 2,2'-Dichloroethenyl dimethyl phosphate (alias DDVP)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dimethyl disulfide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>N,N-Dimethylnitrosoamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Substance</td>
<td>Concentration</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Dimethyl-p-nitrophenylphosphorothioate: O,O-Dimethyl O'-4-nitrophenyl phosphorothioate (alias Methyl parathion)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dimethylhydrazine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,1'-Dimethyl-4,4'-bipyridinium dichloride (alias Paraquat)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,1'-Dimethyl-4,4'-bipyridinium di(methanesulfonic acid) salt</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl 2-(4,6-dimethyl-2-pyrimidinylaminocarbonylaminosulfonyl) benzoate (alias Sulfometuron methyl)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>N,N-Dimethylformamide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1-[(2,5-Dimethoxyphenyl)azo]-2-naphthol (alias Citrus red No. 2)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyl bromide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hydrogen bromide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl bromide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Oxalic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Bromine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Brominated biphenyl</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nitric acid</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>-</td>
</tr>
<tr>
<td>n-Propyl nitrate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Camphor</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Silane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Silica</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Zirconium and its compounds</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Man-made mineral fiber</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Mercury and its inorganic compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Potassium hydroxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Calcium hydroxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Cesium hydroxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Lithium hydroxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Lithium hydride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tin and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Styrene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Zinc stearate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium stearate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Lead stearate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Magnesium stearate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Strychnine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Petroleum ether</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Petroleum naphtha</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Petroleum benzine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium sesquicarbonate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Selenium and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-tert-Butylimino-3-isopropyl-5-phenyltetrahydro-4H-1,3,5-thiadiazin-4-one (alias Buprofezin)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Concentration</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Thallium and its water-soluble compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Silicon carbide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tungsten and its water-soluble compounds</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tantalum and its oxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>O,O,O',O'-Tetramethyl thiodi(p-phenylene)-dioxo-bis(phosphorothioate) (alias Temephos)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Thiourea</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4,4'-Thiobis(6-tert-butyl-3-methylphenol)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Thiophenol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate (alias Diazinon)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O,O-Diethyl-ethylthioethyl phosphorothioate (alias Demeton)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O,O-Diethyl-O-(6-oxo-1-phenyl-1,6-dihydro-3-pyridazinyl) phosphorothioate (alias Pyridaphenthion)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>O,O-Diethyl-O-(3,5,6-trichloro-2-pyridyl) phosphorothioate (alias Chlorpyrifos)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>O,O-Diethyl-O-[4-(methylsulfinyl)phenyl] phosphorothioate (alias Fensulfothion)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>O,O-Dimethyl-O-(2,4,5-trichlorophenyl) phosphorothioate (alias Ronnel)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O,O-Dimethyl-O-(3-methyl-4-nitrophenyl) phosphorothioate (alias Fenitrothion)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Decaborane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Water-soluble iron salts</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,4,7,8-Tetraaminoanthraquinone (alias Disperse Blue 1)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tetraethylthiuram disulfide (alias Disulfiram)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tetraethyl pyrophosphate (alias TEPP)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetraethoxysilane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,1,2,2-Tetrachloroethane (alias Tetrachloroacetylene)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>N-(1,1,2,2-Tetrachloroethylthio)enal, N-(1,1,2,2-Tetrachloroethylthio)-3a,4,7,7a-tetrahydrophthalimide (alias Captafol)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tetrachloroethylene (alias Perchloroethylene)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4,5,6,7-Tetrachloro-1,3-dihydrobenzo[c]furan-2-one; 4,5,6,7-Tetrachloro-3H-benzofuran-2-one (alias Fthalide)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetrachlorodifluoroethane (alias CFC-112)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2,3,7,8-Tetrachlorodibenzo-[1,4]-dioxin</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetrachloronaphthalene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetrasodium 3,3'-(3,3'-dimethyl-4,4'-biphenyl)bis[azo]bis[5-amino-4-hydroxy-2,7-naphthalenedisulfonate] (alias Trypane blue)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tetrasodium 3,3'-(3,3'-dimethoxy-4,4'-biphenyl)bis[azo]bis[5-amino-4-hydroxy-2,7-naphthalenedisulfonate] (alias CI direct blue 15)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tetrinitromethane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Concentration</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetrafluoroethylene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,1,2,2-Tetrabromoethane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetrabromomethane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetramethylsuccinic acid dinitrile</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetramethylium thiuram disulfide (alias Thiuram)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tetramethoxysilane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tetryl</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Terphenyl</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tellurium and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Turpentine oil</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Terephthalic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Copper and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Kerosine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Triethylamine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Trichloroethane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Trichloroacetic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,1,2-Trichloro-1,2,2-trifluoroethane: CFC-113</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Trichloronaphthalene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,1,1-Trichloro-2,2-bis(4-chlorophenyl)ethane (alias DDT)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,1,1-Trichloro-2,2-bis(4-methoxyphenyl)ethane (alias Methoxychlor)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2,4,5-Trichlorophenoxyacetic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Trichlorofluoromethane (alias CFC-11)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,2,3-Trichloropropane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,2,4-Trichlorobenzene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Trichloromethylsulfenyl chloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>N-(Trichloromethylthio)-1,2,3,6-tetrahydrothalamide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>N-(Trichloromethylthio)-3a,4,7,7a-tetrahydrothalamide (alias Captan)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tricyclohexyltin hydroxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,3,5-Tris(2,3-epoxypropyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tris(N,N-dimethylthiodicarbamate)iron (alias Ferbam)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Trinitrotoluene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Triphenylamine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tribromomethane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Trimethylacetyl-1,3-indandione</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Trimethylamine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Trimethylbenzene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tolylene diisocyanate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Toluidine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Toluene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1-Naphthyl-N-methylcarbamate (alias Carbaryl)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Lead and its inorganic compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chemical Compound</td>
<td>Concentration</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Sodium disulfite</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nicotine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Sulfur dioxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chlorine dioxide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Nitrogen dioxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Propylene dinitrate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Nickel and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nitritotriacetic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>5-Nitroacenaphthene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nitroethane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Nitroglycerin</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Nitrocellulose</td>
<td>-</td>
</tr>
<tr>
<td>N-Nitrosomorpholine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nitrotoluene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nitropropane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nitrobenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nitromethane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>n-Butyl lactate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Carbon disulfide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Nonane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>n-Butylamine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>n-Butyl ethyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>n-Butyl 2,3-epoxypropyl ether</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl N-[1-(N-n-butylcarbamoyl)-1H-2-</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>benzimidazolyl]carbamate (alias Benomyl)</td>
<td></td>
</tr>
<tr>
<td>Platinum and its water-soluble salts</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hafnium and its compounds</td>
<td>less than 1%</td>
</tr>
<tr>
<td>p-Anisidine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>p-Chloroaniline</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>p-Dichlorobenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>p-Dimethylaminoazobenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>p-tert-Butyltoluene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>p-Nitroaniline</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>p-Nitrochlorobenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>p-Phenyldioaniline</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>p-Benzoquinone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>p-Methoxyphenol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Barium and its water-soluble compounds</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Picric acid</td>
<td>-</td>
</tr>
<tr>
<td>Bis(2,3-epoxypropyl) ether</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,3-Bis[(2,3-epoxypropyl)oxy]benzene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Bis(2-chloroethyl) ether</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Bis(2-chloroethyl) sulfide (alias Mustard gas)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>N,N'-Bis(2-chloroethyl)methylamine N-oxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>S,S'-Methylene-O,O,O',O'-tetraethyl bis(dithiophosphate) (alias Ethion)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Bis(2-dimethylaminoethyl) ether</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Substance</td>
<td>Limit</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Arsenic and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hydrazine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hydrazine monohydrate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hydroquinone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4-Vinyl-1-cyclohexene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>4-Vinylcyclohexene dioxide; 4-Vinyl-1-cyclohexene dioxide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Vinyltoluene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Biphenyl</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Piperazine dihydrochloride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Pyridine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Pyrethrum</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phenoxilane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phenylhydrazine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phenylphosphine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phenylenediamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phenothiazine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phenol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ferrovanadium</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Butanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Diethyl phthalate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Di-n-butyl phthalate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dimethyl phthalate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Bis (2-ethylhexyl) phthalate (alias DEHP)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Butane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1-Butanethiol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Carbonyl fluoride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Vinylidene fluoride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Vinyl fluoride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Fluorine and its water-soluble inorganic compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Butenal (trivial name)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Sodium fluoroacetate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Furfural</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Furfuryl alcohol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,3-Propanesultone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Propionic acid</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Propyl alcohol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Propylenimine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Propylene glycol monomethyl ether</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Propyn-1-ol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Bromoethylene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Bromo-2-chloro-1,1,1-trifluoroethane (alias Halothane)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Bromochloromethane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Bromodichloromethane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>5-Bromo-3-sec-butyl-6-methyl-1,2,3,4-tetrahydropyrimidine-2,4-dione: 5-Bromo-3-sec-butyl-6-methyl-2,4(1H,3H)-pyrimidinedione (alias Bromacil)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Bromotrifluoromethane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Concentration</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>2-Bromopropane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hexachloroethane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4, 4a, 5, 6, 7, 8, 8a-octahydro-endo-(1,4)-endo-5,8-dimethanonaphthalene; 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4, 4a, 5, 6, 7, 8, 8a-octahydro-endo-1,4-exo-5,8-dimethanonaphthalene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4, 4a, 5, 6, 7, 8, 8a-octahydro-endo-1,4-exo-5,8-dimethanonaphthalene (alias Dieldrin)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,2,3,4,5,6-Hexachlorocyclohexane (alias Lindane)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hexachlorocyclopentadiene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hexachloronaphthalene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,4,5,6,7,7-Hexachlorobicyclo [2.2.1]-5-heptene-2,3-dicarboxylic acid (alias Chlorendic acid)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,2,3,4,10,10-Hexachloro-1, 4, 4a, 5, 8, 8a-hexahydro-exo-1,4-exo-5,8-dimethanonaphthalene (alias Aldrin)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hexachlorohexahydromethanobenzodioxathiepinoxide; 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepine 3-oxide (alias Benzoepin)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Hexachlorobenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hexahydro-1,3,5-trinitro-1,3,5-triazine (alias Cyclonite)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Hexafluoracetone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hexamethylphosphoric triamide</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hexamethylene diisocyanate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hexane</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1-Hexene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>β-Butyrolactone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>β-Propiolactone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,4,5,6,7,8,8-Heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene (alias Heptachlor epoxide)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,4,5,6,7,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene (alias Heptachlor)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Heptane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Ammonium peroxodisulfate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Potassium peroxodisulfate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Sodium peroxodisulfate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Perfluorooctanoic acid ammonium salt</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Benzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1,2,4-Benzene netricarboxylic 1,2-anhydride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Benzo[a]anthracene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Benzo[al]pyrene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Benzofuran</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Benzo[e]fluoranthene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Pentachloronaphthalene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chemical Compound</td>
<td>Concentration</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Pentachloronitrobenzene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Pentachlorophenol (alias PCP) and its sodium salts</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1-Pentanal</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (alias PFIB)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Pentaborane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Pentane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium borate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Phosgene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>(2-Formylhydrazino)-4-(5-nitro-2-furyl) thiazole</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Formamide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Magenta</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Manganese and its inorganic compounds</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Mineral spirits (include mineral thinner, petroleum spirits, white spirits and mineral turpentine)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Acetic anhydride</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Phthalic anhydride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Maleic anhydride</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>m-Xylylenediamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methacrylic acid</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl methacrylate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methacrylonitrile</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>m-Dicyanobenzene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methanol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyl methanesulfonate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl methanesulfonate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methylal</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methylacetylene</td>
<td>less than 1%</td>
</tr>
<tr>
<td>N-Methylaniline</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2,2'-(4-(Methylamino)-3-nitrophenyl)amino)diethanol (alias HC blue No. 1)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>O-(4-tert-Butyl-2-chlorophenyl)-O-methyl N-methylaminophosphonate (alias Crufomate)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methylamine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl isobutyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-sec-Butylphenyl N-methylcarbamate (alias Fenobucarb)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Methylcyclohexanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methylcyclohexanone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methylcyclohexane</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Methylcyclopentadienyl manganese tricarbonyl; (Methylcyclopentadienyl)tricarbonylmanganese</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Methyl-4,6-dinitrophenol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Chemical Formula</td>
<td>Concentration</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>2-Methyl-3,5-dinitrobenzamide (alias Dinitolmide)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl tert-butyl ether (alias MTBE)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>5-Methyl-1,2,4-triazolo[3,4-b]benzothiazole (alias Tricyclazole)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Methyl-4-(2-tolylazo)aniline</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Methyl-1-nitroanthraquinone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Ethyl N-methyl-N-nitrosocarbamate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl n-butyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl n-pentyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methylhydrazine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl vinyl ketone</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1-[(2-Methylphenyl)azo]-2-naphthol (alias Oil orange SS)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methyl propyl ketone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>5-Methyl-2-hexanone</td>
<td>less than 1%</td>
</tr>
<tr>
<td>4-Methyl-2-pentanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Methyl-2,4-pentanediol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>2-Methyl-N-[3-(1-methylethoxy)phenyl]benzamide (alias Mepronil)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>S-Methyl N-(methylcarbamoyloxy)thioacetimidate (alias Methomyl)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl mercaptan</td>
<td>less than 1%</td>
</tr>
<tr>
<td>4,4’-Methyleneedianiline</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methylenebis (4,1-cyclohexylene) diisocyanate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Methylenebis (4,1-phenylene) diisocyanate (alias MDI)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>2-Methoxy-5-methylaniline</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>1-(2-Methoxy-2-methylethoxy)-2-propanol</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Mercaptoacetic acid</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Molybdenum and its compounds</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Morpholine</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Methyl iodide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Iodine</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Iodoform</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dimethyl sulfide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium hydrogensulfide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sodium sulfide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Phosphorus sulfide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Diisopropyl sulfate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Diethyl sulfate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Dimethyl sulfate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hydrogen phosphide</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Di-n-butyl phosphate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Di-n-butyl phenyl phosphate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>1,2-Dibromo-2,2-dichloroethyl dimethyl phosphate (alias Naled)</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Substance</td>
<td>Concentration</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Dimethyl (E)-1-(N,N-dimethylcarbamoyl)-1-propen-2-yl phosphate; (E)-2-Dimethylcarbamoyl-1-methylvinyl dimethyl phosphate (alias Dicrotophos)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dimethyl (E)-1-(N-methylcarbamoyl)-1-propen-2-yl phosphate; (E)-1-Methyl-2-(methylcarbamoyl)vinyl dimethyl phosphate (alias Monocrotophos)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Dimethyl 1-methoxycarbonyl-1-propen-2-yl phosphate (alias Mevinphos)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tri (o-tolyl) phosphate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tris (2,3-dibromopropyl) phosphate</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Tri-n-butyl phosphate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Triphenyl phosphate</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Resorcinol</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Hexachlorobutadiene</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Rhodium and its compounds</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Rosin</td>
<td>less than 0.1%</td>
</tr>
<tr>
<td>Rotenone</td>
<td>less than 1%</td>
</tr>
</tbody>
</table>

