



article number: **9986** Version: **3.0 en** Replaces version of: 2022-04-27 Version: (2)

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

#### 1.1 Product identifier

| Identification of the substance | <b>N,N-Dimethylcyclohexylamine</b> ≥99%, for syn-<br>thesis |
|---------------------------------|---|
| Article number                  | 9986  |
| EC number                       | 202-715-5   |
| CAS number                      | 98-94-2   |
|                                 |   |

## 1.2 Relevant identified uses of the substance or mixture and uses advised against

| Relevant identified uses: | Laboratory chemical<br>Laboratory and analytical use   |
|---------------------------|--|
| Uses advised against:     | Do not use for squirting or spraying. Do not use<br>for products which come into direct contact with<br>the skin. Do not use for products which come in-<br>to contact with foodstuffs. Do not use for private<br>purposes (household). Food, drink and animal<br>feedingstuffs. |

#### **1.3** Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

**Telephone:**+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data Department Health, Safety and Environment sheet:

## e-mail (competent person):

## sicherheit@carlroth.de

## 1.4 Emergency telephone number

| Name   | Street    | Postal<br>code/city  | Telephone    | Website |
|--|-----------|----------------------|--------------|---------|
| National Poisons Information<br>Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

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# **SECTION 2: Hazards identification**

## 2.1 Classification of the substance or mixture

## Classification acc. to GHS

| Section | Hazard class  |   | Hazard class and category | Hazard<br>statement |
|---------|---|---|---------------------------|---------------------|
| 2.6     | Flammable liquid                                      | 3 | Flam. Liq. 3              | H226                |
| 3.10    | Acute toxicity (oral)                                 | 3 | Acute Tox. 3              | H301                |
| 3.1D    | Acute toxicity (dermal)                               | 3 | Acute Tox. 3              | H311                |
| 3.1I    | Acute toxicity (inhal.)                               | 3 | Acute Tox. 3              | H331                |
| 3.2     | Skin corrosion/irritation                             | 1 | Skin Corr. 1              | H314                |
| 3.3     | Serious eye damage/eye irritation                     | 1 | Eye Dam. 1                | H318                |
| 4.1C    | Hazardous to the aquatic environment - chronic hazard | 2 | Aquatic Chronic 2         | H411                |

For full text of abbreviations: see SECTION 16

## The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

#### 2.2 Label elements

#### Labelling

Signal word Danger

**Pictograms** 



#### **Hazard statements**

| H226           | Flammable liquid and vapour                            |
|----------------|--|
| H301+H311+H331 | Toxic if swallowed, in contact with skin or if inhaled |
| H314           | Causes severe skin burns and eye damage                |
| H411           | Toxic to aquatic life with long lasting effects        |

#### **Precautionary statements**

#### **Precautionary statements - prevention**

| P210 | Keep away from heat, sparks, open flames, hot surfaces. No smoking        |
|------|---|
| P260 | Do not breathe mist/vapours/spray   |
| P273 | Avoid release to the environment  |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection |

#### Precautionary statements - response

| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact |
|----------------|---|
|                | lenses, if present and easy to do. Continue rinsing                         |
| P310           | Immediately call a POISON CENTER/doctor                                     |

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#### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### **Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of  $\ge 0,1\%$ .

# **SECTION 3: Composition/information on ingredients**

#### 3.1 Substances

| Name of substance | N,N-Dimethylcyclohexylamine         |
|-------------------|-------------------------------------|
| Molecular formula | C <sub>8</sub> H <sub>17</sub> N    |
| Molar mass        | 127,2 <sup>g</sup> / <sub>mol</sub> |
| CAS No            | 98-94-2                             |
| EC No             | 202-715-5                           |

| Substance, Specific Conc. Limits, M-factors, ATE |           |   |                                      |
|--|-----------|---|--------------------------------------|
| Specific Conc. Limits                            | M-Factors | ΑΤΕ   | Exposure route                       |
| -  | -         | >272 <sup>mg</sup> / <sub>kg</sub><br>380 <sup>mg</sup> / <sub>kg</sub><br>3 <sup>mg</sup> / <sub>l</sub> /4h | oral<br>dermal<br>inhalation: vapour |

# **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures



#### **General notes**

Take off immediately all contaminated clothing. Self-protection of the first aider.

