

According to Regulation (EC) No 1907/2006

Methylcyclohexane SG



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

1.1. Product identifier

Trade name

Methylcyclohexane SG

CAS number

108-87-2

EC number

203-624-3

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

Street 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 address

+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

Hazardous to the aquatic environment — Chronic hazard category 2

Skin irritation, hazard category 2

Specific Target Organ Toxicity — Single exposure, hazard category 3 - narcosis

Flammable liquids, hazard category 2

Aspiration hazard, hazard category 1

Hazard statements

H225, H304, H315, H336, H411

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Warning

Hazard statements

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic 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.

P233 Keep container tightly closed.

P261 Avoid breathing dust/fumes/gas/mist/vapours/spray.

P264 Wash skin thoroughly after handling.

P273 Avoid release to the environment.

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

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.

P310 Immediately call a POISON CENTER/doctor.

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-phrase M factor acute M factor chronic	Note
methylcyclohexane	108-87-2 203-624-3 01-2119556887-18 601-018-00-7	100%	Flam. Liq. 2, Asp. Tox. 1, Skin Irrit. 2, STOT SE 3 - narcosis, Aquatic Chronic 2	H225, H304, H315, H336, H411 - -	-

Molecular weight

98.19

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

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact

IF ON SKIN: Wash with plenty of soap and water. Continue to rinse for at least 15 minutes. Get medical advice/attention if you feel unwell.

Eye contact

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

Ingestion

Rinse mouth. Do NOT induce vomiting. Risk of aspiration upon vomiting Immediately call a POISON CENTER/doctor.

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.

Inhalation

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

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Skin contact

Single exposure may cause the following adverse effects: Severe skin irritation.

Eye contact

May cause temporary eye irritation.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

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

Treat symptomatically. No special treatment requirement. Symptoms may be delayed.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

In case of fire: Use alcohol resistant foam, carbon dioxide or dry powder to extinguish.
Use water SPRAY only to cool containers! Do not put water on leaked material.

Unsuitable extinguishing media

No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture

Specific hazards: FLAMMABLE.

Containers can burst violently when heated, due to excess pressure build-up.

Vapours may form explosive mixture with air at room temperature.

Carbon monoxide (CO). Carbon dioxide (CO₂).

Combustible.

Pay attention to flashback.

Development of hazardous combustion gases or vapours possible in the event of fire.

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

Avoid inhalation of vapours and spray mist and contact with skin and eyes. For personal protection, see section 8. Provide adequate ventilation. Remove sources of ignition. Beware of the explosion danger. Take action to prevent static discharges.

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. Remove sources of ignition. Beware of the explosion danger. Use spark-proof tools and explosion-proof equipment.

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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

Work under hood

Do not inhale substance/mixture

Avoid ingestion and inhalation.

Avoid generation of vapours/aerosols.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Use non-sparking tools. Take action to prevent static discharges.

General hygiene

Wash skin thoroughly after handling. Immediately change contaminated clothes.

7.2. Conditions for safe storage, including any incompatibilities

Store at room temperature. Store in a dry place. Store in a closed container. Keep away from heat and sources of ignition.

7.3. Specific end use(s)

No specific usage precautions noted.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

No occupational exposure limit assigned.

8.2. Exposure controls

Eye / face protection

Wear eye protection.

Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.4mm

Breakthrough time: 480 minutes

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. Risk of explosion.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Colour

Colourless.

Odour

Aromatic.

Melting point / freezing point

-126 °C - lit.

Boiling point or initial boiling point and boiling range

101 °C - lit.

Flammability

HIGHLY FLAMMABLE!

Lower and upper explosion limit

Upper explosion limit: 6.7 %(V) Lower explosion limit: 1.1 %(V)

Flash point

-4 °C

Method

CC (Closed cup).

Auto-ignition temperature

285 °C

Decomposition temperature

No data available

pH

No data available

Kinematic viscosity

No data available

Solubility

0.014 g/l at 25 °C

Partition coefficient n-octanol/water

log Pow: 3.6 at 25 °C - Bioaccumulation is not expected., (Lit.)