Remarks

Substances Excluded from Dangerous and Harmful Substances Subject to Notify Their Names, etc.

Of the preparations and other substances containing nitroglycerin, those desensitized with desensitizing agent having nonvolatility of 98% or more, and containing nitroglycerin of less than 0.1%.

Appended Table 3 (related to Article 41)

<table>
<thead>
<tr>
<th>Division of work</th>
<th>Persons who are eligible to engage in the work</th>
</tr>
</thead>
</table>
| Work set forth in item (i) of Article 20 of the Order | (i) A person who has obtained a blasting operator's license  
(ii) A person who is in possession of the explosives handling and safety engineer's license set forth in Article 31 of the Explosives Control Act |
(iii) A person who has passed any of the examinations for Class A senior safety engineers, Class B senior safety engineers, Class D senior safety engineers, Class A blasting technician, Class B blasting technician, Class A junior surface safety technician, Class D junior surface safety technician, Class A junior pit safety technician, Class B junior pit safety technician and Class D junior pit safety technician conducted in accordance with the provision of the pre-repeal Ordinance on National Examinations for Safety Engineering Personnel (Ministry of International Trade and Industry Ordinance No. 72 of 1950, hereinafter referred to as "previous Ordinance on National Examinations for Safety Engineering Personnel") pursuant to the provision of Article 2 of the Supplementary Provisions of Enforcement Ordinance of the Mine Safety Act (Ordinance of the Ministry of Economy, Trade and Industry No. 96 of 2004).

<table>
<thead>
<tr>
<th>Work set forth in item (ii) of Article 20 of the Order</th>
<th>A person who has obtained a ship lifting appliance operator's license</th>
</tr>
</thead>
<tbody>
<tr>
<td>Of works set forth in item (iii) of Article 20 of the Order, the work other than those listed in the following column</td>
<td>A person who has obtained any of the special class boiler operator's, class-1 boiler operator's and class-2 boiler operator's licenses</td>
</tr>
</tbody>
</table>
| Of works set forth in item (iii) of Article 20 of the Order, the work handling any of the boilers set forth in (a) to (d) of item (v) of Article 20 of the Order | (i) A person who has obtained any of the special class boiler operator's, class-1 boiler operator's and class-2 boiler operator's licenses  
(ii) A person who has completed the skill training course for operation of boiler |
<p>| Of works set forth in item (iv) of Article 20 of the Order, the work other than those listed in the following column | A person who has obtained a special boiler welder's license |
| Of works set forth in item (iv) of Article 20 of the Order, the welding work in the case that the portion welded with the thickness of 25 mm or less or in the case of connecting nozzles, flanges, etc. | A person who has obtained a special boiler welder's or ordinary boiler welder's license |</p>
<table>
<thead>
<tr>
<th>Work set forth in item (v) of Article 20 of the Order</th>
<th>A person who has obtained a boiler maintenance person's license</th>
</tr>
</thead>
<tbody>
<tr>
<td>Of works set forth in item (vi) of Article 20 of the Order, the work other than those listed in the following column</td>
<td>A person who has obtained a crane/derrick operator's license</td>
</tr>
</tbody>
</table>
| Of works set forth in item (vi) of Article 20 of the Order, the work that involves the operation of a crane operated by an operator who is staying on floor and moving together with the movement of a lifted load. | (i) A person who has obtained a crane/derrick operator's license  
(ii) A person who has completed a skill training course for operation of floor operated cranes |
| Of works set forth in item (vii) of Article 20 of the Order the work other than those listed in the following column | A person who has obtained a mobile crane operator's license |
| Of works set forth in item (vii) of Article 20 of the Order, the work that involves operation of a mobile crane with a lifting capacity of less than 5 tons | (i) A person who has obtained a mobile crane operator's license  
(ii) A person who has completed a skill training course for operation of light capacity mobile cranes |
| Work set forth in item (viii) of Article 20 of the Order | A person who has obtained a crane/derrick operator's license |
| Work set forth in item (ix) of Article 20 of the Order | A person who has obtained a diver's license |
| Work set forth in item (x) of Article 20 of the Order | (i) A person who has obtained the license of an operations chief of gas welding  
(ii) A person who has completed the skill training course of gas welding  
(iii) Other persons provided by the Minister of Health, Labour and Welfare |
| Work set forth in item (xi) of Article 20 of the Order | (i) A person who has completed the skill training course of operation of forklift |
| (ii) | A person who has completed the training (excluding the one conducted by correspondence) of the lifting and transporting machine operation-type stevedore course prescribed in the column of training courses of Appended Table 2 of the Enforcement Ordinance on the Human Resources Development and Promotion Act, among the basic training or the ability redeveloping training which are the statutory training of paragraph (1) of Article 27 of the Human Resources Development and Promotion Act, and underwent the training pertaining to a forklift |
| (iii) | Other persons provided by the Minister of Health, Labour and Welfare |

