

Cyclohexanol

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Date of issue: 2/13/2019 Version: 1.0

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

1.1. Product identifier

Product form	: Substance
Substance name	: Cyclohexanol
Chemical name	: cyclohexanol
IUPAC name	: Hexahydrophenol
EC Index-No.	: 603-009-00-3
EC-No.	: 203-630-6
CAS-No.	: 108-93-0
Product code	: 20924663
Formula	: C ₆ H ₁₁ OH
Product group	: Raw material

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

1.2.1. Relevant identified uses

Main use category	: Professional use, Industrial use
Industrial/Professional use spec	: For professional use only Industrial Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Scafell Organics
Molekula Ltd
Lingfield Way
Darlington - England
T +44 (0) 1949 823777 / +44 (0) 7590 545705
info@molekula.com / kbowen@molekula.com - www.molekula.com

1.4. Emergency telephone number

Emergency number : +44 (0) 7590 545705

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]


Acute toxicity (inhal.), Category 4	H332
Acute toxicity (oral), Category 4	H302
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335
Skin corrosion/irritation, Category 2	H315
Full text of H statements : see section 16	

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) : 

GHS07

Signal word (CLP)	: Warning
Hazard statements (CLP)	: H332 - Harmful if inhaled. H302 - Harmful if swallowed. H335 - May cause respiratory irritation. H315 - Causes skin irritation.

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Precautionary statements (CLP)

: P231+P232 - Handle and store contents under inert gas. Protect from moisture.
P261 - Avoid breathing mist, spray, vapours.
P280 - Wear protective clothing, eye protection, face protection, protective gloves.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
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

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
Cyclohexanol	(CAS-No.) 108-93-0 (EC-No.) 203-630-6 (EC Index-No.) 603-009-00-3	100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. Do not leave affected person unattended. If possible show this sheet, if not available show packaging or label.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Do not remove clothing if it sticks to the skin. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor if you feel unwell.

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

Symptoms/effects after inhalation : May cause respiratory irritation. Cough. Shortness of breath.

Symptoms/effects after skin contact : Causes skin irritation. irritation (itching, redness, blistering).

Symptoms/effects after eye contact : May cause slight irritation.

Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Ingestion may cause nausea, vomiting and diarrhea.

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

Get immediate medical advice/attention.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO₂).

5.3. Advice for firefighters

Precautionary measures fire : Eliminate all ignition sources if safe to do so. Exposure to fire/heat: seal off low-lying areas.

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. Do not approach fire except upwind and only with proper skin and respiratory protection (supplied air only). Use extinguishing agent suitable for surrounding fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Warn all persons of toxic hazard.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Isolate from fire, if possible, without unnecessary risk. Avoid exposure, obtain special instructions before use.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

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Emergency procedures	: Evacuate unnecessary personnel. Mark out the contaminated area with signs and prevent access to unauthorized personnel. Avoid contact with skin, eyes and clothing. Do not breathe vapours. Do not touch or walk on the spilled product.
Measures in case of dust release	: Shelter from vapours by keeping upwind. Ventilate the area thoroughly, especially low lying areas (basements, workpits etc).

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection. Use self-contained breathing apparatus and chemically protective clothing.
Emergency procedures	: Ventilate area. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stop leak if safe to do so.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Provide good ventilation in process area to prevent formation of vapour.
Hygiene measures	: Contaminated work clothing should not be allowed out of the workplace. Take off immediately all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Handle and store contents under inert gas. Protect from moisture.
Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Heat sources, Moisture. Keep container tightly closed.
Incompatible products	: Strong bases. Strong acids. Oxidizing agent.
Incompatible materials	: Sources of ignition. Direct sunlight. Heat sources. Moisture. Material is hygroscopic.
Storage area	: Store at ambient temperature.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Cyclohexanol (108-93-0)		
United Kingdom	WEL TWA (mg/m³)	208 mg/m³ Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used
Cyclohexanol (108-93-0)		
DNEL/DMEL (Workers)		
Long-term - systemic effects, dermal	1.43 mg/kg bodyweight/day	
Long-term - systemic effects, inhalation	40.3 mg/m³	
DNEL/DMEL (General population)		
Long-term - systemic effects,oral	716 µg/kg bodyweight/day	
Long-term - systemic effects, inhalation	10 mg/m³	
Long-term - systemic effects, dermal	716 µg/kg bodyweight/day	
PNEC (Water)		
PNEC aqua (freshwater)	19.1 µg/L	
PNEC aqua (marine water)	2 µg/L	
PNEC aqua (intermittent, freshwater)	170 µg/L	
PNEC aqua (intermittent, marine water)	17 µg/L	
PNEC (Sediment)		
PNEC sediment (freshwater)	90 µg/kg dw	

