

OTTO CHEMIE PVT LTD

An ISO 9001 : 2015 & GMP Certified Company
101, Aarkay Ruby Industrial Estate (1B), Opp Shree Narayan Industrial Estate,
Chinchpada, Vasai East, Waliv, Maharashtra 401208. Tel : + 91 98200 41841
Email : info@ottokemi.com Web : www.ottokemi.com

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers

Product Name : Cyclohexylamine, GR 99%+
Product Code: C 2807
CAS-No.: 108-91-8

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification

OTTO CHEMIE PVT LTD

101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate,
Chinchpada, Vasai East, Waliv, Maharashtra 401208.

Email info@ottokemi.com

1.4. Emergency telephone number

Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flammable liquids, (Category 3)

Acute toxicity, (Category 3)

Acute toxicity, (Category 3)

Skin corrosion, (Sub-category
1B)

Serious eye damage, (Category
1)

Reproductive toxicity, (Category
2)

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word

Hazard Statements

H226

H301 + H311

H302 + H312

H314

H361fd

Precautionary Statements

P202

P210

P280

P303 + P361 + P353

P304 + P340 + P310

P305 + P351 + P338

Supplemental Hazard
Statements

H226: Flammable liquid and vapor.

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H314: Causes severe skin burns and eye
damage.

H318: Causes serious eye damage.

H361fd: Suspected of damaging fertility.

Suspected of damaging the unborn child.

Danger

Flammable liquid and vapor.

Toxic if swallowed or in contact with skin.

Harmful if swallowed or in contact with skin.

Causes severe skin burns and eye damage.

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

Do not handle until all safety precautions have been read and
understood.

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

Wear protective gloves/ protective clothing/ eye protection/ face
protection.

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

IF INHALED: Remove person to fresh air and keep comfortable
for breathing. Immediately call a POISON CENTER/ doctor.

IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue
rinsing.

none

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Reduced Labeling (<= 125 ml)

Pictogram

Signal Word

Danger

Hazard Statements

H314

Causes severe skin burns and eye damage.

H361fd

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

H301 + H311

Toxic if swallowed or in contact with skin.

Precautionary Statements

P202

Do not handle until all safety precautions have been read and understood.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353

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

P304 + P340 + P310

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

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

none

Statements

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.

Ecological information:

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.

Toxicological information:

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 3: Composition/information on ingredients

3.1 Substances

Synonyms : Aminocyclohexane

Formula : C₆H₁₃N

Molecular weight : 99,17 g/mol

CAS-No. : 108-91-8

EC-No. : 203-629-0

Component	Classification	Concentration
1-Aminocyclohexane		
CAS-No. 108-91-8 EC-No. 203-629-0	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 %

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

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with

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water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately.

In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

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

Carbon dioxide (CO₂) Foam 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

Nitrogen oxides (NO_x)

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

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

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. Suppress (knock down) gases/vapors/mists with a water spray jet. 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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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.

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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. Keep locked up or in an area accessible only to qualified or authorized persons.

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/m ³
Worker DNEL, longterm	inhalation	Systemic effects	5 mg/m ³
Consumer DNEL, acute	inhalation	Systemic effects	1,2 mg/m ³
Consumer DNEL, longterm	inhalation	Systemic effects	0,6 mg/m ³
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 controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Viton®

Minimum layer thickness: 0,7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

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Material: butyl-rubber
Minimum layer thickness: 0,7 mm
Break through time: 120 min
Material tested: Butoject® (KCL 898)

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state

b) Color

c) Odor

d) Melting

point/freezing point

e) Initial boiling point

and boiling range

f) Flammability (solid,
gas)

g) Upper/lower
flammability or
explosive limits

h) Flash point

i) Autoignition
temperature

j) Decomposition
temperature

k) pH

l) Viscosity

m) Water solubility

n) Partition coefficient:
n-octanol/water

o) Vapor pressure

p) Density

Relative density

q) Relative vapor
density

r) Particle
characteristics

s) Explosive properties

t) Oxidizing properties

9.2 Other safety information

Surface tension

Dissociation constant

Relative vapor
density

liquid

light yellow

amine-like

Melting point/range: -17 °C - lit.