| Of works set forth in item (xii) of Article 20 of the Order, the work to operate a construction machine listed in item (1) or (2) of Appended Table 7 of the Order | (i) A person who has completed the skill training course for the operation of vehicle-type construction machines (for leveling ground, transportation, loading and excavating) |
| | (ii) Of a person who has passed the examinations for construction technique using construction machines prescribed by Article 27-3 of the Enforcement Order of the Construction Industry Act (Cabinet Order No. 273 of 1956) (excluding those provided by the Minister of Health, Labour and Welfare) |
| | (iii) A person who has completed the training (excluding the one conducted by correspondence) of the construction machines operation course listed in the column of training courses of Appended Table 4 of the Enforcement Ordinance on the Human Resources Development and Promotion Act |
| | (iv) Other persons provided by the Minister of Health, Labour and Welfare |

| Of works set forth in item (xii) of Article 20 of the Order, the work operating a construction machine listed in item (3) of Appended Table 7 of the Order | (i) A person who has completed the skill training course for the operation of vehicle-type construction machines (for leveling ground, transportation, loading and excavating) |
| Work set forth in item (xii) of Article 20 of the Order | (i) A person who has completed the skill training course for the operation of vehicle-type construction machines (for demolition)  
(ii) A person who has passed the examination for construction technique using construction machines prescribed by Article 27-3 of the Enforcement Order for the Construction Industry Act (excluding those provided by the Minister of Health, Labour and Welfare)  
(iii) Other persons provided by the Minister of Health, Labour and Welfare |
| --- | --- |
| Work set forth in item (xiii) of Article 20 of the Order | (i) A person who has completed a skill training course for the operation of shovel loaders, etc.  
(ii) A person who has completed the training (excluding the one conducted by correspondence) of the lifting and transporting machine operation-type stevedore course prescribed in the column of training courses of Appended Table 2 of the Enforcement Ordinance on the Human Resources Development and Promotion Act, among the basic training or the ability redeveloping training which are the statutory training of paragraph (1) of Article 27 of the Human Resources Development and Promotion Act, and underwent the training pertaining to a shovel loaders, etc.  
(iii) Other persons provided by the Minister of Health, Labour and Welfare |
| Work provided by item (xiv) of Article 20 of the Order | (i) A person who has completed a skill training course for the operation of transporting vehicle on rough terrain  
(ii) A person who has passed the examination for construction technique using construction machines prescribed by Article 27-3 of the Enforcement Order for the Construction Industry Act (excluding those provided by the Minister of Health, Labour and Welfare) |
| Work set forth in item (xv) of Article 20 of the Order | (i) A person who has completed a skill training course for the operation of vehicle for work at height  
(ii) Other persons provided by the Minister of Health, Labour and Welfare |
|----------------|-------------------------------------------------|
| Work set forth in item (xvi) of Article 20 of the Order | (i) A person who has completed a skill training course in slinging  
(ii) A person who has completed the training (excluding the one conducted by correspondence) of slinger training course listed in the column of training courses of Appended Table 4 of the Enforcement Ordinance on the Human Resources Development and Promotion Act, among the basic training or the ability redeveloping training which are the statutory training of paragraph (1) of Article 27 of the Human Resources Development and Promotion Act  
(iii) Other persons provided by the Minister of Health, Labour and Welfare |

Appended Table 4 (related to Article 62)

| Class-1 health officer's license | (i) A person who has passed the license examination for class-1 health officer  
(ii) A person who has completed and graduated from a medical course of a university or technical college accredited under the School Education Act  
(iii) A person who has majored in and graduated from a course on health and hygiene of a university accredited under the School Education Act, and has completed a course or a subject on industrial health  
(iv) Other persons provided by the Minister of Health, Labour and Welfare |
|----------------|-------------------------------------------------|
| Class-2 health officer's license | (i) A person who has passed the license examination for class-2 health officer  
(ii) Other persons provided by the Minister of Health, Labour and Welfare |
| Health officer's license on Industrial hygiene | (i) A person who has completed and graduated from an engineering or a science course of a university or a technical college accredited under the School Education Act, and has completed a course provided by the Minister of Health, Labour and Welfare  
(ii) Other persons provided by the Minister of Health, Labour and Welfare |
| Operations chief of work in pressurized chamber license | A person who has passed the license examination for operations chief of work in pressurized chamber |
| Operations chief of gas welding license | (i) A person who has passed the license examination for operations chief of gas welding  
(ii) A person who has completed the plastic processing or welding course listed in the column of the training course of Appended Table 9 of the Enforcement Ordinance of the Human Resource Development and Promotion Act, among those training courses for instructors set forth in paragraph (1) of Article 27 of the same Act, to be conducted by the Human Resource Development and Promotion University  
(iii) Other persons provided by the Minister of Health, Labour and Welfare |
| Operations chief of forestry cableway license | (i) A person who has passed license examination for operations chief of forestry cableway  
(ii) A person who has majored in and graduated from a course or a subject on skyline logging cable cranes and logging cableways of a university or a technical college accredited under the School Education Act and has experiences having engaged in the work of forestry cableway for one year or longer thereafter  
(iii) A person who has majored in and graduated from a course or a subject on skyline logging cable cranes and logging cableways of a senior high schools or a secondary education schools accredited under the School Education Act and has experiences having engaged in the work of forestry cableway for three years or longer thereafter  
(iv) Other persons provided by the Minister of Health, Labour and Welfare |
| Special class boiler expert's license | (i) Of a person who has experiences having handled boilers (excluding boilers listed in (a) to (d) of item (v) of Article 20 of the Order and small sized boiler, hereinafter the same shall apply in this column) for five years or longer after having obtained Class-1 boiler expert's license or has experiences having served as a operations chief of boiler for three years or longer after having received the said license, those who have passed the license examination for special class boiler expert  
(ii) A person listed in (b) or (c) of item (i) of Article 101 of the Boiler Ordinance, and who have passed the license examination for special class boiler expert |
<table>
<thead>
<tr>
<th>License Type</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| **Class-1 boiler expert's license**               | (i) Of a person who has experiences having handled boilers for two years or longer after having obtained class-2 boiler expert's license or has experiences having served as a operation chief of boiler for one year or longer after having received the said license, those who have passed the license examination for class-1 boiler experts  
(ii) A person listed in (b) and (c) of item (ii) of Article 101 of the Boilers Ordinance, and who have passed the license examination for class-1 boiler expert |
| **Class-2 boiler expert's license**                | (i) A person who has passed the license examination for class-2 boiler expert  
(ii) A person prescribed by (b) and (c) of item (iii) of Article 97 of the Boilers Ordinance |
| **Operations chief of radiography with X-rays license** | (i) A person who has passed the license examination for operations chief of radiography with X-rays  
(ii) A person listed in each item of Article 48 of the Ionization Ordinance |
| **Operations chief of radiography with gamma-rays license** | (i) A person who has passed the license examination for operations chief of radiography with gamma-rays  
(ii) A person listed in each item of Article 52-4 of the Ionization Ordinance |
| **Operations chief of the work for handling specified class-1 pressure vessel license** | A person listed in each item of paragraph (1) of Article 119 of the Boiler Ordinance |
| **Blasting operator's license**                   | (i) A person who has passed the license examination for blasting operator  
(ii) A person who has majored in and graduated from a subject on applied chemistry, mine engineering or civil engineering of a university, a technical college, a senior high school and a secondary education school accredited under the School Education Act, and has engaged in the practical training on blasting work for one year or longer thereafter |
| **Cargo lifting appliance operator's license**     | (i) A person who has passed the license examination for cargo lifting appliance operator  
(ii) Of a person who has passed the academic test of the license examination for cargo lifting appliance operator, those who have completed the practical training course for cargo lifting appliance operation within one year from the day when the said test was conducted |
(iii) A person who has completed the training of the lifting and transporting machine operation-type crane operation course or the lifting and transporting machine operation-type stevedore course prescribed in the column of training courses of Appended Table 2 of the Ordinance on the Human Resources Development and Promotion Act, or the training (excluding the one conducted by correspondence) of the crane operation course or the stevedore course listed in the column of training courses of Appended Table 4 of the same Ordinance, among the basic training or the ability redeveloping training which are the statutory training of paragraph (1) of Article 27 of the Human Resources Development and Promotion Act, and underwent the training pertaining to cargo lifting appliance

(iv) Other persons provided by the Minister of Health, Labour and Welfare

<table>
<thead>
<tr>
<th>License</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special class boiler welder's license</td>
<td>A person who has passed the license examination for special class boiler welders</td>
</tr>
<tr>
<td>Ordinary class boiler welder's license</td>
<td>(i) A person who has passed the license examination for ordinary class boiler welders (ii) A person who may be exempted from all subjects of the academic test and all the practical skill tests in the license examination for ordinary class boiler welders</td>
</tr>
<tr>
<td>Boiler maintenance technician's license</td>
<td>A person who has passed the license examination for boiler maintenance technician</td>
</tr>
<tr>
<td>Crane/derrick operator's license</td>
<td>(i) A person who has passed a license examination for crane/derrick operators (ii) A person listed in item (ii) to (vi) of Article 223 of the Cranes Ordinance</td>
</tr>
<tr>
<td>Mobile crane operator's license</td>
<td>(i) A person who has passed a license examination for mobile crane operators (ii) A person listed in item (ii) to (v) of Article 229 of the Cranes Ordinance</td>
</tr>
<tr>
<td>Diver's license</td>
<td>A person who has passed a license examination for diving workers</td>
</tr>
</tbody>
</table>

Appended Table 5 (related to Article 70)

