

CHLORINE

0126
April 2000

CAS No: 7782-50-5 (cylinder)
RTECS No: FO2100000 Cl₂
UN No: 1017 Molecular mass: 70.9
EC No: 017-001-00-7

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Not combustible but enhances combustion of other substances. Many reactions may cause fire or explosion.	NO contact with combustibles, acetylene, ethylene, hydrogen, ammonia and finely divided metals.	In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Risk of fire and explosion on contact with combustible substances, ammonia and finely divided metals.		In case of fire: keep cylinder cool by spraying with water but NO direct contact with water.

EXPOSURE		AVOID ALL CONTACT!	IN ALL CASES CONSULT A DOCTOR!
Inhalation	Corrosive. Burning sensation. Shortness of breath. Cough. Headache. Nausea. Dizziness. Laboured breathing. Sore throat. Symptoms may be delayed (see Notes).	Breathing protection. Closed system and ventilation.	Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.
Skin	ON CONTACT WITH LIQUID: FROSTBITE. Corrosive. Skin burns. Pain.	Cold-insulating gloves. Protective clothing.	First rinse with plenty of water, then remove contaminated clothes and rinse again. Refer for medical attention.
Eyes	Corrosive. Pain. Blurred vision. Severe deep burns.	Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion			

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Ventilation. NEVER direct water jet on liquid. Remove gas with fine water spray. Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment.	T Symbol N Symbol R: 23-36/37/38-50 S: (1/2-)9-45-61 UN Hazard Class: 2.3 UN Subsidiary Risks: 8 Special insulated cylinder. Marine pollutant.

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-20S1017 NFPA Code: H 4; F 0; R 0; OX	Separated from strong bases, combustible and reducing substances. Cool. Dry. Keep in a well-ventilated room.

IMPORTANT DATA

Physical State; Appearance

GREENISH-YELLOW GAS, WITH PUNGENT ODOUR.

Physical dangers

The gas is heavier than air.

Chemical dangers

The solution in water is a strong acid, it reacts violently with bases and is corrosive. Reacts violently with many organic compounds, ammonia, hydrogen and finely divided metals causing fire and explosion hazard. Attacks many metals in presence of water. Attacks plastic, rubber and coatings.

Occupational exposure limits

TLV: 0.5 ppm as TWA; 1 ppm as STEL; A4 (not classifiable as a human carcinogen); (ACGIH 2004).

MAK: 0.5 ppm, 1.5 mg/m³; Peak limitation category: I(1);

Pregnancy risk group: C; (DFG 2004).

Routes of exposure

The substance can be absorbed into the body by inhalation.

Inhalation risk

A harmful concentration of this gas in the air will be reached very quickly on loss of containment.

Effects of short-term exposure

Tear drawing. The substance is corrosive to the eyes, the skin and the respiratory tract. Inhalation of gas may cause pneumonitis and lung oedema, resulting in reactive airways dysfunction syndrome (RADS) (see Notes). Rapid evaporation of the liquid may cause frostbite. Exposure far above the OEL may result in death. The effects may be delayed. Medical observation is indicated.

Effects of long-term or repeated exposure

The substance may have effects on the lungs, resulting in chronic bronchitis. The substance may have effects on the teeth, resulting in erosion.

PHYSICAL PROPERTIES

Boiling point: -34/C

Melting point: -101/C

Relative density (water = 1): 1.4 at 20/C, 6.86 atm (liquid)

Solubility in water, g/100 ml at 20/C: 0.7

Vapour pressure, kPa at 20/C: 673

Relative vapour density (air = 1): 2.5

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms.

NOTES

The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.

Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

The odour warning when the exposure limit value is exceeded is insufficient.

Do NOT use in the vicinity of a fire or a hot surface, or during welding.

Do NOT spray water on leaking cylinder (to prevent corrosion of cylinder).

Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.

Card has been partly updated in April 2005. See sections Occupational Exposure Limits, EU classification, Emergency Response.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible