

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 08.03.2023





Version number 1

Revision: 08.03.2023

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

- **1.1 Product identifier**
- **Trade name:** Cyclohexane
- **Article number:** 1181
- **CAS Number:**  
110-82-7
- **EC number:**  
203-806-2
- **Index number:**  
601-017-00-1
- **Registration number** 01-2119463273-41
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Solvents
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Möller Chemie GmbH & Co. KG  
Bürgerkamp 1  
D-48565 Steinfurt  
Tel.: 02551/9340-0  
Fax: 02551/9340-60
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
Poison Control Center Mainz - 24 hour emergency service - Tel.: +49 (0) 6131/19240

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
-  **GHS02 flame**  
 Flam. Liq. 2      H225 Highly flammable liquid and vapour.
-  **GHS08 health hazard**  
 Asp. Tox. 1      H304 May be fatal if swallowed and enters airways.
-  **GHS09 environment**  
 Aquatic Acute 1      H400 Very toxic to aquatic life.  
 Aquatic Chronic 1      H410 Very toxic to aquatic life with long lasting effects.
-  **GHS07**  
 Skin Irrit. 2      H315 Causes skin irritation.  
 STOT SE 3      H336 May cause drowsiness or dizziness.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.

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### · Hazard pictograms



GHS02 GHS07 GHS08 GHS09

### · Signal word Danger

### · Hazard statements

- H225 Highly flammable liquid and vapour.
- H315 Causes skin irritation.
- H336 May cause drowsiness or dizziness.
- H304 May be fatal if swallowed and enters airways.
- H410 Very toxic to aquatic life with long lasting effects.

### · Precautionary statements

- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
- P321 Specific treatment (see on this label).
- P331 Do NOT induce vomiting.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### · 2.3 Other hazards

The product does not contain any substance above the legal limits included on the list for endocrine disrupting properties established under Article 59(1) of Regulation (EC) No 1907/2006 or under Commission Delegated Regulation (EU) 2017/2100 or of Commission Regulation (EU) 2018/605 has endocrine disrupting properties.

### · Results of PBT and vPvB assessment

#### · PBT:

The product does not contain any substances above legal limits that meet the criteria for PBT (persistent, bioaccumulative and toxic).

#### · vPvB:

The product does not contain any substances above legal limits that meet the criteria for vPvB (very persistent and very bioaccumulative).

## SECTION 3: Composition/information on ingredients

### · 3.1 Substances

#### · CAS No. Description

110-82-7 cyclohexane

#### · Identification number(s)

· EC number: 203-806-2

· Index number: 601-017-00-1

## SECTION 4: First aid measures

### · 4.1 Description of first aid measures

- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: Do not induce vomiting; call for medical help immediately.

· 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

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- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, powder or water spray. Fight larger fire with alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Carbon monoxide  
carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomaceous earth, acid binder, universal binder, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Keep receptacles tightly sealed.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not mandatory.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **Storage class:**  
3  
flammable
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**

110-82-7 cyclohexane

IOELV Long-term value: 700 mg/m<sup>3</sup>, 200 ppm

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- **DNELs**

worker:

*Acute effects - systemic effects, inhalative: 700 mg/m<sup>3</sup>**Chronic effects - systemic effects, inhalative: 700 mg/m<sup>3</sup>**Chronic effects - systemic effects, dermal: 2016 mg/kg*

- **PNECs**

*Fresh water: 0.207 mg/l**Sea water: 0.207 mg/l**Sewage treatment plant (STP): 3.24 mg/l**Freshwater sediment: 16.68 mg/kg**Marine sediment: 16.68 mg/kg**Soil: 3.38 mg/kg*

- **Additional information:** *The lists valid during the making were used as basis.*

- **8.2 Exposure controls**

- **Appropriate engineering controls** *No further data; see item 7.*

- **Individual protection measures, such as personal protective equipment**

- **General protective and hygienic measures:**

*Keep away from foodstuffs, beverages and feed.**Immediately remove all soiled and contaminated clothing**Avoid contact with the skin.**Wash hands before breaks and at the end of work.**Avoid contact with the eyes and skin.*

- **Respiratory protection:** *Not required.*

- **Hand protection**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.**Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

- **Material of gloves**

*Nitrile rubber, NBR**Fluorocarbon rubber (Viton)**The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*

- **Penetration time of glove material**

*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

- **Eye/face protection**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Physical state**