(i) License Examination for Class-1 Health Officers

<table>
<thead>
<tr>
<th>Qualifications for candidacy of examination</th>
<th>Subject of Examination</th>
<th>Qualification for exemption from examination subject</th>
<th>Subjects that may be exempted from examination</th>
</tr>
</thead>
</table>
(i) A person who has graduated from a university or a technical college accredited under the School Education Act, and has business experiences having engaged in the field of the occupational health for one year or longer thereafter
(ii) A person who has graduated from a senior high school or a secondary school accredited under the School Education Act, and has business experiences having engaged in the field of the occupational health for three years or longer
(iii) A person who has obtained the certificate of competency for health officers set forth in paragraph (3) of Article 82-2 of the Seamen Act (Act No. 100 of 1947), and has business experiences having engaged in the field of occupational health for one year or longer thereafter
(iv) Other persons provided by the Minister of Health, Labour and Welfare

<table>
<thead>
<tr>
<th>Subject of academic test</th>
<th>(i) A person listed in item (iii) of the column of the qualification for the candidacy of examination</th>
<th>Occupational physiology</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Occupational health</td>
<td>(ii) A person who has obtained the class-2 health officer’s license</td>
<td></td>
</tr>
<tr>
<td>(b) Occupational physiology</td>
<td>(c) Related legislation</td>
<td></td>
</tr>
</tbody>
</table>

**Qualifications for candidacy of examination**

<table>
<thead>
<tr>
<th>Subject of Examination</th>
<th>Qualification for exemption from examination subject</th>
<th>Subjects that may be exempted from examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) A person who has graduated from a university or a technical college accredited under the School Education Act, and has business experiences having engaged in the field of the occupational health work for one year or longer thereafter</td>
<td>A person listed in item (iii) of the column of the qualification for the candidacy of the examination</td>
<td>Occupational physiology</td>
</tr>
</tbody>
</table>
(ii) A person who has graduated from a senior high school or a secondary school accredited under the School Education Act, and has business experiences having engaged in the field of the occupational health work for three years or longer thereafter

(iii) A person who has obtained the certificate of competency of health officers set forth in paragraph (3) of Article 82-2 of the Seamen Act, and has business experiences having engaged in the field of the occupational health for one year or longer thereafter

(iv) Other persons provided by the Minister of Health, Labour and Welfare

(a) Occupational health

(b) Occupational physiology

(c) Related legislation

(ii) License Examination for Operations Chief of Gas Welding

<table>
<thead>
<tr>
<th>Qualifications for candidacy of examination</th>
<th>Subject of Examination</th>
<th>Qualification for exemption from examination subject</th>
<th>Subjects that may be exempted from examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) A person who has completed a skill training course for gas welding, and has experiences having engaged in work of gas welding, etc., for three years or longer thereafter</td>
<td>Subject of academic test</td>
<td>A person listed in item (ii) to (vi) of the column of the qualification for candidacy for examination (for a person listed in item (vi), limited to a person who has passed the class-1 skill examination.)</td>
<td>(i) Knowledge of acetylene welding equipment and gas welding equipment using manifolds</td>
</tr>
<tr>
<td>(ii) A person who majored in and graduated from a course relating to welding of a university or a technical college accredited under the School Education Act</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) A person who majored in and graduated from a course relating to engineering or chemistry of a university or a technical college accredited under the School Education Act, and has experiences having engaged in gas welding work for one year or longer thereafter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iv) A person who has obtained the vocational training instructors' licenses pertaining to type of occupation of courses plastic processing, ironwork for steel structures and piping listed in the column of type of license in Appended Table 11 of the Enforcement Ordinance of the Human Resource Development and Promotion Act among the licenses set forth in paragraph (1) of Article 28 of the Human Resource Development and Promotion Act</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Knowledge of acetylene welding equipment and gas welding equipment using manifolds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Knowledge of acetylene and other flammable gases, carbide and oxygen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Knowledge of the work gas welding, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Knowledge of acetylene and other flammable gases, carbide and oxygen</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(v) A person who has completed the metal processing course listed in the column of the training course of Appendix Table 2 of the Enforcement Ordinance of the Human Resource Development and Promotion Act, among the basic training or the ability redeveloping training which are the statutory training of paragraph (1) of Article 27 of the Human Resources Development and Promotion Act, and has experiences having engaged in gas welding, etc., for two years or longer thereafter.

(vi) A person who has passed the class-1 or class-2 trade skill test pertaining to ironwork, panel beating and sheet metal work or piping work, among the type of skill test listed in Appendix Table to the Enforcement Order of the Human Resource Development and Promotion Act (Cabinet Order No. 258 of 1969), and has experiences having engaged in gas welding, etc., for one year or longer thereafter.

(vii) A person who has passed an examination for welding technician based on the previous Ordinance on National Examinations for Safety Engineering Personnel, and has experiences having engaged in gas welding, etc., for one year or longer thereafter.

(viii) Other persons provided by the Minister of Health, Labour and Welfare.
### (iii) License Examination for Operations Chief of Forestry Cable Way

<table>
<thead>
<tr>
<th>Qualifications for candidacy of examination</th>
<th>Subject of Examination</th>
<th>Qualification for exemption from examination subject</th>
<th>Subjects that may be exempted from examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>A person who has experiences having engaged in forestry cableway operation work for three years or longer</td>
<td>Subject of academic test</td>
<td>A person who has completed and graduated from a courses related to dynamics of a university, a technical college, a senior high school or a secondary school accredited under the School Education Act</td>
<td>Knowledge of dynamics required for forestry cableway operation</td>
</tr>
<tr>
<td></td>
<td>(a) Knowledge of skyline logging cable cranes and logging cableways (b) Knowledge of forestry cableway operation (c) Knowledge of dynamics required for forestry cableway operation (d) Related legislation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### (iv) License Examination for Blasting Experts

<table>
<thead>
<tr>
<th>Qualifications for candidacy of examination</th>
<th>Subject of Examination</th>
<th>Qualification for exemption from examination subject</th>
<th>Subjects that may be exempted from examination</th>
</tr>
</thead>
</table>
(i) A person who has majored in and graduated from a course related to applied chemistry, mine engineering or civil engineering of a university, a technical college, a senior high school or a secondary school accredited under the School Education Act, and has completed an practical training of blasting work for three months or longer thereafter
(ii) A person who has experiences having engaged in the work of assistant blasting operation for six months or longer
(iii) A person who has completed practical training in blasting provided by the Minister of Health, Labour and Welfare

<table>
<thead>
<tr>
<th>Qualifications for candidacy of examination</th>
<th>Subject of Examination</th>
<th>Qualification for exemption from examination subject</th>
<th>Subjects that may be exempted from examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Subject of academic test</td>
<td></td>
<td>A person who has obtained the crane/derrick operator's license or mobile crane operator's license</td>
<td>(i) The following subjects in the academic test</td>
</tr>
<tr>
<td>(a) Knowledge of cargo lifting appliance</td>
<td></td>
<td></td>
<td>(a) Knowledge of prime movers and electricity</td>
</tr>
<tr>
<td>(b) Knowledge of prime movers and electricity</td>
<td></td>
<td></td>
<td>(b) Knowledge of dynamics required for operating cargo lifting appliance</td>
</tr>
<tr>
<td>(c) Knowledge of dynamics required for operating cargo lifting appliance</td>
<td></td>
<td></td>
<td>(ii) In the practical skill test, signals for operating cargo lifting appliance</td>
</tr>
</tbody>
</table>
(d) Related legislation

A person who has completed the practical training course for the cargo lifting appliance operation, and not has elapsed one year from the day of the completion

Whole of the subjects in the practical skill test

(ii) Practical skill test

A person who has completed a practical training course for floor-operated crane operation, mobile crane operation or slinging operation

Practical skill test concerning the signaling for operating cargo lifting appliance

(a) Operation of cargo lifting appliance

(i) A person who has passed the academic test in the previous license examination for cargo lifting appliance operator conducted by the Director of the Prefectural Labour Bureau

Whole of the subjects in the academic test

(b) Signals for operating cargo lifting appliance

(ii) A person who has passed the academic test of the license examination for cargo lifting appliance operator conducted by the designated examination agency, and not has elapsed one year from the day of the completion

Appended Table 6 (related to Article 79)

<table>
<thead>
<tr>
<th>Category of skill training course</th>
<th>Qualifications for receiving skill training course</th>
<th>Subjects of skill training course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skill training course for operations chief of woodworking machines</td>
<td>(i) A person who has experiences having engaged in the work operating woodworking machines for three years or longer (ii) Other persons provided by the Minister of Health, Labour and Welfare</td>
<td>Theoretical training (a) Knowledge of the type, structure and functions of a machine pertaining to the work and its safety device, etc.</td>
</tr>
</tbody>
</table>
| Skill training course for operations chief of press machines | (i) A person who has experiences having engaged in the work operating press machines for five years or longer  
(ii) Other persons provided by the Minister of Health, Labour and Welfare | Theoretical training |
| --- | --- | --- |

- (a) Knowledge of the type, structure and functions of a machine pertaining to the work and its safety device, etc.  
(b) Knowledge of the maintenance and inspection of a machine pertaining to the work and its safety device, etc.  
(c) Knowledge of the work method of work  
(d) Related legislation

| Skill training course for operations chief of industrial dryers | (i) A person who has experiences having engaged in the work handling industrial dryers for five years or longer  
(ii) A person who has majored in and graduated from a regular science course of a university or a technical college accredited under the School Education Act, and has experiences having engaged in the work of design, manufacturing, inspection or handling of industrial dryers for one year or longer thereafter | Theoretical training |
| --- | --- | --- |

