According to Regulation (EC) No 1907/2006

Hydrogen Chloride 3M in Cyclopentyl methyl ether

Issued: 2023-11-15

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

1.1. Product identifier

Trade name

Hydrogen Chloride 3M in Cyclopentyl methyl ether

Article No.

90026305/ 90031246

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
Corrosive to metals, hazard category 1
Acute toxicity, oral, hazard category 4
Skin corrosion, hazard category 1B
Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation
Hazardous to the aquatic environment — Chronic hazard category 3

Hazard statements

H225, H290, H302, H314, H335, H412

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.
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapour.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Methoxycyclopentane	5614-37-9 445-090-6 - -	>88 - <90%	Flam. Liq. 2, Acute Tox. 4 - oral, Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 3	H225, H302, H315, H319, H412 - -	-
Hydrogen Chloride Gas	7647-01-0 231-595-7 01-2119484862-27 017-002-00-2	>10 - <12%	Press. Gas, Skin Corr. 1A, Eye Dam. 1, Acute Tox. 3 - inhalation	H280, H314, H318, H331 - -	5 U

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.

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.
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO_2).

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.

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. Recommended storage temperature: 2 to 8°C (35.6 to 46.4°F)

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.

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
No data available

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
No data available

Vapour pressure
No data available

Density and/or relative density
No data available

Relative vapour density
~ 0.89

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	Remarks
Hydrogen Chloride Gas 7647-01-0 / 231-595-7	LD50	900 mg/kg	Oral	-	Rabbit	-
Hydrogen Chloride Gas 7647-01-0 / 231-595-7	LC50	1562 ppmV (gas)	Inhalation	Rat	-	-
Methoxycyclopentane 5614-37-9 / 445-090-6	Acute Toxicity (Oral LD50):	> 200 - < 2 000 mg/kg bw	-	-	Rat	(ECHA)
Methoxycyclopentane 5614-37-9 / 445-090-6	Acute Toxicity (Dermal LD50):	> 2,000mg/kg	-	-	Rat	(ECHA)
Methoxycyclopentane 5614-37-9 / 445-090-6	Acute Toxicity (Inhalation LC50):	> 21.5mg/l	-	4 hours	Rat	(ECHA)

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

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Methoxycyclopentane 5614-37-9 / 445-090-6	LC50	>220mg/l	96 hours	Onchorhynchus mykiss (Rainbow trout)

Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Methoxycyclopentane 5614-37-9 / 445-090-6	EC50	> 100mg/l	72 hours	Pseudokirchneriella sub-capitata

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Methoxycyclopentane 5614-37-9 / 445-090-6	EC50	35mg/l	48 hours	Daphnia magna

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

2924

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Hydrogen chloride 9.5%-10% w/w in Cyclopentyl methyl ether)

IMDG proper shipping name

FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Hydrogen chloride 9.5%-10% w/w in Cyclopentyl methyl ether)

IATA proper shipping name

Flammable liquid, corrosive, n.o.s. (Hydrogen chloride 9.5%-10% w/w in Cyclopentyl methyl ether)

14.3. Transport hazard class(es)

Label

ADR/RID/ADN

3 *8*

IMDG

3 *8*

IATA

3 *8*

ADR / RID Class
3

ADR / RID Classification code
FC

ADR / RID hazard identification number
338

IMDG Class
3 (8)

IATA Class
3 (8)

ADN Class
3

ADN Class Code
FC

14.4. Packing group
ADR / RID / ADN: II
IMDG: II
IATA: II

14.5. Environmental hazards
IMDG EmS
F-E, S-C

14.6. Special precautions for user
Tunnel restriction code: D/E
Transport category: 2

14.7. Maritime transport in bulk according to IMO instruments
IBC Instruction: IBC02

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
No data available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

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SECTION 16: Other information

Phrase meaning

Flam. Liq. 2 - Flammable liquids, hazard category 2
Met. Corr. 1 - Corrosive to metals, hazard category 1
Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4
Skin Corr. 1B - Skin corrosion, hazard category 1B
STOT SE 3 - resp. tract irrit. - Specific Target Organ Toxicity — Single exposure, hazard category 3 - respiratory tract irritation
Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3
Press. Gas - Gases under pressure
Skin Corr. 1A - Skin corrosion, hazard category 1A
Eye Dam. 1 - Serious eye damage, hazard category 1
Acute Tox. 3 - inhalation - Acute toxicity, inhalation, hazard category 3
Skin Irrit. 2 - Skin irritation, hazard category 2
Eye Irrit. 2 - Eye irritation, hazard category 2
H225 Highly flammable liquid and vapour.
H280 Contains gas under pressure; may explode if heated.
H290 May be corrosive to metals.
H302 Harmful if swallowed.
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.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.