Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

CYCLOHEXYLAMINE 99% for Synthesis

PRODUCT CODE : B-3023

CAS No : 108-91-8

FORMULA : $C_6H_{13}N$

UN No : 2357

website : www.labotiq.net

MATERIAL SAFETY DATA SHEET (SDS/MSDS)
CYCLOHEXYLAMINE 99% for Synthesis

MSDS Number : 0122 | Date : Oct 7th, 2024 | Version : 1.0

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

1.1 Product Name : **CYCLOHEXYLAMINE 99% for Synthesis**
Synonyms : Aminocyclohexane, cyclohexanamine
CAS No. : 108-91-8
HS Code : 2921 30 10
Chemical Formula : $C_6H_{13}N$
Molecular Weight : 99,18 g/mol
Product Code : B-3023
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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 3), H226
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Dermal (Category 3), H311
Skin corrosion (Sub-category 1B), H314
Reproductive toxicity (Category 2), H361f

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)	
H226	Flammable liquid and vapor.
H301 + H311	Toxic if swallowed or in contact with skin.
H314	Causes severe skin burns and eye damage.
H361f	Suspected of damaging fertility.
Precautionary statement(s)	
P201	Obtain special instructions before use.

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Reduced labelling (≤125 ml)
Hazard pictograms

Signal word Danger

Hazard statements

H314	Causes severe skin burns and eye damage.
H361f	Suspected of damaging fertility.
H301 + H311	Toxic if swallowed or in contact with skin.

Precautionary statements

P201	Obtain special instructions before use.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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	: Aminocyclohexane
Formula	: $C_6H_{13}N$
Molecular weight	: 99,18 g/mol
CAS-No.	: 108-91-8
EC-No.	: 203-629-0
Index-No.	: 612-050-00-6

3.2 Mixture

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

Component	Classification	Concentration
1-Aminocyclohexane CAS-No. 108-91-8 EC-No. 203-629-0 Index-No. 612-050-00-6	Flam. Liq. 3; Acute Tox. 4; Acute Tox. 3; Acute Tox. 4; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Repr. 2; H226, H302, H301, H312, H311, H314, H318, H361fd	<=100 %

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this material 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

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

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

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

Dry powder Dry sand

Unsuitable extinguishing media

Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx), Combustible.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.
Take measures to prevent the build up of electrostatic charge.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and at the end of workday.
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. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.
Handle under inert gas. Protect from moisture. Air sensitive.

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
Consumer DNEL, acute	oral, dermal	Systemic effects	
Consumer DNEL, longterm	oral, dermal	Systemic effects	
Worker DNEL, acute	Inhalation	Systemic effects	8,2 mg/m3
Worker DNEL, longterm	Inhalation	Systemic effects	5 mg/m3
Consumer DNEL, acute	Inhalation	Systemic effects	1,2 mg/m3
Consumer DNEL, longterm	inhalation	Systemic effects	0,6 mg/m3
Worker DNEL, acute	Dermal	Systemic effects	
Worker DNEL, longterm	dermal	Systemic effects	

Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	1,16 mg/kg
Sewage treatment plant	22,56 mg/l
Fresh water	0,032 mg/l
Fresh water sediment	8,15 mg/kg
Sea water	0,0032 mg/l
Sea sediment	0,82 mg/kg
Aquatic intermittent release	0,19 mg/l

8.2 Exposure control

Appropriat engineering controls
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Personal protective equipment

Eye/face protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact
Material: Fluorinated rubber
Minimum layer thickness: 0,7 mm
Break through time: 480 min
Material tested:Vitoject®

Splash contact
Material: Nature latex/chloroprene

Minimum layer thickness: 0,6 mm
Break through time: 31 min
Material tested:Lapren®

