

Material Safety Data Sheet Cyclohexylamine

SECTION 1.1 – PRODUCT IDENTIFICATION

Product Name : Cyclohexylamine
Molecular Formula : $C_6H_{11}NH_2$
Molecular Weight : 99.17 g/mole
CAS No. : 108-91-8

SECTION: 1.2 COMPANY IDENTIFICATION

Company Name: Indenta Chemicals (India) Pvt. Ltd.

Address: 117, The Summit Business Bay, Opp Cinemax, Off. Sir M.V. Road, Near WEH Metro Station, Andheri (E), Mumbai 400 093, India

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SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS #	% by Weight
Cyclohexylamine	108-91-8	100

Toxicological Data on Ingredients: No Data Available

SECTION 3: HAZARD IDENTIFICATION

3.1 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

3.2 Label elements

Labelling according Regulation (EC) No



Pictogram

Signal word

Danger

Hazard statement(s)

H226

Flammable liquid and vapour.

Indenta Chemicals (India) Pvt. Ltd.

Office: 117 The Summit Business Bay, Near WEH Metro Station, Opp. Cinemax Theatre, Off. Andheri Kurla Road, Andheri (E), Mumbai 400 093.
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Unit 1: Plot No. 1405, GIDC Sarigam, Dist. Valsad, Gujarat – 396155

Unit 2: Building No. 73, Gala No. 7, Indian Corporation Compound, Village Gundavli, Mankoli Naka, Bhiwandi, Thane - 421302



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.

Supplemental Hazard

Statements none

3.3 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 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 3.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: FIRE AND EXPLOSION DATA**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

No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours 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

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

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

For precautions see section 3.2.

7.2 Conditions for safe storage, including any incompatibilities

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.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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 Regulation (EU) 2016/425 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: Dermatrill®

Splash contact

Material: Nature latex/chloroprene

Minimum layer thickness: 0,6 mm

Break through time: 31 min

Material tested: Dermatrill®

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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

a) Appearance	Form: liquid Color: colourless, yellow
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	11,5 at 100 g/l at 20 °C
e) Melting point/freezing point	Melting point/range: -17 °C - lit.

f) Initial boiling point and boiling range	134 °C - lit.
g) Flash point	28 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid,gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 9,4 %(V) Lower explosion limit: 1,6 %(V)
k) Vapor pressure	14,3 hPa at 20 °C
l) Vapor density	3,42 - (Air = 1.0)
m) Relative density	0,867 g/cm ³ at 25 °C
n) Water solubility	completely miscible
o) Partition coefficient: n-octanol/water	log Pow: 3,7 at 25 °C - Bioaccumulation is not expected.
p) Autoignition temperature	293 °C
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	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

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

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x)

Other decomposition products - No data available

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)

Skin corrosion/irritation

Skin - Rabbit

Result: Corrosive - 20 h

Remarks: (ECHA)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Corrosive

Remarks: (ECHA)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

reverse mutation assay

Salmonella typhimurium

Result: negative

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

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

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 24 Months - Lowest observed adverse effect level - 600 mg/kg

(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 - <i>Oryzias latipes</i> - 33 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50 - <i>Daphnia magna</i> (Water flea) - 36,3 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	Growth inhibition ErC50 - <i>Pseudokirchneriella subcapitata</i> - 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)

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.

No data available

SECTION 13: DISPOSAL CONSIDERATION

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

No data available

SECTION 15: OTHER 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.

REACH - Restrictions on the manufacture, :
 placing on the market and use of certain

dangerous substances, preparations and articles
(Annex XVII)

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15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: ADDITIONAL INFORMATION

This information is provided for documentation purposes only.

The information contained in this Certificate of Analysis and Material Safety Data Sheet is obtained from current and reliable sources. The information contained herein is true and to the best of Indenta Chemicals (India) Pvt. Ltd. knowledge. Nothing herein should be interpreted as a recommendation to infringe existing patents or violate any Laws or Regulation. Final determination of the suitability of the material is the sole responsibility of the user. Customers should purchase products from Indenta Chemicals (India) Pvt. Ltd. with the clear understanding that all products must be used at the customer's own discretion and only after referencing Material Safety Data Sheets (MSDS) and all other relevant technical information specific to the product. Indenta Chemicals (India) Pvt. Ltd. shall not be held responsible for any damages to property or for any adverse physical effects (including injury or bodily harm) caused by insufficient knowledge or the improper use of a product. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As with any manufacturing process, Indenta Chemicals (India) Pvt. Ltd. strongly recommends small lab scale testing for evaluation purposes prior to full commercial manufacturing. The information on the Indenta Chemicals (India) Pvt. Ltd. website is obtained from current and reliable sources but makes no representation as to its comprehensiveness or accuracy. Nothing contained herein should be considered as a recommendation by Indenta Chemicals (India) Pvt. Ltd. as to the fitness for any use. As the ordinary or otherwise use(s) of this product is outside the control of Indenta Chemicals (India) Pvt. Ltd., no representation or warranty, expressed or implied is made as to the effect(s) of such use(s) (including damage or injury), or the results obtained. The liability of Indenta Chemicals (India) Pvt. Ltd. is limited to the value of the goods and does not include any consequential loss. Indenta Chemicals (India) Pvt. Ltd. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon.