



Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

CYCLOHEXANE 99,5% AR

PRODUCT CODE : B-3021

CAS No : 110-82-7

FORMULA : C_6H_{12}

UN No : 1145

**MATERIAL SAFETY DATA SHEET (SDS/MSDS)
CYCLOHEXANE 99,5% AR**

MSDS Number : 0120

Date : Aug 20th, 2024

Version : 1.0

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

- 1.1 Product Name** : CYCLOHEXANE 99,5% AR
Synonyms : Hexahydrobenzene, Hexamethylene, Hexamethyl Naphthane
CAS No. : 110-82-7
HS Code : 2902 11 00
Chemical Formula : C₆H₁₂
Molecular Weight : 84.16 g/mol
Product Code : B-3021
Brand : Labotiq
- 1.2 Manufacturer** : Labotiq
Address : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
Website : www.labotiq.net
Email : labotiq.id@gmail.com,
For information : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
Emergency number : +6281316894650
- 1.3 Application** : Laboratory chemicals, Manufacture of substances, General Chemical reagent

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Flammable liquids (Category 2), H225

Skin irritation (Category 2), H315

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Aspiration hazard (Category 1), H304

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

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.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P210

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

P233

Keep container tightly closed.

P273

Avoid release to the environment.

P301 + P310

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P331

Do NOT induce vomiting

Supplemental Hazard Statements

none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Synonyms	: Hexahydrobenzene, Hexamethylene, Hexamethyl Napthane
Formula	: C ₆ H ₁₂
Molecular weight	: 84.16 g/mol
CAS-No.	: 110-82-7
EC-No.	: 203-806-2
Index-No.	: 601-017-00-1

3.2 Mixture**Hazardous ingredients according to Regulation (EC) No 1272/2008**

Component	Classification	Concentration
Cyclohexane CAS-No. 110-82-7 EC-No. 203-806-2 Index-No. 601-017-00-1	Flam. Liq. 2; Skin Irrit. 2; STOT SE 3; Asp. Tox. 1; Aquatic Acute 1; Aquatic Chronic 1; H225, H315, H336, H304, H400, H410 Concentration limits: 20 %: STOT SE 3, H336; M-Factor - Aquatic Acute: 1	<=100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given..

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Risk of dust explosion.

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

Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

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SECTION 7: Handling and storage**7.1 Precautions for safe handling****Advice on safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities**Storage conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Store under inert gas.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Ingredients with workplace control parameters****Derived No Effect Level (DNEL)**

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Local effects	700 mg/m ³
Worker DNEL, acute	inhalation	Systemic effects	700 mg/m ³
Worker DNEL, longterm	inhalation	Systemic effects	700 mg/m ³
Worker DNEL, longterm	dermal	Systemic effects	700 mg/m ³
Worker DNEL, longterm	inhalation	Local effects	412 mg/m ³
Consumer DNEL, acute	inhalation	Local effects	412 mg/m ³
Consumer DNEL, acute	inhalation		206 mg/m ³
Consumer DNEL, longterm	inhalation	Local effects	206 mg/m ³
Consumer DNEL, longterm	inhalation	Systemic effects	
Consumer DNEL, longterm	dermal	Systemic effects	
Consumer DNEL, longterm	oral	Systemic effects	

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,207 mg/l

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Odour	sweet
Odour Threshold	0,5 ppm
pH	No data available
Melting point/freezingpoint	Melting point/range: 4 - 7 °C - lit.
Initial boiling point and boiling range	80,7 °C - lit.
Flash point	-20 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 8,3 %(V) Lower explosion limit: 1,2 %(V)
Vapour pressure	No data available
Vapour density	124 hPa at 24 °C
Relative density	No data available
Water solubility	0,779 g/cm ³ at 25 °C - lit.
Partition coefficient: noctanol/water	52 g/l at 23,5 °C - partly soluble
Auto-ignition temperature	log Pow: 3,44 at 25 °C - Bioaccumulation is not expected.
Decomposition temperature	260,0 °C
Viscosity	No data available
Explosive properties	Viscosity, kinematic: No data available
Oxidizing properties	Viscosity, dynamic: 0,89 mPa.s at 25 °C
	No data available
	No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of explosion with: nitrogen dioxide

Risk of ignition or formation of inflammable gases or vapours with: Strong oxidizing agents

10.4 Conditions to avoid

Warming.

10.5 Incompatible materials

rubber, various plastics

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 5.000 mg/kg (OECD Test Guideline 401)

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Symptoms: gastric pain, Stomach/intestinal disorders
LC50 Inhalation - Rat - male and female - 4 h - 19,07 mg/l (OECD Test Guideline 403)
Symptoms: Possible damages:, Irritation symptoms in the respiratory tract,
Inhalation may lead to the formation of oedemas in the respiratory tract.
LD50 Dermal - Rabbit - male and female - > 2.000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation

Causes skin irritation. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Eyes - Rabbit(Cyclohexane)
Result: Mild eye irritation

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative Test Type: In vitro mammalian cell gene mutation test
Test system: Mouse lymphoma test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Test Type: Chromosome aberration test
Species: Rat Cell type: Bone marrow
Application Route: inhalation (vapor)
Method: OECD Test Guideline 475
Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

May be fatal if swallowed and enters airways. Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

Additional Information

Repeated dose toxicity - Rat - male and female - Inhalation - 90 d Remarks: Subchronic toxicity
RTECS: GU6300000
Central nervous system depression, Drowsiness, Irritability, Dizziness, Gastrointestinal disturbance,
Lung irritation, chest pain, pulmonary edema To the best of our knowledge, the chemical, physical,
and toxicological properties have not been thoroughly investigated. After uptake of large quantities:

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Unconsciousness Damage to: Lungs Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish flow-through test

LC50 - Pimephales promelas (fathead minnow) - 4,53 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates static test EC50 -

Daphnia magna (Water flea) - 0,9 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae

ErC50 - Pseudokirchneriella subcapitata (green algae) - > 4,425 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria

IC50 - Bacteria - 29 mg/l - 15 h Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 77 % -

Readily biodegradable. (OECD Test Guideline 301F)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Biological effects: Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities. Change in the flavour characteristics of fish protein. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1145

IMDG: 1145

IATA: 1145

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14.2 UN proper shipping name

ADR/RID: CYCLOHEXANE

IMDG: CYCLOHEXANE

IATA: CYCLOHEXANE

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3

IATA: 3

14.4 Packaging group

ADR/RID:II IMDG:II

IATA:II

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes

IATA: no

14.6 Special precautions for user

Further information

No data available

SECTION 15: Regulatory information

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

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

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

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SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H225 Highly flammable liquid and vapor.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 3

Reactivity: 0

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Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.

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Revision Date : August 20, 2024