

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

# Hydrogen Chloride, ca. 0.5M solution in Methanol



Version number: 1  
Issued: 2024-03-11

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Trade name**

Hydrogen Chloride, ca. 0.5M solution in Methanol

**Article No.**

90034856

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses**

Research and development.

**Not suitable for use in**

Not suitable for human consumption or veterinary purposes.

### 1.3. Details of the supplier of the safety data sheet

**Supplier**

Molekula Group

Address

Molekula Ltd, Lingfield Way, Darlington,  
DL1 4XX Darlington  
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

**Contact person**

Kevin Banks

**Email**

+44 (0) 7769276927

### 1.4. Emergency telephone number

**Poison center/Additional emergency number**

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Flammable liquids, hazard category 2  
Acute toxicity, oral, hazard category 3  
Acute toxicity, dermal, hazard category 3  
Acute toxicity, inhalation, hazard category 3  
Specific Target Organ Toxicity — Single exposure, hazard category 1  
Skin irritation, hazard category 2  
Eye irritation, hazard category 2

#### Hazard statements

H225, H301 + H311 + H331, H315, H319, H370

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H225 Highly flammable liquid and vapour.  
H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H370 Causes damage to organs.

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## Precautionary statements

P260 Do not breathe Do not breathe gas, fume, vapours or spray..  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P284 wear respiratory protection.  
P310 Immediately call a POISON CENTER/doctor.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P330 Rinse mouth.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P302 + P352 IF ON SKIN: Wash with plenty of water/..  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332 + P313 If skin irritation occurs: Get medical advice/attention.  
P405 Store locked up.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container to approved waste disposal facility.  
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.  
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.  
P362 + P364 Take off contaminated clothing and wash it before reuse.

## 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrased M factor acute M factor chronic	Note
methanol	67-56-1 200-659-6 01-2119392409-28 603-001-00-X	≥97 - <98%	Flam. Liq. 2, Acute Tox. 3 - oral, Acute Tox. 3 - dermal, Acute Tox. 3 - inhala- tion, STOT SE 1	H225, H301, H311, H331, H370 - -	STOT SE 1; H370: C ≥ 10 % STOT SE 2; H371: 3 % ≤ C < 10 %;
Hydrogen Chloride Gas	7647-01-0 231-595-7 01-2119484862-27 017-002-00-2	2 - ≤3%	Press. Gas, Skin Corr. 1A, Eye Dam. 1, Acute Tox. 3 - inhalation	H280, H314, H318, H331 - -	5 U

## Molecular weight

36.46

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## **Substance additional information**

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

## **SECTION 4: First aid measures**

### **4.1. Description of first aid measures**

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

#### **Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing stops, provide artificial respiration. For breathing difficulties oxygen may be necessary.

#### **Skin contact**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor.

#### **Eye contact**

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

#### **Ingestion**

IF SWALLOWED: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Administer activated charcoal (20 - 40g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

#### **Information for doctors**

No data available.

### **4.2. Most important symptoms and effects, both acute and delayed**

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. Causes burns by all exposure routes.

See section 11 for more detailed information on health effects and symptoms.

#### **Inhalation**

Single exposure may cause the following adverse effects: Causes severe burns. Difficulty in breathing. Unconsciousness, possibly death.

#### **Skin contact**

Single exposure may cause the following adverse effects: Causes severe burns. Blistering may occur. May be absorbed in the body and cause dizziness, nausea and vomiting. Unconsciousness, death.

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## **Eye contact**

Single exposure may cause the following adverse effects: Causes serious eye damage. Unconsciousness, possibly death.

## **Ingestion**

Single exposure may cause the following adverse effects: Severe abdominal pain. May cause severe internal injury. Unconsciousness, possibly death.

## **4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically. Immediately call a POISON CENTER/doctor.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

#### **Unsuitable extinguishing media**

No specific fire fighting procedure given.

### **5.2. Special hazards arising from the substance or mixture**

Specific hazards: Highly flammable liquid and vapour. Corrosive. Toxic.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen Chloride gas

### **5.3. Advice for firefighters**

#### **Special protective equipment for fire-fighters**

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

## **SECTION 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Do not breathe vapour/spray. Avoid contact with skin and eyes. For personal protection, see section 8.

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

### **6.2. Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.

### **6.3. Methods and material for containment and cleaning up**

Collect with absorbent, non-combustible material into suitable containers.

### **6.4. Reference to other sections**

For personal protection, see section 8. For waste disposal, see section 13.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Preventive handling precautions

For precautions see section 2.2.

