

## Safety data sheet

### Hydrogen chloride, anhydrous

Creation date : 28.01.2005  
Revision date : 11.01.2011

Version : 2.0

DE / E

SDS No. : 069  
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#### 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

##### Product name

Hydrogen chloride, anhydrous  
EC No (from EINECS): 231-595-7  
CAS No: 7647-01-0  
Index-Nr. 017-002-00-2

##### Chemical formula HCl

##### REACH Registration number:

Not available.

##### Known uses

Not known.

##### Company identification

Linde AG, Linde Gas Division, Seitnerstraße 70, D-82049 Pullach

**E-Mail Address** Info@de.linde-gas.com

**Emergency phone numbers (24h):** 089-7446-0

#### 2 HAZARDS IDENTIFICATION

##### Classification of the substance or mixture

##### Classification acc. to Regulation (EC) No 1272/2008/EC (CLP/GHS)

Press. Gas (Liquefied gas) - Contains gas under pressure; may explode if heated.

Acute Tox. 3 - Toxic if inhaled.

Skin Corr. 1A - Causes severe skin burns and eye damage.

- Corrosive to the respiratory tract.

##### Classification acc. to Directive 67/548/EEC & 1999/45/EC

T; R23 | C; R35

Toxic by inhalation.

Cause severe burns (eyes, respiratory system and skin).

##### Risk advice to man and the environment

Liquefied gas.

##### Label Elements

##### - Labelling Pictograms



##### - Signal word

Danger

##### - Hazard Statements

H280 Contains gas under pressure; may explode if heated.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

EUH071 Corrosive to the respiratory tract.

##### - Precautionary Statements

##### Precautionary Statement Prevention

P260 Do not breathe gas, vapours.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

##### Precautionary Statement Reaction

P304+P340+P315 IF INHALED: Remove victim to fresh air

P305+P351+P338+P315

and keep at rest in a position comfortable for breathing. Get immediate medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

P303+P361+P353+P315

IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothes. Rinse skin with water/shower. Get immediate medical advice/attention.

##### Precautionary Statement Storage

P403

Store in a well-ventilated place.

P405

Store locked up.

##### Precautionary Statement Disposal

None.

#### 3 COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/Preparation:** Substance.

##### Components/Impurities

Hydrogen chloride, anhydrous

**CAS No:** 7647-01-0

**Index-Nr.:** 017-002-00-2

**EC No (from EINECS):** 231-595-7

##### REACH Registration number:

Not available.

Contains no other components or impurities which will influence the classification of the product.

#### 4 FIRST AID MEASURES

##### Inhalation

Toxic by inhalation. Prolonged exposure to small concentrations may result in pulmonary oedema. Delayed adverse effects possible. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with a constricting sensation of the larynx and difficulty in breathing.

##### Skin/eye contact

May cause severe chemical burns to skin and cornea. Suitable first-aid treatment should be immediately available. Seek medical advice before using product. Obtain medical assistance. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Immediately flush eyes thoroughly with water for at least 15 minutes.

##### Ingestion

Ingestion is not considered a potential route of exposure.

#### 5 FIRE FIGHTING MEASURES

##### Specific hazards

Non flammable. Exposure to fire may cause containers to rupture/explode.

##### Hazardous combustion products

None that are more toxic than the product itself.

##### Suitable extinguishing media

All known extinguishants can be used.

##### Specific methods

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If possible, stop flow of product. Move container away or cool with water from a protected position.

#### Special protective equipment for fire fighters

Use self-contained breathing apparatus and chemically protective clothing.

## 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions

Evacuate area. Use self-contained breathing apparatus and chemically protective clothing. Ensure adequate air ventilation. Monitor concentration of released product. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

### Environmental precautions

Try to stop release. Reduce vapour with fog or fine water spray.

### Clean up methods

Ventilate area. Wash contaminated equipment or sites of leaks with copious quantities of water. Hose down area with water.

