

Ordinance on Prevention of Tetraalkyl Lead Poisoning

Ministry of Labour Ordinance No. 38 of September 30, 1972

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[In Japanese](#)

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Chapter I. General Provisions

(Definition of Terms)

Article 1. Terms used in this ordinance shall comply with the definitions in the following items:

- (1) Tetraalkyl lead shall be defined as that which is provided in item 1 of [Attached Table 5 of the Cabinet Order of the Industrial Safety and Health Law](#) (Cabinet Order No 318 of 1972, called "the Cabinet Order" hereinafter).
- (2) Leaded gasoline shall be defined as that which is provided for in item 4 of [Attached Table 5 of the Cabinet Order](#).
- (3) Tetraalkyl lead, etc., shall be defined as tetraalkyl lead and leaded gasoline.
- (4) Tanks shall be defined as tanks and other equipment which are contaminated or are suspected to be contaminated by tetraalkyl lead, etc.
- (5) Tetraalkyl lead operations shall be defined as that which is provided for in [Attached Table 5 of the Cabinet Order](#).

(6) Facilities, etc., shall be defined as machines and equipment provided for in items 1 and 2 of [Attached Table 5 of the Cabinet Order](#).

2. This ministerial ordinance (except the provisions of Articles [12](#), [13](#), [20](#), and [25](#)) shall not apply to work handling tetraalkyl lead in a separate room through remote control.

Chapter II. Measures Pertaining to Tetraalkyl Lead Work

(Measures Pertaining to Manufacturing Tetraalkyl Lead)

Article 2. The employer who is to have his employees engage in the work designated in item 1 of [Attached Table 5 of the Cabinet Order](#) shall take the following measures:

- (1) Use a sealed type facilities, etc., except in the case where using facilities, etc., with sealed units is extremely difficult in view of the nature of the work, and the place of the work can be ventilated by a local ventilating system with enclosing hoods while the work is in progress.
- (2) Isolate the place of the designated work from other work places and any other place where the workers are regularly present or there is constant traffic of workers.
- (3) Make the floor of the work place impermeable to tetraalkyl lead with its structure which enables it to be removed easily if the floor is contaminated by it.
- (4) Provide for workers a resting room, exclusive face washing facilities, a tank of kerosene for washing and shower units (or bath units where shower units are not provided) at a location separated from the work place.
- (5) Inspect the facilities at least once a day and take necessary measures whenever a leak of tetraalkyl lead or its vapor is detected or suspected.
- (6) Have the workers wear protective garments, gloves and boots impermeable to tetraalkyl lead, except in the case where there is no fear that the workers will be contaminated with tetraalkyl lead.
- (7) Have the workers carry gas masks for protection from organic solvents.
- (8) Contain the tetraalkyl lead in solid drums which are free from leakage and indicate on each drum that it contains tetraalkyl lead.

2. Workers who are engaged in the work stated in the preceding paragraph shall use the personal protective equipment as provided for in item 6 of the preceding paragraph and shall carry the mask for organic solvents as provided for in item 7 of the same

paragraph while they are engaged in the said work. Whereas, this provision shall not be applicable when the case falls in the proviso of item 6 of the same paragraph.

Article 3. Deleted

(Protective Measures Related to Contamination of Tetraalkyl Lead)

Article 4. The employer who has his workers be engaged in work provided for in item 2 of [Attached Table 5 of the Cabinet Order](#) shall take the following measures:

- (1) Make the facilities, etc., in the structure such that workers will not be contaminated by tetraalkyl lead and will not inhale its vapour.
- (2) Design the building of the workshop open at three sides for sufficient ventilation.
- (3) When emptying containers of tetraalkyl lead by sucking out the contents into facilities, etc., suck out all the tetraalkyl lead without leaving any volume inside.
- (4) As soon as completing the sucking out of tetraalkyl lead from a container to facilities, etc., tightly plug the container and remove the contamination by tetraalkyl lead on the external surface of the container.
- (5) Have the workers wear non-permeable aprons, protective gloves and boots and have them wear gas masks for organic solvents while they are engaged in the work.
- (6) Measures provided for from items 2 through 5 of paragraph 1 of Article 2.

2 Workers who are engaged in the work provided for in the preceding paragraph shall use the personal protective equipment stated in item 5 of the same paragraph during the said work.

(Measures Pertaining to Repairing the facilities, etc.)

Article 5. The employer who has his workers be engaged in work provided for in item 3 of [Attached Table 5 of the Cabinet Order](#) shall take the following measures:

- (1) Remove the contamination by tetraalkyl lead from the equipment prior to the beginning of the work. Whereas, this provision shall not be applicable if such removal is extremely difficult in view of the nature of the work.
- (2) Have the workers who are to be engaged in the work (except the ones to remove the contamination, as provided by the preceding item), wear a non-permeable apron, protective gloves and boots, and use gas masks for organic solvents. Whereas, this provision shall not be applicable when the said workers are free from the risk of suffering from tetraalkyl lead poisoning.

2 Workers who are engaged in the work provided for in the preceding paragraph (except the one to remove the contamination, as provided by the item 1 of the same paragraph) shall use the personal protective equipment stipulated in item 2 of the same paragraph during the said work. Whereas, this provision shall not be applicable in the cases of proviso of the same item.

(Measures Pertaining to Work Inside Tanks)

Article 6. The employer who has his workers be engaged in work inside of a tank for tetraalkyl lead stipulated in item 4 of [Table 5 of the Cabinet Order](#), shall take the following measures. In this case, the measures provided for from items 1 through 5 shall be taken in the order stated.

- (1) Discharge tetraalkyl lead from the tank, and take measures for all the plumbing connected to the tank so as not to allow tetraalkyl lead to flow into the tank.
- (2) After washing the inside of a tank with gasoline or kerosene oil, discharge the said gasoline or kerosene from the tank.
- (3) After detoxifying the inside of a tank with a 5% solution of potassium permanganate, (called "detoxifier" hereinafter), discharge it from the tank.
- (4) Keep open all the openings such as manholes and drain nozzles of the tank as far as there is no risk of allowing tetraalkyl lead to flow into the tank.
- (5) After washing the inside of a tank with a detoxifier, water or steam, discharge the said detoxifier, water or steam from the tank.
- (6) Sufficiently ventilate the inside of a tank before beginning the work and continuously ventilate during the work.
- (7) Install facilities or equipment which is able to evacuate the workers immediately when any emergency occurs.
- (8) Assign at a place from where one can easily look at inside of a tank at least one person to monitor the work going on and to report to an operations chief for work handling tetraalkyl lead work or related officer immediately when any accident or abnormality occurs.
- (9) Have the workers who are engaged in the work wear non-permeable protective clothes, gloves and boots, caps and use air-supplied respirators.
- (10) Have the workers who are engaged in the work stated from items 2 through 5 and the monitoring work stated in item 8 (except the one inside a tank) wear non-permeable protective clothes, gloves, boots and gas masks for organic gases. Whereas, this provision shall not be applicable when the said workers are unlikely to be contaminated by tetraalkyl lead or to inhale its vapour.

2. Workers who are engaged in the work provided for in the preceding paragraph shall wear the personal protective equipment stated in the item 9 of the same paragraph during the said work.
3. Workers who are engaged in the work stated from items 1 through 5 of paragraph 1 or the monitoring work stated in item 8 of the same paragraph (except the one done inside a tank), shall wear the personal protective equipment stipulated in item 10 of the same paragraph during the said work. Whereas, this provision shall not be applicable in the case of proviso of the same item.

Article 7. The provisions of the preceding article (except items 2, 3 and 6 of paragraph 1) shall be applied correspondingly to cases when an employer has his workers engaged, in work related to tanks containing leaded gasoline among works provided for in item 4 of [Attached Table 5 of the Cabinet Order](#). In this case, "items 1 through 5" in paragraphs 1 and 3 of the preceding article shall be read as "item 1, 4 and 5."

2. The employer who has his workers engaged in the work provided for in the preceding paragraph shall ventilate the tank until the concentration of gasoline in the air is reduced to 0.1 mg/l or less by the ventilating system before the work is started, and shall continue the ventilation by the same system throughout the work.

(Measures Pertaining to Residue)

Article 8. The employer who has his workers engaged in work provided for in item 5 of [Attached Table 5 of the Cabinet Order](#) shall take the following measures:

- (1) When residue except waste solution is to be carried or stored temporarily, use solid containers with a top or plug and without the possibility of leaking or spilling of the contents.
- (2) When residue except waste fluid is to be disposed, burn the said residue or pour a sufficient amount of detoxifier and dispose it in a manner so as not to allow exposure.
- (3) When waste fluid is temporarily stored, use solid containers or pits which does not have the possibility of leakage or spilling. When the waste fluid is to be disposed, do so after it is sufficiently detoxified by dilution or other means.
- (4) Have the workers who are engaged in the work wear non-permeable protective clothes, gloves and boots.

2. Workers who are engaged in the work provided for in the preceding paragraph shall wear the personal protective equipment stipulated in item 4 of the same paragraph.

(Measures Pertaining to Handling Drum Cans, etc.)