#### **Following inhalation**

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

#### Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

## **Following ingestion**

Rinse mouth immediately and drink plenty of water. Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

#### 4.2 Most important symptoms and effects, both acute and delayed

Corrosion, Risk of blindness, Gastric perforation, Risk of serious damage to eyes

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# **4.3 Indication of any immediate medical attention and special treatment needed** none

# **SECTION 5: Firefighting measures**

## 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings! water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

#### 5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapourair mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours may form explosive mixtures with air.

#### Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

## **SECTION 6: Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

#### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

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#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

# **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Provision of sufficient ventilation. Use extractor hood (laboratory). Handle and open container with care. Clear contaminated areas thoroughly.

#### Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

#### Measures to protect the environment

Avoid release to the environment.

#### Advice on general occupational hygiene

When using do not eat or drink. Thorough skin-cleansing after handling the product. When using do not smoke.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice:

Store locked up. Ground/bond container and receiving equipment.

#### **Ventilation requirements**

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation.

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

#### 7.3 Specific end use(s)

No information available.

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# **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### **National limit values**

#### **Occupational exposure limit values (Workplace Exposure Limits)**

This information is not available.

## Human health values

#### **Relevant DNELs and other threshold levels**

| Endpoint | Threshold<br>level    | Protection goal,<br>route of exposure | Used in           | Exposure time              |
|----------|-----------------------|---------------------------------------|-------------------|----------------------------|
| DNEL     | 0,53 mg/m³            | human, inhalatory                     | worker (industry) | chronic - systemic effects |
| DNEL     | 8,3 mg/m <sup>3</sup> | human, inhalatory                     | worker (industry) | chronic - local effects    |
| DNEL     | 8,3 mg/m <sup>3</sup> | human, inhalatory                     | worker (industry) | acute - local effects      |
| DNEL     | 0,6 mg/kg bw/<br>day  | human, dermal                         | worker (industry) | chronic - systemic effects |

#### **Environmental values**

| Relevant PNECs and other threshold levels |                                     |                       |                                 |                              |  |
|---|-------------------------------------|-----------------------|---------------------------------|------------------------------|--|
| End-<br>point                             | Threshold<br>level                  | Organism              | Environmental com-<br>partment  | Exposure time                |  |
| PNEC                                      | 0,02 <sup>mg</sup> / <sub>l</sub>   | aquatic organisms     | water                           | intermittent release         |  |
| PNEC                                      | 3,5 <sup>µg</sup> / <sub>l</sub>    | aquatic organisms     | freshwater                      | short-term (single instance) |  |
| PNEC                                      | 0,35 <sup>µg</sup> / <sub>l</sub>   | aquatic organisms     | marine water                    | short-term (single instance) |  |
| PNEC                                      | 20,6 <sup>mg</sup> / <sub>l</sub>   | aquatic organisms     | sewage treatment plant<br>(STP) | short-term (single instance) |  |
| PNEC                                      | 36,92 <sup>µg</sup> / <sub>kg</sub> | aquatic organisms     | freshwater sediment             | short-term (single instance) |  |
| PNEC                                      | 3,69 <sup>µg</sup> / <sub>kg</sub>  | aquatic organisms     | marine sediment                 | short-term (single instance) |  |
| PNEC                                      | 5,33 <sup>µg</sup> / <sub>kg</sub>  | terrestrial organisms | soil                            | short-term (single instance) |  |

## 8.2 Exposure controls

## Individual protection measures (personal protective equipment)

#### **Eye/face protection**



Use safety goggle with side protection. Wear face protection.

## **Skin protection**



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#### hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### • type of material

NBR (Nitrile rubber)

#### material thickness

0,4 mm

#### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### **Respiratory protection**



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65  $^{\circ}$ C, colour code: Brown).

#### **Environmental exposure controls**

Keep away from drains, surface and ground water.

## **SECTION 9: Physical and chemical properties**

#### 9.1 Information on basic physical and chemical properties

| Physical state   | liquid  |
|--|---|
| Colour   | colourless - light yellow   |
| Odour  | like: - amine   |
| Melting point/freezing point                             | -77 °C (ECHA)   |
| Boiling point or initial boiling point and boiling range | 162,3 °C at 1.013 hPa (ECHA)  |
| Flammability   | flammable liquid in accordance with GHS criteria                                |
| Lower and upper explosion limit                          | 3,6 vol% (LEL) - 19 vol% (UEL)  |
| Flash point  | 41 °C at 1.013 hPa (ECHA)   |
| Auto-ignition temperature                                | 200 °C at 1.013 hPa (ECHA) (auto-ignition temper-<br>ature (liquids and gases)) |
| Decomposition temperature                                | not relevant  |
| pH (value)   | 12 (in aqueous solution: 5 <sup>g</sup> / <sub>l</sub> , 20 °C)                 |
|  |   |

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|-------|---|--|
|       | Kinematic viscosity                                 | 1,49 <sup>mm²</sup> / <sub>s</sub> at 20 °C      |
|       | Dynamic viscosity                                   | 3 mPa s at 25 °C                                 |
|       | Solubility(ies)                                     |  |
|       | Water solubility                                    | 13,4 <sup>g</sup> / <sub>l</sub> at 20 °C (ECHA) |
|       | Partition coefficient                               |  |
|       | Partition coefficient n-octanol/water (log value):  | 2,01 (pH value: ~10, 25 °C) (ECHA)               |
|       | Soil organic carbon/water (log KOC)                 | 1,84 (ECHA)                                      |
|       | Vapour pressure                                     | 3,17 hPa at 21,5 °C                              |
|       | Density and/or relative density                     |  |
|       | Density   | 0,85 <sup>g</sup> / <sub>cm³</sub> at 20 °C      |
|       | Relative vapour density                             | Information on this property is not available.   |
|       | Particle characteristics                            | not relevant (liquid)                            |
|       | Other safety parameters                             |  |
|       | Oxidising properties                                | none   |
| 9.2   | Other information                                   |  |
|       | Information with regard to physical hazard classes: | There is no additional information.              |
|       | Other safety characteristics:                       | There is no additional information.              |

# **SECTION 10: Stability and reactivity**

## 10.1 Reactivity

It's a reactive substance. Risk of ignition.

#### If heated

Risk of ignition. Vapours may form explosive mixtures with air.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### **10.3** Possibility of hazardous reactions

Violent reaction with: strong oxidiser, Strong acid, Isocyanates, Nitrites

#### 10.4 Conditions to avoid

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

#### 10.5 Incompatible materials

There is no additional information.

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#### **10.6** Hazardous decomposition products

Hazardous combustion products: see section 5.

# **SECTION 11: Toxicological information**

## 11.1 Information on toxicological effects

#### **Classification acc. to GHS**

#### Acute toxicity

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

| Acute toxicity |          |   |         |        |        |
|----------------|----------|---|---------|--------|--------|
| Exposure route | Endpoint | Value                                     | Species | Method | Source |
| oral           | LD50     | >272 - <289 <sup>mg</sup> / <sub>kg</sub> | rat     |        | ECHA   |
| dermal         | LD50     | 380 <sup>mg</sup> / <sub>kg</sub>         | rat     |        | ECHA   |

#### Skin corrosion/irritation

Causes severe skin burns and eye damage.

#### Serious eye damage/eye irritation

Causes serious eye damage.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

Shall not be classified as carcinogenic.

#### **Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

#### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

#### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

#### • If in eyes

causes burns, Causes serious eye damage, risk of blindness

#### • If inhaled

cough, breathing difficulties, strongly irritant

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#### • If on skin

causes severe burns, causes poorly healing wounds

#### Other information

none

#### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\ge 0,1\%$ .

#### 11.3 Information on other hazards

There is no additional information.

# **SECTION 12: Ecological information**

#### 12.1 Toxicity

Toxic to aquatic life with long lasting effects.

| Endpoint | Value                              | Species | Source | Exposure<br>time |
|----------|------------------------------------|---------|--------|------------------|
| LC50     | 31,58 <sup>mg</sup> / <sub>l</sub> | fish    | ECHA   | 96 h             |
| EC50     | 0,6 <sup>mg</sup> / <sub>l</sub>   | algae   | ECHA   | 72 h             |
| ErC50    | 3,5 <sup>mg</sup> / <sub>l</sub>   | algae   | ECHA   | 72 h             |