- (a) Knowledge of the structure and handling of industrial dryers and their attached facilities
<table>
<thead>
<tr>
<th>Skill training course for operations chief of concrete breaking</th>
<th>(i) A person who has experiences having engaged in the work of concrete breaking using concrete breaker for two years or longer</th>
<th>Theoretical training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(ii) A person who has majored in and graduated from a chemistry, a mining or a civil engineering course of a university, a technical college, a senior high school or a secondary education school accredited under the School Education Act, and has experiences having engaged in the work of concrete breaking using concrete breaker for one year or longer thereafter</td>
<td>(a) Knowledge of explosives</td>
</tr>
<tr>
<td></td>
<td>(iii) A person who has obtained a blaster's license, and has experiences having engaged in the work of concrete breaking using concrete breaker or blasting for one year or longer thereafter</td>
<td>(b) Knowledge of the handling of concrete breaker</td>
</tr>
<tr>
<td></td>
<td>(iv) Other persons provided by the Minister of Health, Labour and Welfare</td>
<td>(c) Knowledge or breaking method using a concrete breaker</td>
</tr>
</tbody>
</table>

(iii) A person who has majored in and graduated from a regular science course of a senior high school or secondary education school accredited under the School Education Act, and has experiences having engaged in the work of design, manufacturing, inspection or handling of industrial dryers for two years or longer thereafter

(iv) Other persons provided by the Minister of Health, Labour and Welfare

(b) Knowledge of the inspection, maintenance and emergency measures of industrial dryers and their attached facilities

(c) Knowledge of the management of drying work

(d) Related legislation
<table>
<thead>
<tr>
<th>Skill training course for operations chief of excavating natural ground and shoring</th>
<th>(i) A person who has experiences having engaged in the work excavating natural ground, or installing or removing struts or wale of shoring for three years or longer (ii) A person who has majored in and graduated from a civil engineering, a architecture or a agricultural civil engineering course of a university, a technical college, a senior high school or a secondary education school accredited under the School Education Act, and has experiences having engaged in the work of excavating natural ground, or in installing or removing struts or wales of shoring for two years or longer after graduation there from (iii) Other persons provided by the Minister of Health, Labour and Welfare</th>
<th>Theoretical training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skill training course for operations chief of excavating tunnel, etc.</td>
<td>(i) A person who has experiences having engaged in the work excavating tunnel, etc., or muck loading associated with it, assembling of tunnel shoring, lock bolt fastening or work to spray concrete, etc., (referred to as &quot;work of excavating, etc., of tunnel, etc.&quot;, in the next item) for three years or longer</td>
<td>Theoretical training</td>
</tr>
</tbody>
</table>
| Skill training course for operations chief of lining of tunnel, etc. | (i) A person who has experiences having engaged in the work lining of tunnel, etc., for three years or longer  
(ii) A person who has majored in and graduated from a civil engineering, an architecture or an agricultural civil engineering course of a university, a technical college, a senior high school or a secondary education school accredited under the School Education Act, and has experiences having engaged in the work of lining of tunnel, etc., for two years or longer thereafter | (a) Knowledge of the work method  
(b) Knowledge of the construction facilities, machines, instruments, working environments, etc.  
(c) Knowledge of the education, etc., for workers  
(d) Related legislation  
Theoretical training | (a) Knowledge of the work method |
| Skill training course for operations chief of assembling, etc., of concrete form shoring | (iii) Other persons provided by the Minister of Health, Labour and Welfare | (b) Knowledge of construction facilities, machines, instruments, working environments, etc.  
(c) Knowledge of the education, etc., for workers  
(d) Related legislation |
|---|---|---|
| (i) A person who has experiences having engaged in the work related to assembling or dismantling concrete form shoring for three years or longer  
(ii) A person who has majored in and graduated from a civil engineering or an architecture course of a university, a technical college, a senior high school or a secondary education school accredited under the School Education Act, and has experiences having engaged in the work related to assembling and dismantling concrete form shoring for two years or longer thereafter  
(iii) Other persons provided by the Minister of Health, Labour and Welfare | Theoretical training | (a) Knowledge of the work method  
(b) Knowledge of construction facilities, machines, instruments, working environments, etc.  
(c) Knowledge of the education, etc., for workers  
(d) Related legislation |
| Skill training course for operations chief of assembling, etc., of scaffolding | (i) A person who has experiences having engaged in the work related to assembling, dismantling or altering scaffolding for three years or longer | Theoretical training |
| (ii) A person who has majored in and graduated from a civil engineering, an architecture or a shipbuilding course of a university, a technical college, a senior high school or a secondary education school accredited under the School Education Act, and has experiences having engaged in the work related to assembling, dismantling or altering of scaffolding for two years or longer thereafter | (a) Knowledge of the work method |
| (iii) Other persons provided by the Minister of Health, Labour and Welfare |  |
| Skill training course for operations chief of erection, etc., of steel frame of buildings, etc. | (i) A person who has experiences having engaged in the work erecting, dismantling or altering of frame works of buildings or towers that is composed of metallic members (referred to as "work of erection, etc., of steel frame of buildings, etc.", in the next item) for three years or longer |
|  | (ii) A person who has majored in and graduated from a civil engineering or an architecture course of a university, a technical college, a senior high school or a secondary education school accredited under the School Education Act, and has experiences having engaged in the work of erection, etc., of steel frame of buildings, etc., for two years or longer thereafter |
|  | Theoretical training |
|  | (a) Knowledge of the work method |
| Skill training course for operations chief of installing, etc., of steel bridge | (i) A person who has experiences having engaged in work related to installing, dismantling and altering bridge superstructures composed of metallic members (referred to as "work installing, etc., of steel bridge" in the next item) for three years or longer  
(ii) A person who has majored in and graduated from a civil engineering or a construction course of a university, a technical college, a senior high school or a secondary education school accredited under the School Education Act, and has experiences having engaged in the work related to installing, etc., of steel bridge for two years or longer thereafter  
(iii) Other persons provided by the Minister of Health, Labour and Welfare | Theoretical training  
(a) Knowledge of the work method  
(b) Knowledge of construction equipment, machines and instruments, etc.  
(c) Knowledge of the work environment, etc.  
(d) Knowledge of education, etc., for workers  
(e) Related legislation | (b) Knowledge of construction facilities, machines, instruments, working environments, etc.  
(c) Knowledge of the education, etc., for workers  
(d) Related legislation |
| Skill training course for operation chief of demolition, etc., of concrete structures | (i) A person who has experiences having engaged in the work dismantling or demolition of concrete structures (referred to as "work of demolition, etc., of concrete structures" in the next item) for three years or longer  
(ii) A person who has majored in and graduated from a civil engineering or an architecture course of a university, a technical college, a senior high school or a secondary education school accredited by the School Education Act, and has experiences having engaged in the work of demolition, etc., of concrete structures for two years or longer thereafter  
(iii) Other persons provided by the Minister of Health, Labour and Welfare | Theoretical training  
(a) Knowledge of the work method  
(b) Knowledge of work facilities, machines, instruments, working environments, etc.  
(c) Knowledge of the education, etc., for workers  
(d) Related legislation |
| Skill training course for operation chief of installing, etc., of concrete bridge | (i) A person who has experiences having engaged in work installing or altering concrete bridge superstructures (referred to as "work installing, etc., of concrete bridge", in the next item) for three years or longer | Theoretical training |
| Skill training course for operations chief of excavating work for quarrying | (i) A person who has experiences having engaged in the work excavating rocks for three years or longer  
(ii) A person who has majored in and graduated from a civil engineering or a mining course of a university, a technical college, a senior high school or a secondary education school accredited under the School Education Act, and has experiences having engaged in the work of excavating rocks for two years or longer thereafter  
(iii) Other persons provided by the Minister of Health, Labour and Welfare | Theoretical training | (a) Knowledge of the type of rocks and the method of excavating rocks, etc., for quarrying  
(b) Knowledge of facilities, machines, instruments, working environments, etc.  
(c) Knowledge of the education, etc., for workers  
(d) Related legislation |
<table>
<thead>
<tr>
<th>Skill training course for operations chief of cargo piling</th>
<th>A person who has experiences having engaged in the work making or breaking of cargo piles for three years or longer</th>
<th>Theoretical training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a) Knowledge of cargo pile (A mass of cargos that are piled up in a warehouse, shed or yard.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Knowledge of the manual work of making and breaking of cargo piles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(c) Knowledge of mechanical work required for making and breaking of cargo piles with machine, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(d) Related legislation</td>
<td></td>
</tr>
<tr>
<td>Skill training course for operations chief of stevedores</td>
<td>(i) A person who has obtained a license of cargo lifting appliance operator, crane/derrick operator or mobile crane operator, and has experiences having engaged in the work of stevedores for four years or longer thereafter</td>
<td>Theoretical training</td>
</tr>
<tr>
<td></td>
<td>(ii) Other persons provided by the Minister of Health, Labour and Welfare</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Knowledge required for supervising work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Knowledge of the structure and handling of ship facilities and cargo handling machines, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(c) Knowledge of the methods of slinging and signaling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(d) Knowledge of the method of cargo handling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(e) Related legislation</td>
<td></td>
</tr>
</tbody>
</table>
| Skill training course for operation chief of erection, etc., of wooden building | (i) A person who has experiences having engaged in the work assembling of construction members of wooden buildings or work of mounting of roof and exterior wall backings associated with the said work (referred to as "work assembling, etc., of construction members" in the next item) for three years or longer  
(ii) A person who has majored in and graduated from a civil engineering or an architecture course of a university, a technical college, a senior high school or a secondary education school accredited under the School Education Act, and has experiences having engaged in the work assembling, etc., of construction members for two years or longer thereafter  
(iii) Other persons provided by the Minister of Health, Labour and Welfare | Theoretical training  
(a) Knowledge of the assembling of construction members, mounting of roof backings, etc., of wooden buildings  
(b) Knowledge of construction facilities, machines, instruments, working environments, etc.  
(c) Knowledge of the education, etc., for workers  
(d) Related Legislation |
| Skill training course of gas welding | (i) Theoretical training  
(a) Knowledge of structure and handling method of facilities used for the work of gas welding, etc.  
(b) Knowledge of flammable gas and oxygen used for the work of gas welding, etc.  
(c) Related legislation |
| Skill training course of forklift operation | (i) Theoretical training
(a) Knowledge of structure and operating method of devices related to the traveling
(b) Knowledge of structure and operating method of the devices related to cargo handling
(c) Knowledge of dynamics required for the operation
(d) Related legislation
(ii) Practical skill training
(a) Operation for travelling
(b) Operation for cargo handling |
| Skill training course for the operation of shovel-loader, etc. | (i) Theoretical training
(a) Knowledge of structure and handling method of devices related to the traveling
(b) Knowledge of structure and handling of devices related to cargo handling
(c) Knowledge of dynamics required for operation
(d) Related legislation
(ii) Practical skill training
(a) Operation for traveling
(b) Operation for cargo handling |
<table>
<thead>
<tr>
<th>Skill training course for the operation of vehicle-type construction machines (for leveling ground, transport, loading and excavating)</th>
<th>(i) Theoretical training</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Knowledge of structure and handling method of devices related to the traveling</td>
<td></td>
</tr>
<tr>
<td>(b) Knowledge of the structure, handling of devices related to the work and the work method</td>
<td></td>
</tr>
<tr>
<td>(c) Knowledge of general matters required for the operation</td>
<td></td>
</tr>
<tr>
<td>(d) Related legislation</td>
<td></td>
</tr>
<tr>
<td>(ii) Practical skill training</td>
<td></td>
</tr>
<tr>
<td>(a) Operation for traveling</td>
<td></td>
</tr>
<tr>
<td>(b) Operation of device for the work</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skill training course for the operation of vehicle-type construction machines (for demolition)</th>
<th>(i) Theoretical training</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Knowledge of structure and handling method of devices related to the traveling</td>
<td></td>
</tr>
<tr>
<td>(b) Knowledge of the structure and handling of device related to the work, and work method</td>
<td></td>
</tr>
<tr>
<td>(c) Knowledge of general matters required for the operation</td>
<td></td>
</tr>
<tr>
<td>(d) Related legislation</td>
<td></td>
</tr>
<tr>
<td>(ii) Practical skill training</td>
<td></td>
</tr>
<tr>
<td>(a) Operation for traveling</td>
<td></td>
</tr>
<tr>
<td>Skill training course for the operation of vehicle-type construction machines (for foundation work)</td>
<td>(b) Operation for devices for the work</td>
</tr>
<tr>
<td>(i) Theoretical training</td>
<td></td>
</tr>
<tr>
<td>(a) Knowledge of structure and handling method of devices related to the traveling</td>
<td></td>
</tr>
<tr>
<td>(b) Knowledge of the structure and handling of devices related to the work and the work method</td>
<td></td>
</tr>
<tr>
<td>(c) Knowledge of general matters required for operating</td>
<td></td>
</tr>
<tr>
<td>(d) Related legislation</td>
<td></td>
</tr>
<tr>
<td>(ii) Practical skill training</td>
<td></td>
</tr>
<tr>
<td>(a) Operation for traveling</td>
<td></td>
</tr>
<tr>
<td>(b) Operation of devices for the work and signaling</td>
<td></td>
</tr>
</tbody>
</table>

| Skill training course for operation of transporting vehicle on rough terrain | (i) Theoretical training |
| (a) Knowledge of structure and handling of devices related to the traveling |
| (b) Knowledge of the cargoes transporting |
| (c) Knowledge of dynamics required for the operation |
| (d) Related legislation |
| (ii) Practical skill training |
| (a) Operation for traveling |
| (b) Operation for cargo transporting |
Skill training course for operation of vehicle for work at height

<table>
<thead>
<tr>
<th>(i) Theoretical training</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Knowledge of structure and handling method of devices related to the work</td>
</tr>
<tr>
<td>(b) Knowledge of prime movers</td>
</tr>
<tr>
<td>(c) Knowledge of general matters required for the operation</td>
</tr>
<tr>
<td>(d) Related legislation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(ii) Practical skill training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation for devices for the work</td>
</tr>
</tbody>
</table>

Appended Table 6-2 (related to Article 84-2)

(i) Work concerning generation, transmission, transformation, distribution or storage of electricity
(ii) Work melting, refining or heat treatment of metals
(iii) Work welding or cutting of metals
(iv) Work manufacturing of glass
(v) Work concerning dry distillation of coal, lignite, asphalt, pitch wood or resin; or distillation and refining of tar
(vi) Work using industrial dryers
(vii) Work manufacturing, refining or handling oils and fats, wax or paraffin
(viii) Spraying or baking of paints
(ix) Work manufacturing or handling compressed gas or liquefied gas
(x) Work manufacturing or handling gunpowder, explosives or similar articles
(xi) Work manufacturing or handling dangerous substances; or manufacturing or handling substances whose flash points are 65 °C or more at temperatures not less than the flash points
(xii) Work listed in item (ii) of paragraph (1) of Article 13 (excluding work listed in (j) in the same item)

Appended Table 7 (related to Article 86 and 88)

<table>
<thead>
<tr>
<th>Kind of machine</th>
<th>Items</th>
<th>Drawings, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Power presses (limited to mechanical presses with an eccentric mechanism such as crank-shaft, and hydraulic presses)</td>
<td>(i) Type</td>
<td>(i) Structural drawing or catalogues of power presses</td>
</tr>
</tbody>
</table>
(ii) Pressure capability

(iii) Length of stroke

(iv) Stopping performance

(v) Type of changeover switch

(vi) For Mechanical press with eccentric mechanisms such as crankshafts:
   (a) Model of clutch
   (b) Model of brake
   (c) Number of strokes per minute
   (d) Die height
   (e) Amount of slide adjustment
   (f) Installed location of overrun monitoring equipment
   (g) Number of engagements of clutch

(vii) For Hydraulic presses:
   (a) The maximum descending speed of slide
   (b) Inertial descending value

(viii) Outline of use:
   (a) Use
   (b) Stroke
| (c) Processing | (ix) Outline of safety | (x) Performance for |
| (ii) Melting furnaces for | (i) Type, model, | those with system |
| metals and other minerals | name of manufacturer and | for preventing |
| (limited to those with the | the year of manufacture | danger due to slide |
| capacities of 1 ton or more) | (ii) Type and | |
| | properties of metals | |
| | and other minerals | |
| | handled | |
| | (iii) Method of heating | |
| | (iv) Standard amount of charge, | |
| | temperature, pressure and other | |
| | use conditions | |
| | (v) Structures, material and main | |
| | dimensions | |
| | (vi) Structure, material and main | |
| | dimensions of the cooling equipment, | |
| | oxygen blowing equipment, pits and | |
| | other main attached facilities | |
| (iii) Chemical facilities | (i) Type, model and functions | |
| (excluding piping, and those | | |
| where the amounts of dangerous substances | | |
| manufactured or handled or | | |
| substance with flash points | | |
| of 65 °C or higher manufactured or handled | | |
| are below the standards provided by the Minister of Health, Labour and Welfare) | | |
| | (i) Structural drawing of the said melting furnace and its main attached facilities | |
| | (ii) Drawing showing outlines of surrounding area of the installation place | |
| | | |
| | | |