## 7 HANDLING AND STORAGE

### Handling

The substance must be handled in accordance with good industrial hygiene and safety procedures. Avoid exposure, obtain special instructions before use. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to supplier's handling instructions. Avoid suckback of water, acid and alkalis. Purge system with dry inert gas (e.g. helium or nitrogen) before gas is introduced and when system is placed out of service. Do not smoke while handling product. Only experienced and properly instructed persons should handle gases under pressure. Protect cylinders from physical damage; do not drag, roll, slide or drop. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Ensure the complete gas system has been (or is regularly) checked for leaks before use. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Keep container valve outlets clean and free from contaminants particularly oil and water. Never attempt to transfer gases from one cylinder/container to another. Installation of a cross purge assembly between the cylinder and the regulator is recommended.

### Storage

Secure cylinders to prevent them falling. Keep container below 50 °C in a well ventilated place. Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position and properly secured to prevent falling over. Stored containers should be periodically checked for general conditions and leakage. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from

combustible materials Observe "Technische Regeln Druckgase (TRG) 280 Ziffer 5"

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure limit value

Value type	value	Note
TLV (ACGIH)	5 ppm	ACGIH 1995 - 1996
Germany - AGW	2 ppm	TRGS 900

### Personal protection

Ensure adequate ventilation. Protect eyes, face and skin from liquid splashes. Do not smoke while handling product. Keep self contained breathing apparatus readily available for emergency use. Keep suitable chemically resistant protective clothing readily available for emergency use. Carry working gloves and protection shoes while handling gas cylinders.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### General information

**Appearance/Colour:** Gives off white fumes in moist air Colourless gas.

**Odour:** Pungent

### Important information on environment, health and safety

**Molecular weight:** 36,5 g/mol

**Melting point:** -114 °C

**Boiling point:** -85 °C

**Critical temperature:** 51,4 °C

**Autoignition temperature:** Not applicable.

**Flammability range:** Non flammable.

**Relative density, gas:** 1,3

**Relative density, liquid:** 1,2

**Vapour Pressure 20 °C:** 42,6 bar

**Solubility mg/l water:** Hydrolyses.

### Other data

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

## 10 STABILITY AND REACTIVITY

### Stability and reactivity

Reacts with most metals in the presence of moisture, liberating hydrogen, an extremely flammable gas. With water causes rapid corrosion of some metals. Reacts with water to form corrosive acids. May react violently with alkalis.

## 11 TOXICOLOGICAL INFORMATION

### Acute toxicity

Cause severe burns (eyes, respiratory system and skin). Delayed fatal pulmonary oedema possible.

**LC50/1h (ppm)** 2810 ppm

## 12 ECOLOGICAL INFORMATION

### General

May cause pH changes in aqueous ecological systems.

## 13 DISPOSAL CONSIDERATIONS

### General

Avoid discharge to atmosphere. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.

**EWC Nr. 16 05 04\***

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### 14 TRANSPORT INFORMATION

#### ADR/RID

Class 2 Classification Code 2TC

#### UN number and proper shipping name

UN 1050 Hydrogen chloride, anhydrous

UN 1050 Hydrogen chloride, anhydrous

Labels 2.3, 8 Hazard number 268

Packing Instruction P200

#### IMDG

Class 2.3

#### UN number and proper shipping name

UN 1050 Hydrogen chloride, anhydrous

Labels 2.3, 8

Packing Instruction P200

EmS FC,SU

#### Other transport information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured. Ensure that the cylinder valve is closed and not leaking. Ensure that the valve outlet cap nut or plug (where provided) is correctly fitted. Ensure that the valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

### 15 REGULATORY INFORMATION

#### Further national regulations

Regulations for the prevention of industrial accidents

Pressure Vessel Regulation

Gefahrstoffverordnung (GefStoffV)

Technische Regeln für Gefahrstoffe (TRGS)

#### Water pollution class

according to §19 WGH Annex 1 : WGK 1 (slightly water endangering)

### 16 OTHER INFORMATION

Ensure all national/local regulations are observed. Ensure operators understand the toxicity hazard. Users of breathing apparatus must be trained. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

#### Advice

Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted. Details given in this document are believed to be correct at the time of going to press.

#### Further information

Kühn-Birett: Merkblätter gefährliche Arbeitsstoffe

Hommel: Handbook of dangerous goods

Linde safety advice

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End of document