Article 9. The employer who engages his workers in work provided for in item 6 of [Attached Table 5 of the Cabinet Order](#) shall take the following measures:

(1) At the beginning of the work, check the drums and the places where the drums are put. When a drum is found to leak tetraalkyl lead or to have the risk of leakage, repair the drum or take necessary measures for it. Remove drums if contaminated by tetraalkyl lead, and decontaminate the place if polluted.

(2) Have the workers who are engaged in the work pertaining to that stipulated in the preceding item (except the work to remove the contamination), wear non-permeable protective clothes, gloves and boots, and carry gas masks for organic solvents.

(3) Have the workers who are engaged in work other than that stipulated in item 1 of paragraph 1 wear non-permeable protective gloves.

2. Workers who are engaged in the work stipulated in item 1 of the preceding paragraph (except the work to remove the contamination) shall wear the personal protective equipment stipulated in item 2 of the same paragraph (except the gas masks for organic solvents) and shall carry the gas masks for organic solvents during the said work.

3. Workers who are engaged in the work other than that stipulated by item 1 of paragraph 1 shall use the personal protective equipment stipulated in item 3 of the same paragraph during the said work.

(Measures Pertaining to Research)

Article 10. The employer who has his workers engaged in work provided for in item 7 of [Attached Table 5 of the Cabinet Order](#) shall take the following measures:

(1) Install a draft which has sufficient capacity to suck in the vapour of tetraalkyl lead at each emission source.

(2) Have the workers wear non-permeable aprons and protective gloves.

2. Workers who are engaged in the work stipulated in the preceding paragraph shall wear the personal protective equipment provided for in item 2 of the same paragraph during the work.

(Measures Pertaining to Removing Contamination)

Article 11. The employer who has his workers engaged in the work provided for in item 8 of [Attached Table 5 of the Cabinet Order](#) in workshops where natural ventilation is insufficient such as cellars, holds or pits shall take the following measures:

(1) Prepare for ready use equipment or tools for evacuating workers from the workshop in an emergency.

(2) Sufficiently ventilate the workshop using a ventilator at the beginning of the work and keep ventilating throughout the work.

(3) Assign at least at a place where one can easily look at the workplace one person to monitor the workplace and to report any accidents or abnormalities that may occur immediately to the operations chief of work handling tetraalkyl lead work and other related officers.

(4) Have the workers who are engaged in the ventilating work (except the one done by power) as provided for in item 2, wear non-permeable protective clothes, gloves, boots, caps and use either air-supplied respirators or gas masks for organic gases.

(5) Have the workers who are engaged in work other than ventilating work (including the monitoring work stipulated in item 3) wear non-permeable protective clothes, gloves, boots, caps and use air-supplied respirators (air-supplied respirators or gas masks for organic gases for the work to remove leaded gasoline contamination).

2. The employer who has his workers engaged in the work stipulated in item 8 of [Attached Table 5 of the Cabinet Order](#) (except those which are provided for in the preceding paragraph), shall take the following measures:

(1) Prepare gas masks for organic solvents at the workplace.

(2) Have the workers wear non-permeable protective clothes, gloves and boots.

3. The employer, at the completion of the work to eliminate tetraalkyl lead contamination, shall ascertain that the contamination is removed by measuring the concentration of tetraalkyl lead in the air or by other methods.

4. Workers who are engaged in the work stipulated in item 8 of [Attached Table 5 of the Cabinet Order](#) shall wear the specified protective equipment during the said work, i.e., equipment which is stipulated in item 4 of paragraph 1 for the ventilating work stipulated in item 2 (except the one done by power) of the same paragraph; that which is stipulated in item 5 of the same paragraph for work other than the ventilating work stipulated in item 2 of the same paragraph; and that which is stipulated in item 2 of the same paragraph for the work stipulated in the paragraph 2.

(Measures Pertaining to Leaded Gasoline)

Article 12. The employer who is to have its employees engaged in work in which leaded gasoline is to be used for purposes such as washing, etc., other than use as fuel for internal combustion engines, shall take the following measures:

(1) Install a local exhaust ventilating system of enclose-type hood at the workplace and keep it in operation during work.

(2) Have the workers wear non-permeable gloves, during work.

2. Workers who are engaged in the work stipulated in the preceding paragraph shall wear the personal protective equipment stipulated in item 2 of the same paragraph during the work.

Article 13. An employer shall not allow the workers to wash their hands and feet with leaded gasoline.

2. Workers shall not wash their hands and feet with leaded gasoline.

(Appointment of an Operations Chief of Work Handling Tetraalkyl Lead)

Article 14. The employer shall appoint an operations chief of work handling tetraalkyl lead stipulated in item 20 of [Article 6 of the Cabinet Order](#) from among those who have completed the skill training course for operations chiefs of work handling tetraalkyl lead.

(Duties of Operations Chief of Work Handling Tetraalkyl Lead)

Article 15. The employer shall have the operations chief of work handling Tetraalkyl Lead carry out the following functions:

(1) Determine the methods of work so as to prevent the workers from inhalation of and/or contamination by tetraalkyl lead and supervise the workers for this purpose.

(2) Inspect the ventilating system stipulated in item 6 of [paragraph 1 of Article 6](#), [paragraph 2 of Article 7](#) or item 2 of [paragraph 1 of Article 11](#), prior to a day's work.

(3) Observe the use of personal protective equipment.

(4) Have the workers evacuate from the workshop as soon as possible if and when the workers are apprehended to have suffered from tetraalkyl lead poisoning in any cases stipulated in each item of [paragraph 1 of Article 20](#) or they are apprehended to have had suffered from it, as they complain about abnormal symptoms or are found to have abnormal symptoms.

(5) When the bodies or clothes of workers are found to be contaminated by tetraalkyl lead, have them decontaminate using a solution of potassium permanganate or kerosene oil for working or soap etc., as soon as possible.

(Management of Personal Protective Equipment etc.)

Article 16. The employer who has his workers engaged in tetraalkyl lead work shall take the following measures prior to the beginning of a day's work:

(1) Inspect the personal protective equipment and repair or replace it if abnormality is found.

(2) Replace the filtration canisters of masks for organic gases when the aggregated use time exceeds 1/2 of breakthrough time.

2. The employer who has had his workers engaged in tetraalkyl lead work shall inspect the personal protective equipment, working clothes and equipment promptly after the work and shall

dispose of them by burning etc., or decontaminate them if they are found to be contaminated by tetraalkyl lead.

3. The employer who has his workers engaged in the work stipulated in items 1, 2 or 7 of [Attached Table 5 of the Cabinet Order](#) shall install two clothes lockers for each worker at locations isolated from the workplace where the said work is carried out, with one of them being made of metal for storing personal protective equipment and working clothes.

(Provision of Chemicals, etc.)

Article 17. The employer shall provide the following chemicals etc. for first-aid and/or decontamination at every workplace where tetraalkyl lead work is carried out (repairing materials stipulated in item 4 are exempted for work shops where the work stipulated in item 4 of [Attached Table 5 of the Cabinet Order](#) is carried out):

- (1) Solution of potassium permanganate for body washing, kerosene for washing and soap, etc.
- (2) Eye washing solution, adsorbing agents and other first-aid medicines.
- (3) Detoxifier and diffusion preventive materials such as activated white earth.
- (4) Iron cement, and other repairing materials.

(Body Washing for Workers)

Article 18. The employer who has had his workers engaged in tetraalkyl lead work shall have them wash their bodies (hands in the case of the work stipulated in items 6 and 7 of [Attached Table 5 of the Cabinet Order](#)) as soon as possible after the completion of the work.

(Entry Prohibited)

Article 19. The employer shall prohibit those other than assigned workers from entering workplaces where tetraalkyl lead work is carried out or places where tanks or drums containing tetraalkyl lead are stored, and shall put up such notice at a location easily visible to the workers.

(Emergency Evacuation)

Article 20. The employer shall have the workers immediately stop work and evacuate from the workshop in any occasions coming under the following items and the workers are apprehended to have suffered from tetraalkyl lead poisoning:

- (1) When the facility has lost its functionality owing to breakdown.
- (2) When the ventilating systems stipulated in item 6 of [paragraph 1 of Article 6](#), [paragraph 2 of Article 7](#), or [item 2 of paragraph 1 of Article 11](#) have lost their functionality owing to breakdown during work.

(3) When tetraalkyl lead leaks or spills.

(4) When an accident occurs in which the workshop is likely to be seriously contaminated by tetraalkyl lead or its vapour, in addition to the cases stipulated in the preceding three items.

2. The employer shall prohibit those other than assigned workers from entering the workplaces concerned in any case prescribed in the each item of the preceding paragraph until he confirms that there is no fear of tetraalkyl lead poisoning for workers, and shall put up the notice indicating to that effect at locations easily visible to the workers.

(Special Education)

Article 21. The employer who has his workers engaged in tetraalkyl lead work shall give the said workers special education on the following subjects in connection with the prevention of health impairment due to the said work :

(1) Toxicity of tetraalkyl lead.

(2) Working methods.

(3) Methods of wearing personal protective equipment.

(4) Methods of maintaining hygiene such as washing of the body.