Body Protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: liquid Colour: colourless
Odour	amine-like
Odour Threshold	0,02 - 70,7 ppm Ammonia
pH	11,5 at 100 g/l at 20 °C
Melting point/freezingpoint	Melting point/range: -17 °C - lit.
Initial boiling point and boiling range	134 °C - lit.
Flash point	28 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or	Upper explosion limit: 9,4 %(V) Lower explosion limit: 1,6 %(V)
explosive limits	No data available
Vapour pressure	14,3 hPa at 20 °C
Vapour density	No data available
Density	0,867 g/cm3 at 25 °C - lit
Relative density	No data available
Water solubility	at 20 °C completely miscible
Partition coefficient: noctanol/water	log Pow: 3,7 at 25 °C - Bioaccumulation is not expected.
Auto-ignition temperature	293 °C
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	none

9.2 Other safety information

Surface tension	68,8 mN/m at 20 °C - OECD Test Guideline 115
Dissociation constant	10,68 at 25 °C

Relative vapor density 3,42 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Heat, flames and sparks

10.5 Incompatible materials
Strong oxidizing agents, Carbon dioxide (CO2), sodium hypochlorite, Organic acids, Mineral acids, Peroxides

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 - 432 mg/kg
Remarks: (ECHA) Acute toxicity estimate Oral - 432 mg/kg (Calculation method)
Inhalation: No data available
Acute toxicity estimate Dermal - 1.100,1 mg/kg (Expert judgment)

Skin corrosion/irritation
Skin - Rabbit
Result: Corrosive - 20 h
Remarks: (ECHA)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Corrosive
Remarks: (ECHA)

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: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Result: negative
Remarks: (ECHA)
Test Type: unscheduled DNA synthesis assay
Test system: rat hepatocytes
Metabolic activation: without metabolic activation
Result: negative
Remarks: (ECHA)

Carcinogenicity
No data available

Reproductive toxicity
Suspected of damaging the unborn child. Suspected of damaging fertility.

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
Endocrine disrupting properties
Product: Assessment :
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Repeated dose toxicity - Rat - male and female - Oral - 24 Months - NOAEL (No observed adverse effect level) - 15 mg/kg Remarks: (ECHA)

RTECS: GX0700000
burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish
semi-static test LC50 - Oryzias latipes - 33 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - 36,3 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae
static test ErC50 - Pseudokirchneriella subcapitata - 29,3 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria

static test EC50 - activated sludge - 2.152 mg/l - 3 h (ISO 8192)

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)
semi-static test NOEC - Daphnia magna (Water flea) - 1,6 mg/l - 21 d (OECD Test Guideline 211)
semi-static test EC50 - Daphnia magna (Water flea) - 3,9 mg/l - 21 d (OECD Test Guideline 211)

12.2 Persistence and degradability
Biodegradability aerobic - Exposure time 20 d Result: 92 % - Readily biodegradable.
(Regulation (EC) No. 440/2008, Annex, C.4-E).

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
Harmful to aquatic life

Endocrine disrupting properties
Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 2357 IMDG: 2357 IATA: 2357

14.2 UN proper shipping name
ADR/RID: CYCLOHEXYLAMINE
IMDG: CYCLOHEXYLAMINE
IATA: Cyclohexylamine

14.3 Transport hazard class(es)
ADR/RID: 8 (3) IMDG: 8 (3) IATA: 8 (3)

14.4 Packaging group

ADR/RID: II | IMDG: II | IATA: II

14.5 Environmental hazards

ADR/RID: no | IMDG Marine pollutant: no | 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.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : FLAMMABLE LIQUIDS

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

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

H226	Flammable liquid and vapor.
H301	Toxic if swallowed.
H301 + H311	Toxic if swallowed or in contact with skin.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Flammable liquid and vapor.
H314	Harmful if swallowed or in contact with skin.
H318	Causes severe skin burns and eye damage.
H361f	Suspected of damaging fertility. Suspected of damaging the unborn child.
H361fd	Harmful in contact with skin.

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

Health: 3
Flammability: 3
Reactivity: 0

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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