#### Aquatic toxicity (chronic)

| Endpoint | Value                            | Species        | Source | Exposure<br>time |
|----------|----------------------------------|----------------|--------|------------------|
| EC50     | 206 <sup>mg</sup> / <sub>l</sub> | microorganisms | ECHA   | 17 h             |

#### 12.2 Persistence and degradability

Theoretical Oxygen Demand (without nitrification):  $2,892 \text{ mg/}_{mg}$ Theoretical Oxygen Demand (with nitrification):  $3,395 \text{ mg/}_{mg}$ Theoretical Carbon Dioxide:  $2,767 \text{ mg/}_{mg}$ 

#### **Biodegradation**

The substance is readily biodegradable.

| Process of degradability |                  |      |  |
|--------------------------|------------------|------|--|
| Process                  | Degradation rate | Time |  |
| DOC removal              | 90 %             | 18 d |  |

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

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| n-octanol/water (log KOW) | 2,01 (pH value: ~10, 25 °C) (ECHA) |
|---------------------------|------------------------------------|
| BCF                       | 19,84 (ECHA)                       |

#### 12.4 Mobility in soil

| Henry's law constant                                 | 6,73 <sup>Pa m³</sup> / <sub>mol</sub> at 25 °C (ECHA) |
|--|--|
| The Organic Carbon normalised adsorption coefficient | 1,84 (ECHA)  |

#### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\ge 0,1\%$ .

#### 12.7 Other adverse effects

Data are not available.

# **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

#### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### Properties of waste which render it hazardous

- HP 3 flammable
- HP 4 irritant skin irritation and eye damage
- HP 6 acute toxicity
- HP 8 corrosive HP 14 ecotoxic
- HP 14 ecoloxic

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

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| SEC  | CTION 14: Transport information |                                      |  |
|------|---------------------------------|--------------------------------------|--|
| 14.1 | UN number or ID number          |                                      |  |
|      | ADRRID                          | UN 2264                              |  |
|      | IMDG-Code                       | UN 2264                              |  |
|      | ICAO-TI                         | UN 2264                              |  |
| 14.2 | UN proper shipping name         |                                      |  |
|      | ADRRID                          | N,N-DIMETHYLCYCLOHEXYLAMINE          |  |
|      | IMDG-Code                       | N,N-DIMETHYLCYCLOHEXYLAMINE          |  |
|      | ICAO-TI                         | N,N-Dimethylcyclohexylamine          |  |
| 14.3 | Transport hazard class(es)      |                                      |  |
|      | ADRRID                          | 8 (3)                                |  |
|      | IMDG-Code                       | 8 (3)                                |  |
|      | ICAO-TI                         | 8 (3)                                |  |
| 14.4 | Packing group                   |                                      |  |
|      | ADRRID                          | II                                   |  |
|      | IMDG-Code                       | II                                   |  |
|      | ICAO-TI                         | II                                   |  |
| 14.5 | Environmental hazards           | hazardous to the aquatic environment |  |

## 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

# 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

## 14.8 Information for each of the UN Model Regulations

# Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information

| Proper shipping name                  | N,N-DIMETHYLCYCLOHEXYLAMINE   |
|---------------------------------------|---|
| Particulars in the transport document | UN2264, N,N-DIMETHYLCYCLOHEXYLAMINE, 8<br>(3), II, (D/E), environmentally hazardous |
| Classification code                   | CF1   |
| Danger label(s)                       | 8+3, "Fish and tree"  |
|                                       |   |
| Environmental hazards                 | <b>YES</b> (hazardous to the aquatic environment)                                   |
| Excepted quantities (EQ)              | E2  |
| Limited quantities (LQ)               | 1 L   |
| Transport category (TC)               | 2   |
|                                       |   |