### 7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container. Store at ambient temperature.  
Protect from moisture.

### 7.3. Specific end use(s)

No specific usage precautions noted.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No data available

### 8.2. Exposure controls

#### Personal Protective Equipment Symbols



#### Eye / face protection

Wear eye protection.

#### Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.4mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

#### Other skin protection

Wash skin thoroughly after handling.

#### Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

#### Environmental exposure controls

Avoid discharge into drains.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Physical state

Liquid

#### Colour

Clear colourless liquid

#### Odour

No data available

#### Melting point / freezing point

No data available

#### Boiling point or initial boiling point and boiling range

No data available

#### Flammability

No data available

#### Lower and upper explosion limit

No data available

#### Flash point

11 °C

#### Auto-ignition temperature

No data available

#### Decomposition temperature

No data available

#### pH

No data available

#### Kinematic viscosity

No data available

#### Solubility

No data available

#### Partition coefficient n-octanol/water

-0.74

#### Method

log Pow

#### Vapour pressure

No data available

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## Density and/or relative density

0.8

## Relative vapour density

~ 0.87

## Particle characteristics

No data available

## 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

No data available

### 10.4. Conditions to avoid

Protect from moisture.

### 10.5. Incompatible materials

Strong oxidising agents. Strong bases

### 10.6. Hazardous decomposition products

See section 5.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals
Hydrogen Chloride Gas 7647-01-0 / 231-595-7	LD50	900 mg/kg	Oral	-	Rabbit
Hydrogen Chloride	LC50	1562 ppmV (gas)	Inhalation	Rat	-



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Product / Sub- stance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of expos- ure	Test animals
Gas 7647-01-0 / 231- 595-7					

## Skin corrosion/irritation

Product / Substance name CAS / EC no.	Other
Hydrogen Chloride Gas 7647-01-0 / 231-595-7	Extremely corrosive and destructive to tissue.

## Aspiration hazard

Based on available data, the classification criteria are not met.

### 11.2. Information on other hazards

No data available

## SECTION 12: Ecological information

### 12.1. Toxicity

No data available

### 12.2. Persistence and degradability

No data available

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

No data available

### 12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

### 12.7. Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

Dispose of contents/container in accordance with local regulations.

## SECTION 14: Transport information

### 14.1. UN number

3286

### 14.2. UN proper shipping name

#### ADR / RID / ADN proper shipping name

FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Hydrogen Chloride, ca. 0.5M solution in Methanol)

#### IMDG proper shipping name

FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (Hydrogen Chloride, ca. 0.5M solution in Methanol)

#### IATA proper shipping name

Flammable liquid, toxic, corrosive, n.o.s. (Hydrogen Chloride, ca. 0.5M solution in Methanol)

### 14.3. Transport hazard class(es)

#### Label

ADR/RID/ADN



3

8

6.1

IMDG



3

8

6.1

IATA



3

8

6.1

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## ADR / RID Class

3

## ADR / RID Classification code

FTC

## ADR / RID hazard identification number

368

## IMDG Class

3 (6.1/8)

## IATA Class

3 (6.1, 8)

## ADN Class

3

## ADN Class Code

FTC

### 14.4. Packing group

ADR / RID / ADN: II

IMDG: II

IATA: II

### 14.5. Environmental hazards

Not applicable

### 14.6. Special precautions for user

#### Special precautions for user

Tunnel restriction code: D/E

Transport category: 2

## IMDG EmS

F-E, S-C

### 14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC99

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

This SDS is not mandated under REACH Regulation (EC) No 1907/2006 and is provided for information only.

#### National regulations

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No data available

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

### Phrase meaning

Flam. Liq. 2 - Flammable liquids, hazard category 2  
Acute Tox. 3 - oral - Acute toxicity, oral, hazard category 3  
Acute Tox. 3 - dermal - Acute toxicity, dermal, hazard category 3  
Acute Tox. 3 - inhalation - Acute toxicity, inhalation, hazard category 3  
STOT SE 1 - Specific Target Organ Toxicity — Single exposure, hazard category 1  
Skin Irrit. 2 - Skin irritation, hazard category 2  
Eye Irrit. 2 - Eye irritation, hazard category 2  
Press. Gas - Gases under pressure  
Skin Corr. 1A - Skin corrosion, hazard category 1A  
Eye Dam. 1 - Serious eye damage, hazard category 1  
H225 Highly flammable liquid and vapour.  
H280 Contains gas under pressure; may explode if heated.  
H301 Toxic if swallowed.  
H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
H370 Causes damage to organs.