Anhydrous hydrogen chloride

Hydrochloric acid, anhydrous

MATERIAL SAFETY DATA SHEET

CAS No: 7647-01-0
RTECS No: MW4025000
UN No: 1050
EC No: 017-002-00-2

HCl
Molecular mass: 36.5

TYPES OF HAZARD / EXPOSURE	ACUTE HAZARDS / SYMPTOMS	PREVENTION	FIRST AID / FIRE FIGHTING
FIRE	Not combustible.		In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION			In case of fire: keep cylinder cool by spraying with water.
EXPOSURE		**AVOID ALL CONTACT!**	**IN ALL CASES CONSULT A DOCTOR!**
Inhalation	Corrosive. Burning sensation. Cough. Laboured breathing. Shortness of breath. Sore throat. Symptoms may be delayed (see Notes).	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Half-upright position. Artificial respiration if indicated. Refer for medical attention.
Skin	ON CONTACT WITH LIQUID: FROSTBITE. Corrosive. Serious 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. Remove gas with fine water spray. (Extra personal protection: complete protective clothing including self-contained breathing apparatus).	T Symbol C Symbol R: 23-35 S: (1/2-)9-26-36/37/39-45 UN Hazard Class: 2.3 UN Subsidiary Risks: 8

EMERGENCY RESPONSE	STORAGE
Transport Emergency Card: TEC (R)-135 NFPA Code: H 3; F 0; R 1	Separated from combustible and reducing substances, strong oxidants, strong bases, metals. Keep in a well-ventilated room. Cool. Dry.

IMPORTANT DATA

Physical State; Appearance
COLOURLESS COMPRESSED LIQUEFIED 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 oxidants forming toxic gas (chlorine - see ICSC 0126). Attacks many metals in the presence of water forming combustible gas (hydrogen - see ICSC 0001).

Occupational exposure limits
TLV: 5 ppm; as (ceiling values) (ACGIH 1999).

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
Rapid evaporation of the liquid may cause frostbite. The substance is corrosive to the eyes, the skin and the respiratory tract. Inhalation of high concentrations of the gas may cause pneumonitis and lung oedema, resulting in reactive airways dysfunction syndrome (RADS) (see Notes). 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	ENVIRONMENTAL DATA
Boiling point: -85°C	

Melting point: -114°C Density: 1.00045 g/l (gas) Solubility in water, g/100 ml at 30°C: 67 Relative vapour density (air = 1): 1.3 Octanol/water partition coefficient as log Pow: 0.25	

NOTES

The applying occupational exposure limit value should not be exceeded during any part of the working exposure.
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 spray, by a doctor or a person authorized by him/her, should be considered.
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.
Other UN numbers: 2186 (refridgerated liquid) hazard class: 2.3; subsidiary hazard: 8; 1789 (hydrochloric acid) hazard class: 8, pack group II or III.
Aqueous solutions may contain up to 38% hydrogen chloride.