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| <br>Tunnel restriction code (TRC)                           | D/E  |
|---|--|
| Hazard identification No                                    | 83   |
| Emergency Action Code                                       | 3W   |
| Regulations concerning the International Carria information | age of Dangerous Goods by Rail (RID)Additional                                 |
| Classification code   | CF1  |
| Danger label(s)   | 8+3, "Fish and tree"   |
|   |  |
| Environmental hazards                                       | Yes<br>Hazardous to water  |
| Excepted quantities (EQ)                                    | E2   |
| Limited quantities (LQ)                                     | 1 L  |
| Transport category (TC)                                     | 2  |
| Hazard identification No                                    | 83   |
| International Maritime Dangerous Goods Code                 | (IMDG) - Additional information  |
| Proper shipping name  | N,N-DIMETHYLCYCLOHEXYLAMINE  |
| Particulars in the shipper's declaration                    | UN2264, N,N-DIMETHYLCYCLOHEXYLAMINE, 8<br>(3), II, 41°C c.c., MARINE POLLUTANT |
| Marine pollutant  | <b>Yes</b> (hazardous to the aquatic environment)                              |
| Danger label(s)   | 8+3, "Fish and tree"   |
|   |  |
| Excepted quantities (EQ)                                    | E2   |
| Limited quantities (LQ)                                     | 1 L  |
| EmS   | F-E, S-C   |
| Stowage category  | A  |
| International Civil Aviation Organization (ICAO-            | IATA/DGR) - Additional information   |
| Proper shipping name  | N,N-Dimethylcyclohexylamine  |
| Particulars in the shipper's declaration                    | UN2264, N,N-Dimethylcyclohexylamine, 8 (3), II                                 |
| Environmental hazards                                       | <b>Yes</b> (hazardous to the aquatic environment)                              |
| Danger label(s)   | 8+3  |
|   |  |
| Excepted quantities (EQ)                                    | E2   |
| Limited quantities (LQ)                                     | 0,5 L  |
|   |  |

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# **SECTION 15: Regulatory information**

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

**Relevant provisions of the European Union (EU)** 

#### **Seveso Directive**

| 2012/ | 2012/18/EU (Seveso III)               |  |   |       |  |  |
|-------|---------------------------------------|--|---|-------|--|--|
| Νο    | Dangerous substance/hazard categories | Qualifying quantity<br>plication of lower<br>quire | (tonnes) for the ap-<br>and upper-tier re-<br>ments | Notes |  |  |
| H2    | acute toxic (cat. 2 + cat. 3, inhal.) | 50   | 200   | 41)   |  |  |

#### Notation

41)

- Category 2, all exposure routes - category 3, inhalation exposure route

#### **Deco-Paint Directive**

| VOC content | 100 %               |
|-------------|---------------------|
| VOC content | 850 <sup>g</sup> /l |

#### **Industrial Emissions Directive (IED)**

| VOC content | 100 %               |
|-------------|---------------------|
| VOC content | 850 <sup>g</sup> /l |

#### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

#### Regulation concerning the establishment of a European Pollutant Release and Transfer **Register (PRTR)**

not listed

#### Water Framework Directive (WFD)

not listed

#### Regulation on the marketing and use of explosives precursors

not listed

#### **Regulation on drug precursors**

not listed

#### **Regulation on substances that deplete the ozone layer (ODS)**

not listed

#### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

#### **Regulation on persistent organic pollutants (POP)**

not listed

#### National regulations(GB)

acc. to Regulation (EC) No. 1907/2006 (REACH)

## N,N-Dimethylcyclohexylamine ≥99%, for synthesis



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# List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list not listed

#### **Restrictions according to GB REACH, Annex 17**

| ngerous substances with restrictions (GB REACH, Annex 17) |  |        |    |
|---|--|--------|----|
| Name of substance   | Name acc. to inventory   | CAS No | No |
| N,N-Dimethylcyclohexylamine                               | this product meets the criteria for classi-<br>fication in accordance with Regulation No<br>1272/2008/EC |        | 3  |
| N,N-Dimethylcyclohexylamine                               | flammable / pyrophoric   |        | 40 |

#### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### **National inventories**

| Country | Inventory  | Status                       |
|---------|------------|------------------------------|
| AU      | AIIC       | substance is listed          |
| CA      | DSL        | substance is listed          |
| CN      | IECSC      | substance is listed          |
| EU      | ECSI       | substance is listed          |
| EU      | REACH Reg. | substance is listed          |
| JP      | CSCL-ENCS  | substance is listed          |
| KR      | KECI       | substance is listed          |
| MX      | INSQ       | substance is listed          |
| NZ      | NZIoC      | substance is listed          |
| PH      | PICCS      | substance is listed          |
| TR      | CICR       | substance is listed          |
| TW      | TCSI       | substance is listed          |
| US      | TSCA       | substance is listed (ACTIVE) |
| VN      | NCI        | substance is listed          |