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Cyclohexanol (108-93-0)

PNEC sediment (marine water)	9 µg/kg dw
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PNEC (Soil)

PNEC soil	7 µg/kg dw
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8.2. Exposure controls

Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety procedures. Floors should be impervious, resistant to liquids and easy to clean.

Personal protective equipment:

Wear recommended personal protective equipment. Avoid all unnecessary exposure.

Hand protection:

The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374. Always wash hands after handling the product. Wear protective gloves.

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.11		EN 374

Eye protection:

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Use eye protection according to EN 166, designed to protect against liquid splashes. Chemical goggles or safety glasses

Type	Use	Characteristics	Standard
Safety glasses	Droplet, vapours	With side shields	EN 166

Skin and body protection:

Emergency safety showers should be available in the immediate vicinity of any potential exposure. Keep suitable chemically resistant protective clothing readily available for emergency use

Type	Standard
Long sleeved protective clothing	EN 14605

Respiratory protection:

Keep self contained breathing apparatus readily available for emergency use. In case of inadequate ventilation wear respiratory protection. Wear appropriate mask

Device	Filter type	Condition	Standard
Air-Purifying Respirator (APR), disposable	ABEK	Mist formation, Moist condition, Protection for Liquid particles, Vapour protection	EN 14387

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: clear.
Molecular mass	: 100.16 g/mol
Colour	: Clear colourless-pale yellow.
Odour	: No data available.
Odour threshold	: No data available
pH	: 6.5 at 40g/l @ 20°C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 20 - 23 °C
Freezing point	: No data available
Boiling point	: 160 - 161 °C lit.
Flash point	: 68 °C closed cup
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available

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Relative vapour density at 20 °C	: 4.01
Relative density	: No data available
Density	: 0.948 g/cm ³ at 25 °C
Solubility	: Water: 3.6 g/100ml at 20.C
Log Pow	: 1.25 at 25 °C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Lower explosive limit (LEL)	: 1.25 vol %
Upper explosive limit (UEL)	: 12.25 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None under normal use.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong acids. Strong bases. Oxidizing agent.

10.6. Hazardous decomposition products

On exposure to high temperature, may decompose, releasing corrosive gases. Thermal decomposition generates : Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Oral: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Inhalation: Harmful if inhaled.

Cyclohexanol (108-93-0)	
LD50 oral rat	1400 mg/kg Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Other changes.
LD50 dermal rabbit	> 1000 mg/kg

Skin corrosion/irritation	: Causes skin irritation. pH: 6.5 at 40g/l @ 20°C
Serious eye damage/irritation	: Not classified pH: 6.5 at 40g/l @ 20°C
Additional information	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Harmful if swallowed.

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SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

Cyclohexanol (108-93-0)

LC50 fish 1	705 mg/l - Pimephales promelas (fathead minnow) 96hr
EC50 Daphnia 1	> 500 mg/l Daphnia magna (Water flea) 48hr
EC50 72h algae (1)	29.2 mg/l Desmodesmus subspicatus (green algae) 72hr

12.2. Persistence and degradability

Cyclohexanol (108-93-0)

Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential

Cyclohexanol (108-93-0)

Log Pow	1.25 at 25 °C
Bioaccumulative potential	Not potentially bioaccumulable.

12.4. Mobility in soil

Cyclohexanol (108-93-0)

Ecology - soil Expected to be highly mobile in soil.

12.5. Results of PBT and vPvB assessment

Cyclohexanol (108-93-0)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

No supplementary information available

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

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Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Cyclohexanol is not on the REACH Candidate List

Cyclohexanol is not on the REACH Annex XIV List

Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H302	Harmful if swallowed.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product