134 °C - lit.

No data available

Upper explosion limit: 9,4 %(V)

Lower explosion limit: 1,6 %(V)

27 °C - closed cup

293 °C

No data available

11,5 at 100 g/l at 20 °C

Viscosity, kinematic: No data available

Viscosity, dynamic: 2,1 mPa.s at 20 °C

at 20 °C completely miscible

log Pow: 3,7 at 25 °C - Bioaccumulation is not expected.

30,66 hPa at 37,7 °C

13,33 hPa at 22 °C

0,867 g/cm³ at 25 °C - lit.

0,86 at 25 °C

3,42 - (Air = 1.0)

No data available

No data available

none

68,8 mN/m at 1g/l at 20 °C

- OECD Test Guideline 115

10,68 at 25 °C

3,42 - (Air = 1.0)

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SECTION 10: Stability and reactivity

10.1 Reactivity

Vapor/air-mixtures are explosive at intense warming.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!

Violent reactions possible with:

Strong oxidizing agents

Acid chlorides

Acid anhydrides

halogens

organic nitro compounds

sodium hypochlorite

acids

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

various plastics, Copper, Copper alloys

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg

Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity

to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

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)

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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 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.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

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

Tunnel restriction code : (D/E)

Further information : No data available

SECTION 15: Regulatory information

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

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

Authorisations and/or restrictions on use
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.

P5c FLAMMABLE LIQUIDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

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

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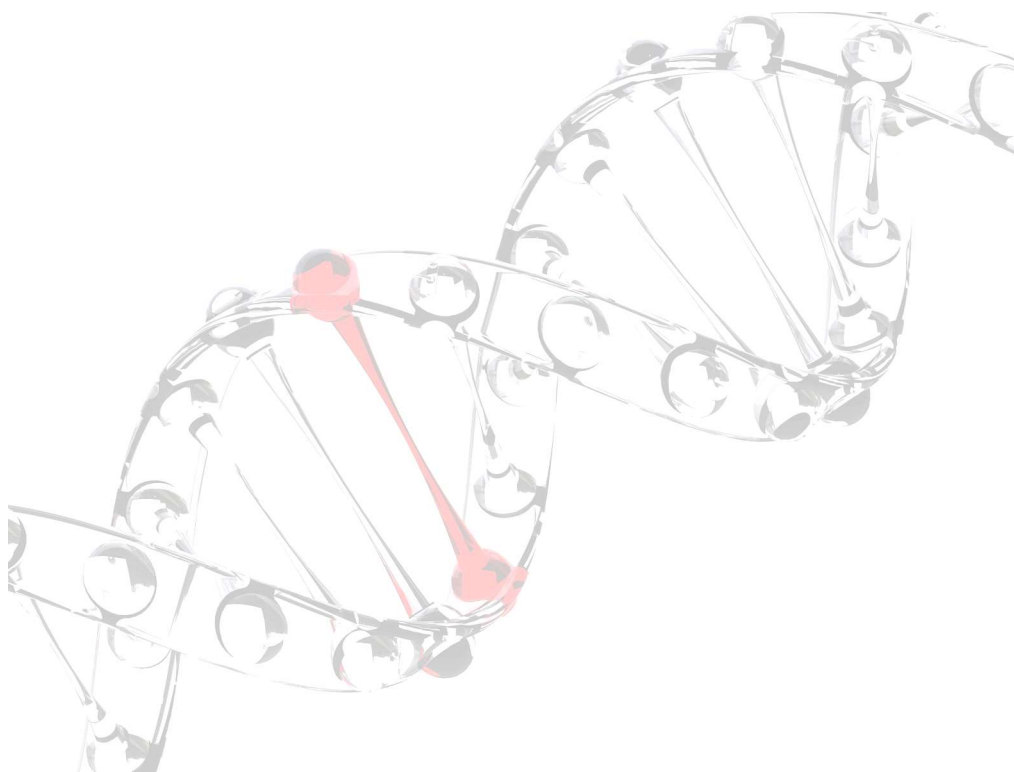
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Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.



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