Vapour pressure

61.8 hPa at 25 °C

Density and/or relative density

0.77

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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

Stable under normal temperature conditions. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Risk of explosion with:

Oxygen.

Exothermic reaction with:

oxidising agents

fire-promoting substances

10.4. Conditions to avoid

Heat, sparks, flames.

10.5. Incompatible materials

various plastics

Strong oxidising agents.

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 / Sub- stance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals
methylcyclohexane 108-87-2 / 203-624-3	LC50	>52.6 mg/l	Inhalation	4 hours	Rat
methylcyclohexane 108-87-2 / 203-624-3	LD50	>86000 mg/kg	Dermal	-	Rabbit

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**Skin corrosion/irritation**

Product / Substance name CAS / EC no.	Result
methylcyclohexane 108-87-2 / 203-624-3	Prolonged skin contact may cause skin irritation and/or dermatitis.

Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species
methylcyclohexane 108-87-2 / 203-624-3	No eye irritation.	Rabbit

Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
methylcyclohexane 108-87-2 / 203-624-3	Does not cause skin sensitisation.	Guinea Pig	Buehler test: Guinea Pig

Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Metabolic activation / Exposure	Species	Method / Guideline
methylcyclohexane 108-87-2 / 203-624-3	Negative.	with and without metabolic activation	Escherichia coli/Salmonella typhimurium	Ames test
methylcyclohexane 108-87-2 / 203-624-3	Negative.	with and without metabolic activation	Mutagenicity (mammal cell test): Chromosome aberration:	-

STOT-single exposure

Product / Substance name CAS / EC no.	Result
methylcyclohexane 108-87-2 / 203-624-3	May cause drowsiness or dizziness.

Aspiration hazard

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

11.2. Information on other hazards

No data available

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SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
methylcyclohexane 108-87-2 / 203-624-3	LC50	2.07 mg/l	96 hours	Oryzias latipes (Red killifish)

Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
methylcyclohexane 108-87-2 / 203-624-3	NOEC	0.0221 mg/l	72 hours	Pseudokirchneriella subcapitata (algae)
methylcyclohexane 108-87-2 / 203-624-3	ErC50	0.134 mg/l	72 hours	Pseudokirchneriella subcapitata (algae)

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
methylcyclohexane 108-87-2 / 203-624-3	EC50	0.326 mg/l	48 hours	Daphnia magna

Micro-/macro organism toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
methylcyclohexane 108-87-2 / 203-624-3	NOEC	2.275 mg/l	14 days	Activated sludge.

12.2. Persistence and degradability

Persistence and degradability

Product / Substance name CAS / EC no.	Type of test	Duration	Result	Degradation
methylcyclohexane 108-87-2 / 203-624-3	aerobic	28 days	0%	The product is not readily biodegradable.

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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

No data available

12.7. Other adverse effects

No data available

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

2296

14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

METHYLCYCLOHEXANE

IMDG proper shipping name

METHYLCYCLOHEXANE

IATA proper shipping name

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14.3. Transport hazard class(es)

Label

ADR/RID/ADN



3

IMDG



3

IATA



3

ADR / RID Class

3

ADR / RID Classification code

F1

ADR / RID hazard identification number

33

IMDG Class

3

IATA Class

3

ADN Class

3

ADN Class Code

F1

14.4. Packing group

ADR / RID / ADN: II

IMDG: II

IATA: II

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14.5. Environmental hazards

IMDG EmS

F-E, S-D

IMDG Marine Pollutant

Yes

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

National regulations

Directive: 2012/18/EU

P5c FLAMMABLE LIQUIDS

E1 ENVIRONMENTAL HAZARDS

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Phrase meaning

Aquatic Chronic 2 - Hazardous to the aquatic environment — Chronic hazard category 2

Skin Irrit. 2 - Skin irritation, hazard category 2

STOT SE 3 - narcosis - Specific Target Organ Toxicity — Single exposure, hazard category 3 - narcosis

Flam. Liq. 2 - Flammable liquids, hazard category 2

Asp. Tox. 1 - Aspiration hazard, hazard category 1

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.