Fluid

- **Colour:**

Colourless

- **Odour:**

Sweetish

- **Melting point/freezing point:**

6.5 °C

- **Boiling point or initial boiling point and boiling range**

80.7 °C

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· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	1.3 Vol %
· <b>Upper:</b>	8.4 Vol %
· <b>Flash point:</b>	-20 °C
· <b>Ignition temperature:</b>	260 °C
· <b>Viscosity:</b>	
· <b>Kinematic viscosity at 25 °C</b>	1.155 mm <sup>2</sup> /s
· <b>Dynamic at 25 °C:</b>	0.894 mPas
· <b>Solubility</b>	
· <b>water at 23.5 °C:</b>	52 g/l
· <b>Vapour pressure at 20 °C:</b>	124 hPa
· <b>Density and/or relative density</b>	
· <b>Density at 25 °C:</b>	0.774 g/cm <sup>3</sup>

· **9.2 Other information**· **Appearance:**· **Form:** liquid· **Important information on protection of health and environment, and on safety.**· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.· **Information with regard to physical hazard classes**

· <b>Explosives</b>	Void
· <b>Flammable gases</b>	Void
· <b>Aerosols</b>	Void
· <b>Oxidising gases</b>	Void
· <b>Gases under pressure</b>	Void
· <b>Flammable liquids</b>	
Highly flammable liquid and vapour.	
· <b>Flammable solids</b>	Void
· <b>Self-reactive substances and mixtures</b>	Void
· <b>Pyrophoric liquids</b>	Void
· <b>Pyrophoric solids</b>	Void
· <b>Self-heating substances and mixtures</b>	Void
· <b>Substances and mixtures, which emit flammable gases in contact with water</b>	
· <b>Oxidising liquids</b>	Void
· <b>Oxidising solids</b>	Void
· <b>Organic peroxides</b>	Void
· <b>Corrosive to metals</b>	Void
· <b>Desensitised explosives</b>	Void

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** Vapors can form an explosive mixture with air.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Avoid all sources of ignition: heat, sparks, open flames.
- **10.5 Incompatible materials:**
  - Alkalis
  - Strong acids
  - Strong oxidizing agents
  - rubber, various plastics
  - oxidizers

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- **10.6 Hazardous decomposition products:**  
No hazardous decomposition products if stored and handled as prescribed/indicated become.

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**  
LD50/oral >5.000 mg/kg (rat) ECHA  
LC50/4h inhalative: vapor >32.880 mg/m<sup>3</sup> (rat) ECHA  
LD50/dermal >2.000 mg/kg (rabbit) ECHA
- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard**  
May be fatal if swallowed and enters airways.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**  
Fish toxicity:  
LC50/96h: 4,53 mg/l (*Pimephales promelas*)  
Daphnia toxicity:  
EC50/48 h: 0,9 mg/l (*Daphnia magna*)  
Algae toxicity:  
EC50/72h: 3.428 - 9.317 mg/l (*Selenastrum capricornutum*)
- **12.2 Persistence and degradability** Easily biodegradable
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** The product is not considered to be persistent, bioaccumulating nor toxic (PBT).
- **vPvB:** The product is not considered to be persistent or very bioaccumulative (vPvB).
- **12.6 Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Very toxic for aquatic organisms

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### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Disposal according to local regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |   |   |
|---|---|
| · <b>14.1 UN number or ID number</b><br>· <b>ADR, IMDG, IATA</b>  | UN1145  |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR</b><br><br>· <b>IMDG</b><br>· <b>IATA</b>   | 1145 CYCLOHEXANE, ENVIRONMENTALLY HAZARDOUS<br>CYCLOHEXANE, MARINE POLLUTANT<br>CYCLOHEXANE |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR</b>  |   |
|   |   |
| · <b>Class</b><br>· <b>Label</b>  | 3 (F1) Flammable liquids.<br>3  |
| · <b>IMDG</b>   |   |
|    |   |
| · <b>Class</b><br>· <b>Label</b>  | 3 Flammable liquids.<br>3   |
| · <b>IATA</b>   |   |
|    |   |
| · <b>Class</b><br>· <b>Label</b>  | 3 Flammable liquids.<br>3   |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>   | II  |
| · <b>14.5 Environmental hazards:</b>  | Environmentally hazardous substance, liquid; Marine Pollutant                               |
| · <b>Marine pollutant:</b>  | Yes (P)<br>Symbol (fish and tree)   |
| · <b>Special marking (ADR):</b>   | Symbol (fish and tree)  |
| · <b>14.6 Special precautions for user</b><br>· <b>Hazard identification number (Kemler code):</b><br>· <b>EMS Number:</b><br>· <b>Stowage Category</b> | Warning: Flammable liquids.<br>33<br>F-E,S-D<br>E   |

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· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	D/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1145 CYCLOHEXANE, 3, II, ENVIRONMENTALLY HAZARDOUS

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40, 57
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product safety department
- **Contact:** Mrs. Steyer
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organisation  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
P: Marine Pollutant  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
DNEL: Derived No-Effect Level (REACH)  
PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 2: Flammable liquids – Category 2  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
Asp. Tox. 1: Aspiration hazard – Category 1  
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1  
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1