350
<p>| (ii) Names and properties of the dangerous substances manufactured or handled or substances with flash points of 65 °C or higher manufactured or handled (iii) Standard amount of charge, temperature, pressure and other working conditions (iv) Structure, material and main dimension (v) Structure, material and main dimensions of main attached facilities and piping | (iv) Industrial dryers (limited to those set forth in (a) or (b) of item (viii) of Article 6 of the Order) | (i) Type, model, capability, name of manufacturer and the year of manufacture (ii) Type and properties of substances to be dried (iii) Method of heating (iv) Temperature, pressure and other working conditions (v) Structure, material and main dimensions (i) Structural drawings (ii) Drawing showing outlines of surrounding area of the installation place |</p>
<table>
<thead>
<tr>
<th>(vi) Functions, structure, material and main dimensions of ventilation system, temperature measuring apparatus, temperature adjusting apparatus and other main attached facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>(v) Acetylene welding equipment (excluding mobile types)</td>
</tr>
<tr>
<td>(i) Floor area, structure, material and main dimensions of wall, roof, ceiling, door of entrances and exits of the generator room and exhaust pipe, and number of welding equipment installed in the generator room</td>
</tr>
<tr>
<td>(ii) Type, model, name of manufacturer, the year of manufacture of the generators</td>
</tr>
<tr>
<td>(iii) Type, model, name of manufacturer, the year of manufacture, number, structure, material and main dimensions of the safety equipment</td>
</tr>
<tr>
<td>(iv) Name, structure, material and main dimensions of the purifier and its accessories</td>
</tr>
<tr>
<td>(v) Structure and capacity of the sludge pit of carbide</td>
</tr>
<tr>
<td>(i) Arrangement plan</td>
</tr>
<tr>
<td>(ii) Structural drawings of generators and safety equipment</td>
</tr>
<tr>
<td>(iii) Structural drawings of generator room</td>
</tr>
<tr>
<td>(iv) Drawing showing outlines of surrounding area of the installation place</td>
</tr>
</tbody>
</table>
| (vi) Gas welding equipment using manifold (excluding mobile type) | (i) Structure and main dimensions of the gas manifold room, name of the gas to be stored and maximum capacity of gas storage  
(ii) Structure and main dimensions of gas manifold  
(iii) Type, model, name of the manufacturer, the year of manufacturer, number, structure, material and main dimensions of the safety equipment  
(iv) Name, structure, material and main dimensions of the piping, valves and other accessories | (i) Arrangement plan  
(ii) Structural drawings of the safety equipment  
(iii) Structural drawings of the gas manifold room  
(iv) Drawing showing outlines of surrounding area of the installation place |
| (vii) Skyline logging cable cranes (limited to those having prime mover with rated power output of 7.5 kW or more) | (i) Rope reeving system  
(ii) Maximum working load  
(iii) Sloped distances, inclined angle and central dangling ratio of effective spans  
(iv) Structure and diameters of the main cable and work rope  
(v) Safety coefficient of the main cable and work rope (to be provided with a strength calculation document)  
(vi) Type, rated power output and maximum traction force of yarder | Arrangement plan |
<table>
<thead>
<tr>
<th></th>
<th>(vii) Period of installation</th>
<th>(i) Type</th>
<th>Arrangement plan</th>
</tr>
</thead>
</table>
| (viii) Logging cableway (to those with the total of sloped distance of the effective span 350 m or more) | (ii) Maximum working load and clearance between carriers  
(iii) Total of sloped distance of the effective span  
(iv) Sloped distance, inclined angle of and central dangling ratio of the longest effective span  
(v) Structure and diameters of the main cable and towing rope  
(vi) Safety coefficient of the main cable and towing rope (to be provided with a strength calculation document)  
(vii) For those of power driven, type and rated power output of the cableways  
(viii) Period of installation | | |
| (ix) Railway equipment | (i) Purpose of use | When indicating in writing the matter listed in the middle column is impossible, attach plane view, cross sectional view and structural drawings, etc., pertaining to the said matters | |
(ii) Locations of starting point and ending point, and their difference of altitude (Average gradient)
(iii) Length of the rail tracks
(iv) Minimum radius of curvature and steepest gradient
(v) Gauge of the rail tracks, classification of single or double track and weight of a rail
(vi) Length, width and structure of the bridge or landing pier
(vii) Type, number, model, weight, traction force and main dimensions of power cars
(viii) Model, capability and main dimensions of the winch
(ix) Type and function of the brake
(x) Conditions of signaling, warning device and illuminating apparatus
(xi) Maximum operation speed
(xii) Location and structure of anchoring device
(xiii) For those installed underground, relationship between railway equipment and its surroundings
| (x) Concrete form shoring (limited to those having support with height of 3.5 m or higher) | (i) Outline of the concrete structure to be placed  
(ii) Structure, material and main dimension  
(iii) Period of installation | Erection diagram and arrangement plan |
| (xi) Makeshift passages (limited to those with length and width are 10 m or more respectively) | (i) Location of installation  
(ii) Structure, material and main dimensions  
(iii) Period of installation | Plane view, side view and cross sectional view |
| (xii) Scaffoldings (limited to those having height of 10 m or higher for those other than hanging scaffoldings and cantilever scaffoldings) | (i) Location of installation  
(ii) Type and purpose of use  
(iii) Structure, material and main dimensions | Erection diagram and arrangement plan |
<p>| (xiii) Facilities to keep airtight emission sources of organic solvent vapour set forth in Article 5 or 6 of the Organic Solvent Ordinance, local exhaust ventilation systems, push-pull type ventilation systems, and general ventilation systems (excluding mobile ones) | (i) Outline of organic solvent work (meaning those listed in item (vi) of paragraph (1) of Article 1 of the Organic Solvent Ordinance, hereinafter the same shall apply in this column) | (i) Drawing of facilities, etc. |</p>
<table>
<thead>
<tr>
<th>(i) Outline of machines or facilities that is an emission source of organic solvent (meaning those listed in Appended Table 6-2 of the Order, hereinafter the same shall apply in this column) vapour</th>
<th>(ii) Drawing of the work place where organic solvent work is to be carried out</th>
</tr>
</thead>
<tbody>
<tr>
<td>(iii) Method of restrain emissions of organic solvent vapour</td>
<td>(iii) For local exhaust ventilation system, local exhaust ventilation system specification document (Form No. 25)</td>
</tr>
<tr>
<td>(iv) For facilities to keep airtight a emission source of organic solvent, an outline of method for keeping airtight and structure of main part of said facilities</td>
<td>(iv) For push-pull ventilation system, push-pull ventilation system specification document (Form No. 26)</td>
</tr>
<tr>
<td>(v) For a general ventilation system, the model, an outline of the structure of main part of the said system and their function</td>
<td></td>
</tr>
<tr>
<td>(xiv) Facilities to keep airtight emission sources of dust from lead, etc., or sintered ore, etc., prescribed by Article 2, 5 to 15 and 17 to 20 of the Lead Ordinance, local ventilation systems or push-pull type ventilation systems</td>
<td>(i) Outline lead work (meaning those listed in item (v) of Article 1 of the Lead Ordinance, hereinafter the same shall apply in this column)</td>
</tr>
<tr>
<td></td>
<td>(i) Drawing of facilities, etc.</td>
</tr>
<tr>
<td>(ii) Outline of machines or facilities that is an emission source of dust of lead, etc., (meaning those listed in item (i) of Article 1 of the Lead Ordinance, hereinafter the same shall apply in this column) or sintered ore, etc., (meaning those listed in item (ii) of the same Article, hereinafter the same shall apply in this column)</td>
<td>(ii) Drawing of the work place where lead work is to be carried out</td>
</tr>
<tr>
<td>(iii) Methods of restrain emissions of dust of lead, etc., or sintered ore, etc.</td>
<td>(iii) For a local ventilation system, a local ventilation system specification document (Form No. 25)</td>
</tr>
<tr>
<td>(iv) For facilities to keep airtight the emission source of dust of lead, etc., or sintered ore, etc., an outline of the method for keeping airtight and the structure of the main part of said facilities</td>
<td>(iv) For push-pull ventilation system, push-pull ventilation system specification document (Form No. 26)</td>
</tr>
<tr>
<td>(xv) Machines or equipment used for the work listed in item (ii) of Appended Table 5 of the Order (hereinafter referred to as &quot;work&quot; in this column)</td>
<td>(i) Outline of the work</td>
</tr>
<tr>
<td></td>
<td>(i) Drawing of machines and devices used in the work</td>
</tr>
<tr>
<td></td>
<td>(ii) Outline of machines or facilities that are emission sources of tetraalkyl lead (meaning those set forth in item (i) of Appended Table 5 of the Order) vapour</td>
</tr>
<tr>
<td>(i)</td>
<td>Outline of the work involving manufacture of Group-1 substances or specified Group-2 substances, etc.</td>
</tr>
<tr>
<td>(ii)</td>
<td>Outline of the structure of the main structural part of the building where facilities to manufacture Group-1 substances or specified Group-2 substances, etc. is installed</td>
</tr>
<tr>
<td>(iii)</td>
<td>Drawing showing the arrangement of facilities to manufacture Group-1 substances or specified Group-2 substances, etc.</td>
</tr>
<tr>
<td>(iv)</td>
<td>Models of machines or devices used in the work and an outline of their design and main part structure and their functions</td>
</tr>
<tr>
<td>(v)</td>
<td>Provision of personal protective equipment and antiseptics, etc.</td>
</tr>
<tr>
<td>(vi)</td>
<td>Outline of washing facilities</td>
</tr>
</tbody>
</table>
| (vii) | Provision of facilities to manufacture Group-1 substances listed in item (i) of paragraph (1) of Article 2 of the Specified Chemicals Ordinance (hereinafter referred to as "Group-1 Substances" in this column) and specified Group-2 substances set forth in subpar.

---

- **Handling of gasoline containing tetraalkyl lead:**
  - Amount of gasoline containing tetraalkyl lead
  - Models of machines or devices used in the work and an outline of their design and main part structure and their functions
  - Provision of personal protective equipment and antiseptics, etc.
  - Outline of washing facilities
  - Facilities to manufacture Group-1 substances listed in item (i) of paragraph (1) of Article 2 of the Specified Chemicals Ordinance (hereinafter referred to as "Group-1 Substances" in this column) and specified Group-2 substances set forth in subpara.
| xvii) Specified chemical facilities set forth in item (ii) of Article 9-3 of the Order (hereinafter referred to as "specified chemical facilities" in this column) and their attached facilities | (i) Outline of the work involving manufacture or handling of specified Group-2 substances (meaning those listed in item (iii) of paragraph (1) of Article 2 of the Specified Chemicals Ordinance, hereinafter the same shall apply in this and next column) or Group-3 substances (meaning substances listed in item (iii) of Appended Table 3 of the Order)  
(ii) Outline of the structure of the main structural part  
(iii) Outline of the structure of attached facilities | (i) Drawing showing surroundings and relationship with surroundings |
| (iv) In the case that a local exhaust ventilation system has been installed, a local exhaust ventilation system specification document (Form No. 25)  
(v) In the case that a push-pull ventilation system has been installed, a push-pull ventilation system specification document (Form No. 26)  
(ii) Structure of the building where specified chemical facilities are located  
(iii) Drawing showing the arrangement of specified chemical facilities and attached facilities  
(iv) In the case that a local exhaust ventilation system has been installed, a local exhaust ventilation system specification document (Form No. 25) |
<table>
<thead>
<tr>
<th>(xviii) Emanation Restraining facilities installed in indoor workshop where the gas, vapour or dust of specified Group-2 substances or control Group-2 substances listed in item (v) of paragraph (1) of Article 2 of the Specified Chemical Ordinance (hereinafter referred to as &quot;control Group-2 substances&quot; in this column) are exuded</th>
<th>(i) Outline of the work involving the manufacture or handling of specified Group-2 substances or Group-2 substances</th>
<th>(i) Drawing showing surroundings and relationship with surroundings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(ii) For facilities to keep airtight the emission source of gas, vapour or dust of specified Group-2 substances or Group-2, an outline of the method for keeping airtight and the structure of the main structural part and its function</td>
<td>(ii) Drawing showing the whole of work place</td>
</tr>
<tr>
<td></td>
<td>(iii) For general ventilation systems, the model, an outline of the structure of the main structural part and its function</td>
<td>(iii) Drawing of facilities to keep airtight the emission source of gas, vapour or dust of specified Group-2 substances or Group-2 substances and general ventilation systems</td>
</tr>
<tr>
<td></td>
<td>(iv) In the case that a local exhaust ventilation system has been installed, a local exhaust ventilation system specification document (Form No. 25)</td>
<td></td>
</tr>
<tr>
<td>(v) In the case that a push-pull ventilation system has been installed, a push-pull ventilation system specification document (Form No. 26)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(xix) Exhaust gas disposal devices set forth in paragraph (1) of Article 10 of the Specified Chemicals Ordinance pertaining to acrolein</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Outline of the work involving the manufacture or handling of acrolein</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Disposition method of exhaust gas and the disposition capability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) Outline of the structure of the main structural part</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Drawing showing surroundings and relationship with surroundings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Drawing of the structure of exhaust gas disposal devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) In the case that a local exhaust ventilation system has been installed, a local exhaust ventilation system specification document (Form No. 25)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iv) In the case that a push-pull ventilation system has been installed, a push-pull ventilation system specification document (Form No. 26)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(xx) Waste liquid treatment system set forth in paragraph (1) of Article 11 of the Specified Chemicals Ordinance</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Outline of the work involving discharged fluids</td>
</tr>
<tr>
<td>(ii) Disposition method of discharged fluids and the disposition capability</td>
</tr>
<tr>
<td>(iii) Outline of the structure of the main structural part</td>
</tr>
<tr>
<td>(i) Drawing showing surroundings and relationship with surroundings</td>
</tr>
<tr>
<td>(ii) Drawing of the structure of the waste liquid treatment system</td>
</tr>
<tr>
<td>(iii) In the case that a local exhaust ventilation system has been installed, a local exhaust ventilation system specification document (Form No. 25)</td>
</tr>
<tr>
<td>(iv) In the case that a push-pull ventilation system has been installed, a push-pull ventilation system specification document (Form No. 26)</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>(xxi) Radiation apparatus set forth in paragraph (1) of Article 15 of the Ionizing Radiation Ordinance (excluding certified apparatus with indication set forth in paragraph (2) of Article 12-5 of the Act on Prevention of Radiation Health Impairment Due to Radioisotope, etc. [Act No. 167 of 1957] or specified certified apparatus with indication set forth in paragraph (3) of the same Article), radiation apparatus rooms set forth in paragraph (1) of Article 15 of the Ionizing Radiation Ordinance, working rooms for handling radioactive substances set forth in paragraph (2) of Article 22 of the Ionizing Radiation Ordinance or storage facilities pertaining to radioactive substances set forth in paragraph (2) of Article 2 of the Ionizing Radiation Ordinance</td>
</tr>
<tr>
<td>Outline of the work using the machines, etc., products and work processes listed in the left column</td>
</tr>
<tr>
<td>(i) Drawing showing the control area</td>
</tr>
<tr>
<td>(ii) For radiation apparatus, A radiation apparatus specification document (Form No. 27), and for other machines, etc., a radiation apparatus room specification document (Form No. 28)</td>
</tr>
<tr>
<td>(xxii) Air conditioning facility or mechanical centrally controlled ventilation systems set forth in Article 5 of the Ordinance on Health Standards in the Office (Ministry of Labour Ordinance No. 43 of 1972)</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>(xxiii) Machine or facility with an emission source of specified dust listed in item (vi) and (viii) of Appended Table 2 of the Dust Ordinance and mould breaking equipment set forth in item (xiv) of the same Table</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
(iii) When using facilities to keep airtight emission source of dust as method for preventing dispersal of dust, method of keeping airtight, an outline of the structure of the main structural part and their function

(iv) When using method other than those in the preceding item and those using local exhaust ventilation system for preventing dispersal of dust, model, an outline of the structure of the main structural part of the facilities for preventing dispersal of dust and its capability

(xxiv) Local exhaust ventilation systems or push-pull type ventilation systems installed pursuant to the provision of Article 4 or the proviso of paragraph (1) of Article 27 of the Dust Ordinance

Outline of dust work

(i) Drawing showing surroundings and relationship with surroundings

(ii) Drawing showing the arrangement of the main machines or facilities in the workshop

(iii) In the case that a local exhaust ventilation system has been installed, a local exhaust ventilation system specification document (Form No. 25)
(xxv) Emanation restraining facilities installed in an indoor workshop where dusts of asbestos are exuded

| (iv) In the case that a push-pull ventilation system has been installed, a push-pull ventilation system specification document (Form No. 26) |
|---|---|
| (i) Outline of the work handling asbestos or to manufacturing them for experiment and research |
| (ii) For facilities to keep airtight emission source of asbestos dust, the method for keeping airtight, outline of the structure of main structural part and its function |
| (iii) For the general ventilation system, model, outline of the structure of main structural part and its function |
| (i) Drawing showing surroundings and relationship with surroundings |
| (ii) Drawing showing the whole of work place |
| (iii) Drawing of facilities to keep airtight the emission source of asbestos dust or drawing of general ventilating system |
| (iv) In the case that a local exhaust ventilation system has been installed, a local exhaust ventilation system specification document (Form No. 25) |
| (v) In the case that a push-pull ventilation system has been installed, a push-pull ventilation system specification document (Form No. 26) |

- **Appended Table 8**
  - Deleted

- **Appended Table 9 (related to Article 92-3)**

<table>
<thead>
<tr>
<th>Classification of work</th>
<th>Qualifications</th>
</tr>
</thead>
</table>

366
| Work pertaining to the machine, etc., listed in item (x) of the left column of Appended Table 7 | (i) A person who falls under both of the following (a) and (b):

(a) A person who falls under any of the following provisions:
   1. To have business experience having engaged in design supervision or execution supervision of construction work pertaining to concrete form shoring for three years or longer.
   2. To have passed the examination for class-1 architects set forth in Article 12 of the Architect Act (Act No. 202 of 1950).
   3. To have passed the examination for class-1 engineering work execution process supervisors or class-1 building work process supervisors prescribed by Article 27-3 of the Enforcement Order of the Construction Industry Act.

(b) To have business experience having engaged in the field of safety and health in construction work for three years or longer or have completed the training course provided by the Minister of Health, Labour and Welfare.

(ii) A person who has passed the examination for the industrial safety consultant in the category of the civil engineering or building construction.

(iii) Other persons provided by the Minister of Health, Labour and Welfare |

| Work pertaining to the machine, etc., listed in item (xii) of the left column of Appended Table 7 | (i) A person who falls under both of the following (a) and (b):

(a) A person who falls under any of the following provisions:
   1. To have business experience having engaged in design supervision or execution supervision of construction work pertaining to the scaffolding for three years or longer.
   2. To have passed the examination for class-1 architects set forth in Article 12 of the Architect Act.
   3. To have passed the examination for class-1 engineering work execution supervisors or class-1 building work execution supervisors prescribed by Article 27-3 of the Enforcement Order of the constructors Act. |
(b) To have business experience having engaged in the field of industrial safety and health in construction work for three years or longer or have completed the training course provided by the Minister of Health, Labour and Welfare.

(ii) A person who has passed the examination for industrial safety consultants in the category of civil engineering or building construction.

(iii) Other persons provided by the Minister of Health, Labour and Welfare

| Of construction work, those listed in item (i) of Article 89-2 and item (i) of Article 90 (excluding dam construction work) | (i) A person who falls under both of the following (a) and (b):

(a) A person who falls under any of the following provisions:
1. To have completed and graduated from a regular scientific courses of a university or technical college accredited under the School Education Act, and have business experience having engaged in the design supervision or execution supervision of construction work for ten years or longer thereafter.
2. To have completed and graduated from a regular scientific courses of a high school or a secondary school accredited under the School Education Act, and have experience having engaged in the design supervision or execution supervision of construction work for fifteen years or longer thereafter.
3. To have passed the examination for the class-1 architects prescribed by Article 12 of the Architect Act.
(b) To have business experience having engaged in the field of safety and health in construction work for three years or longer or have completed the training provided by the Minister of Health, Labour and Welfare.

(ii) A person who has passed the examination for industrial safety consultant in the category of building construction.

(iii) Other persons provided by the Minister of Health, Labour and Welfare |
Work listed in item (ii) to (vi) of Article 89-2 and item (i) to (v) of Article 90 (limited to dam construction work for the work listed in item (i) of the same Article, and to construction work for the work listed in item (ii), (ii)-2 and (iii) of the same Article)

(i) A person who falls under all of the following (a) to (c)

(a) A person who falls under any of the following provisions:
   1. To have completed and graduated from a regular scientific course of a university or a technical college accredited under the School Education Act, and have business experience for ten years or longer in design supervision or execution supervision of civil engineering work thereafter.
   2. To have completed and graduated from a regular scientific course of a senior high school or a secondary school accredited under the School Education Act, and have experience having engaged in design supervision or execution supervision of civil engineering work for fifteen years or longer thereafter.
   3. To have passed the second examination for consultant engineers in the category of construction work prescribed by paragraph (1) of Article 4 of the Consultant Engineers Act (Act No. 25 of 1983).
   4. To have passed the examination for class-1 engineering work execution process supervisors or class-1 building work process supervisors prescribed by Article 27-3 of the Enforcement Order of the Construction Industry Act.

(b) A person who has business experience in design supervision or execution supervision of the following work corresponding to the categories of work listed in the following provisions respectively:
   1. Of dam construction work, those set forth in item (ii) of Article 89-2 and item (i) of Article 90: Dam construction work
   2. Of construction work, those set forth in item (iii) of Article 89-2 and items (ii) and (ii)-2 of Article 90: Bridge construction work
   3. Of Construction work, those set forth in item (iv) and (v) of Article 89-2 and item (iii) of Article 90: Construction work of tunnels, etc.
4. Work set forth in item (vi) of Article 89-2 and item (v) of Article 90: Work including operations by the compressed air method.
5. Work set forth in item (iv) of Article 90: Work including excavating of natural ground
(c) To have business experience having engaged in the field of safety and health in construction work for three years or longer or have completed the training provided by the Minister of Health, Labour and Welfare.
(ii) A person who has passed the examination for industrial safety consultant in the category of civil engineering.
(iii) Other persons provided by the Minister of Health, Labour and Welfare