

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Methacryloyl chloride, stabilised with 400ppm phenothiazine



Version number: 1.0
Issued: 2023-11-28

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

1.1. Product identifier

Trade name

Methacryloyl chloride, stabilised with 400ppm phenothiazine

CAS number

920-46-7

EC number

213-058-9

Synonyms

α -Methylacryloyl chloride, 2-Methyl-2-propenoyl chloride.

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

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Email

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

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

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 4

Skin corrosion, hazard category 1B

Skin sensitisation, hazard category 1

Acute toxicity, inhalation, hazard category 1

Hazardous to the aquatic environment — Chronic hazard category 3

Hazard statements

H225, H302, H314, H317, H330, H412

Supplemental hazard statements

EUH029

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Danger

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Hazard statements

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H412 Harmful to aquatic life with long lasting effects.

Supplemental hazard statements

EUH029 Contact with water liberates toxic gas.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapour.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
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.

2.3. Other hazards

No data available

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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-pharse M factor acute M factor chronic	Note
2-Methylacryloyl chloride	920-46-7 213-058-9 - -	99.96%	Flam. Liq. 2, Acute Tox. 4 - oral, Skin Corr. 1B, Skin Sens. 1, Acute Tox. 1 - inhalation, Aquatic Chronic 3	H225, H302, H314, H317, H330, H412 - -	-
Phenothiazine	92-84-2 202-196-5 - -	0.04%	Acute Tox. 4 - oral, Skin Sens. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1	H302, H317, H373, H400, H410 M-acut=1 M-chro=1	-

Molecular weight

104.53

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.

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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). Immediately call a POISON CENTER/doctor. 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. Respiratory failure, 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.

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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. Fatal if inhaled.

Vapours are heavier than air and may spread near ground to sources of ignition. Pay attention to flashback. Forms explosive mixtures with air.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride (HCl).

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. Risk of explosion.

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. Work under hood Take action to prevent static discharges. Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

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General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Wash contaminated skin thoroughly after handling. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container. Recommended storage temperature: -20 to -15°C (-4 to 5°F)

Air and moisture sensitive. Store under inert gas.

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.

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.

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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

Colourless to pale yellow.

Odour

No data available

Melting point / freezing point

No data available

Boiling point or initial boiling point and boiling range

95 - 96 °C

Flammability

No data available

Lower and upper explosion limit

No data available

Flash point

12.8 °C

Method

CC (Closed cup).

Auto-ignition temperature

No data available

Decomposition temperature

No data available

pH

No data available

Kinematic viscosity

No data available

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Solubility

No data available

Partition coefficient n-octanol/water

No data available

Vapour pressure

No data available

Density and/or relative density

1.07 g/cm³

Method

(25°C)

Relative vapour density

No data available

Particle characteristics

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapours may form explosive mixture with air at room temperature.

10.2. Chemical stability

Unstable upon depletion of inhibitor.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Unstable upon depletion of inhibitor. Avoid acids, moisture, and combustible materials.

10.5. Incompatible materials

Strong oxidising substances, strong acids and strong bases.

10.6. Hazardous decomposition products

See section 5.

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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	Test animals
Phenothiazine 92-84-2 / 202-196-5	Acute Toxicity (Oral LD50):	1,370mg/kg	Rat
Phenothiazine 92-84-2 / 202-196-5	Acute Toxicity (Dermal LD50):	> 2,000mg/kg	Rat

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/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number

3488

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC50 lower than or equal to 200 ml/m3 and saturated vapour concentration greater than or equal to 500 LC50 (Methacryloyl chloride)

IMDG proper shipping name

TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. with an LC50 lower than or equal to 200 mL/m3 and saturated vapour concentration greater than or equal to 500 LC50 (Methacryloyl chloride)

IATA proper shipping name

Toxic by inhalation liquid, flammable, corrosive, n.o.s. with an LC50 ≤ 200 mL/m3 and saturated vapour concentration ≥ 500 LC50 (Methacryloyl chloride)

14.3. Transport hazard class(es)

Label

ADR/RID/ADN



6.1



3



8

IMDG



6.1

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ADR / RID Class

6.1

ADR / RID Classification code

TFC

ADR / RID hazard identification number

663

IMDG Class

6.1 (44628)

IATA Class

6.1 (3, 8)

ADN Class

6.1

ADN Class Code

TFC

14.4. Packing group

ADR / RID / ADN: I

IMDG: I

14.5. Environmental hazards

IMDG EmS

F-E, S-D

14.6. Special precautions for user

Tunnel restriction code: C/D

Transport category: 1

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

This material safety data sheet complies with the requirements of Regulation (EU) 2020/878.

National regulations

No data available

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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. 4 - oral - Acute toxicity, oral, hazard category 4
Skin Corr. 1B - Skin corrosion, hazard category 1B
Skin Sens. 1 - Skin sensitisation, hazard category 1
Acute Tox. 1 - inhalation - Acute toxicity, inhalation, hazard category 1
Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3
STOT RE 2 - Specific Target Organ Toxicity — Repeated exposure, hazard category 2
Aquatic Acute 1 - Hazardous to the aquatic environment — Acute hazard category 1
Aquatic Chronic 1 - Hazardous to the aquatic environment — Chronic hazard category 1
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
EUH029 Contact with water liberates toxic gas.