#### Legend

| Australian Inventory of Industrial Chemicals                            |
|---|
| Chemical Inventory and Control Regulation                               |
| List of Existing and New Chemical Substances (CSCL-ENCS)                |
| Domestic Substances List (DSL)  |
| EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| Inventory of Existing Chemical Substances Produced or Imported in China |
| National Inventory of Chemical Substances                               |
| Korea Existing Chemicals Inventory                                      |
| National Chemical Inventory   |
| New Zealand Inventory of Chemicals                                      |
| Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| REACH registered substances   |
| Taiwan Chemical Substance Inventory                                     |
| Toxic Substance Control Act   |
|   |

#### 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

acc. to Regulation (EC) No. 1907/2006 (REACH)



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# **SECTION 16: Other information**

## Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)                                | Actual entry (text/value)   | Safety-<br>relev-<br>ant |
|---------|--|---|--------------------------|
| 2.3     |  | Endocrine disrupting properties:<br>Does not contain an endocrine disruptor (ED) at<br>a concentration of ≥ 0,1%. | yes                      |
| 14.8    | Classification code:<br>8                                | Classification code:<br>CF1   | yes                      |
| 15.1    | VOC content:<br>100 %<br>850 <sup>g</sup> / <sub>l</sub> | VOC content:<br>100 %   | yes                      |
| 15.1    |  | VOC content:<br>850 <sup>g</sup> / <sub>l</sub>   | yes                      |
| 15.1    |  | National inventories:<br>change in the listing (table)  | yes                      |

## Abbreviations and acronyms

| Abbr.    | Descriptions of used abbreviations   |
|----------|--|
| ADR      | Accord relatif au transport international des marchandises dangereuses par route (Agreement concern-<br>ing the International Carriage of Dangerous Goods by Road)                     |
| ATE      | Acute Toxicity Estimate  |
| BCF      | Bioconcentration factor  |
| CAS      | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)   |
| DGR      | Dangerous Goods Regulations (see IATA/DGR)   |
| DNEL     | Derived No-Effect Level  |
| EC50     | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval       |
| EC No    | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identi-<br>fier of substances commercially available within the EU (European Union) |
| ED       | Endocrine disruptor  |
| EINECS   | European Inventory of Existing Commercial Chemical Substances  |
| ELINCS   | European List of Notified Chemical Substances  |
| EmS      | Emergency Schedule   |
| ErC50    | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control                 |
| GB REACH | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)   |
| GHS      | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na-<br>tions   |
| IATA     | International Air Transport Association  |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA)   |
| ICAO     | International Civil Aviation Organization  |

acc. to Regulation (EC) No. 1907/2006 (REACH)

## N,N-Dimethylcyclohexylamine ≥99%, for synthesis



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| Abbr.     | Descriptions of used abbreviations   |
|-----------|--|
| ICAO-TI   | Technical instructions for the safe transport of dangerous goods by air  |
| IMDG      | International Maritime Dangerous Goods Code  |
| IMDG-Code | International Maritime Dangerous Goods Code  |
| LC50      | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval                            |
| LD50      | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval   |
| LEL       | Lower explosion limit (LEL)  |
| NLP       | No-Longer Polymer  |
| PBT       | Persistent, Bioaccumulative and Toxic  |
| PNEC      | Predicted No-Effect Concentration  |
| REACH     | Registration, Evaluation, Authorisation and Restriction of Chemicals   |
| RID       | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula-<br>tions concerning the International carriage of Dangerous goods by Rail) |
| UEL       | Upper explosion limit (UEL)  |
| VOC       | Volatile Organic Compounds   |
| vPvB      | Very Persistent and very Bioaccumulative   |

#### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text   |
|------|--|
| H226 | Flammable liquid and vapour.                     |
| H301 | Toxic if swallowed.                              |
| H311 | Toxic in contact with skin.                      |
| H314 | Causes severe skin burns and eye damage.         |
| H318 | Causes serious eye damage.                       |
| H331 | Toxic if inhaled.                                |
| H411 | Toxic to aquatic life with long lasting effects. |

#### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.