(5) Methods of evacuation in emergency cases and methods of first-aid.

(6) In addition to the preceding items, items necessary for preventing tetraalkyl lead poisoning.

2. The subjects necessary for the special education shall be determined by Minister of health, Labour and Welfare in addition to those provided for in Article 37 and 38 of the Ordinance on Industrial Safety and Health (Ministry of Labour Ordinance No. 32, 1972 hereinafter, called the "Safety and Health Ordinance") and in the preceding paragraph.

Chapter III. Health Control

(Medical Examinations)

Article 22. The employer shall conduct medical examinations by medical doctors about the following items for workers who will be usually engaged in the work stipulated in [item 5 of paragraph 1 of Article 22 of the Cabinet Order](#), at the time of the employment, transfer to the said work, and subsequently, at least once in every three months periodically:

(1) Whether or not the workers have such symptoms as nervousness, insomnia, nightmares, loss of appetite, are pale looking, or suffer from malaise, night sweating, headaches, tremors, accelerated tendon reflex of extremities, nausea, emesis, stomach aches, uneasiness, excitement, defects of memory, and other neurotic symptoms.

(2) Measurement of blood pressure.

(3) Examination of hemoglobin content or specific gravity of whole blood.

(4) Examination of basophilic red cell count or levels of coproporphyrin excreted in urine.
(Results of Medical Examinations)

Article 23. The employer, based on the results of the medical examination (called the "tetraalkyl lead medical examination" in the following Article) as provided for in the preceding article (including the one which the worker received in the case as provide in proviso of [paragraph 5 of Article 66 of the Industrial Safety and Health Law \(hereinafter called "the Law"\)](#)), shall make the individual medical examination cards on tetraalkyl lead ([Form No. 2 \(back\)](#)), and shall keep them for five years.

(Hearing the Views of the Physician on the Results of the Medical Examination)

Article 23-2. Under the provisions of [Article 66-4 of the Law](#), the views of the physician based on the results of the tetraalkyl lead medical examination shall be heard in accordance with the following stipulations:

(1) Within three months of the date when the tetraalkyl lead medical examination was carried out (the date when said worker submitted the document showing the results of the medical examination to the employer where the proviso of [paragraph 5 of Article 66 of the Law](#) applies).

(2) The views of the physician shall be recorded on the individual tetraalkyl lead medical examination cards.

(Report of the Results of Medical Examination)

Article 24. When the employer has conducted medical examinations stipulated in [Article 22](#) (periodical checks only), he shall submit report of the results of Tetraalkyl lead medical examination ([Form No. 3 \(back\)](#)) to the Chief of the competent Labour Standards Inspection Office concerned without delay.

(Diagnosis)

Article 25. The employer shall have the workers coming under any of the following items diagnosed by medical doctors as soon as possible:

- (1) Workers whose bodies are contaminated by tetraalkyl lead (except those who are contaminated by leaded gasoline and are not apprehended to suffer from tetraalkyl lead poisoning).
- (2) Workers who have swallowed tetraalkyl lead.
- (3) Workers who have inhaled the vapour of tetraalkyl lead or leaded gasoline in large quantity.
- (4) Workers who were engaged in tetraalkyl lead work and are found to possess the symptoms listed in item 1 of [Article 22](#) or complain of any such symptoms.

2. Even when the workers are found to have no abnormality as the result of the diagnosis conducted in compliance with the preceding paragraph, the employer shall have them observed by medical doctors for the subsequent two weeks.

(Prohibition of Employment of Persons who Suffer from Tetraalkyl Lead Poisoning)

Article 26. The employer shall not have a worker engaged in tetraalkyl lead work when the worker is suffering from tetraalkyl lead poisoning or is admitted by a medical doctor as unfit for being engaged in tetraalkyl lead work based on the result of medical examination as provided for in [Article 22](#) or of diagnosis as provided for in the preceding Article.

Chapter IV. Skill Training Course for Operations Chiefs of Work Handling Tetraalkyl Lead

Article 27. Skill training course for operations chiefs of work handling tetraalkyl lead shall be conducted by theoretical instruction.

2. Theoretical instruction shall be made on the following subjects concerning tetraalkyl lead:

- (1) Knowledge of health problems and protective measures thereof.
- (2) Knowledge about methods to improve the working environment.
- (3) Knowledge of personal protective equipment.
- (4) Related laws and ordinances.

3. The Minister of health, Labour and Welfare shall lay down items necessary for conducting skill training courses for operations chiefs of work handling tetraalkyl lead in addition to those which are provided for in [Articles 80, 81 and 82 of the Safety and Health Ordinance](#) and in the preceding two paragraphs.