

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date: 31.01.2023

Version No: 1.00

Revision: 31.01.2023

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

### Product identifier

**Trade name:** N,N-Dimethyl-n-dodecylamine N-oxide (LDAO)

### CAS Number:

1643-20-5

### EC number:

216-700-6

**Registration number:** 01-2120068065-58-XXXX

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

**Application of the substance / the preparation:** Laboratory chemicals

**Uses advised against:** No further relevant information available.

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

#### Manufacturer/Supplier:

Cube Biotech GmbH

Alfred-Nobel-Straße 10

40789 Monheim

Tel.: +49 (0) 2173 99373 0

E-mail: [contact@cube-biotech.com](mailto:contact@cube-biotech.com)

**Emergency telephone number:** +49 (0) 2173 99373 0 (during business hours)

## 2 Hazards identification

### Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Dam. 1 H318 Causes serious eye damage.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

### Label elements

#### Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

#### Hazard pictograms



GHS05 GHS07 GHS09

### Signal word Danger

#### Hazard statements

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H410 Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

P273 Avoid release to the environment.

P280 Wear eye protection / face protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

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.

P330 Rinse mouth.

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P362+P364 Take off contaminated clothing and wash it before reuse.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other hazards****Results of PBT and vPvB assessment****PBT:** Not determined.**vPvB:** Not determined.

### 3 Composition/information on ingredients

**Substances****CAS No. Description**

CAS: 1643-20-5 dodecyldimethylamine oxide

**Identification number(s)**

EC number: 216-700-6

### 4 First aid measures

**Description of first aid measures****General information:**

Take affected persons out of danger area and lay down.

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation:** Supply fresh air.**After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

**After eye contact:**

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

Call a doctor immediately.

**After swallowing:**

Rinse out mouth and then drink plenty of water.

If symptoms persist consult doctor.

Do NOT induce vomiting.

**Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Firefighting measures

**Extinguishing media****Suitable extinguishing agents:**CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Use fire extinguishing methods suitable to surrounding conditions.

**For safety reasons unsuitable extinguishing agents:** Water with full jet**Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide

Carbon dioxide

Nitrogen oxides (NO<sub>x</sub>)**Advice for firefighters****Protective equipment:** Wear self-contained respiratory protective device.

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**Additional information**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

**6 Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Wear protective clothing.

Avoid formation of dust.

Keep away from ignition sources.

**Environmental precautions:** Do not allow to enter sewers/ surface or ground water.**Methods and material for containment and cleaning up:**

Use neutralising agent.

Pick up mechanically.

Dispose of the material collected according to regulations.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage****Precautions for safe handling**

Prevent formation of dust.

Any unavoidable deposit of dust must be regularly removed.

Ensure good ventilation/exhaustion at the workplace.

**Information about fire and explosion protection:**

Dust can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

**Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.**Information about storage in one common storage facility:** Store away from oxidising agents.**Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.**Specific end use(s)** No further relevant information available.**8 Exposure controls/personal protection****Control parameters****Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Exposure controls****Appropriate engineering controls** No further data; see item 7.**Individual protection measures, such as personal protective equipment****General protective and hygienic measures:**

Do not eat, drink, smoke or sniff while working.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Store protective clothing separately.

Avoid contact with the eyes and skin.

The usual precautionary measures are to be adhered to when handling chemicals.

**Respiratory protection:** Not necessary if room is well-ventilated.

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**Hand protection**

Protective gloves

Only use chemical-protective gloves with CE-labelling of category III.  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye/face protection** Safety glasses**Body protection:** Protective work clothing**Environmental exposure controls** No further relevant information available.

## 9 Physical and chemical properties

**Information on basic physical and chemical properties****General Information****Physical state**

Solid

**Form:**

Powder

**Colour:**

White

**Odour:**

Characteristic

**Odour threshold:**

Not determined.

**Melting point/freezing point:**

132 - 133 °C

**Boiling point or initial boiling point and boiling range**

Not applicable.

**Flammability**

Product is not flammable.

**Lower and upper explosion limit****Lower:**

Not applicable.

**Upper:**

Not applicable.

**Flash point:**

Not determined.

**Ignition temperature:**

Not determined.

**Decomposition temperature:**

Not determined.

**pH**

8 - 9

**Viscosity:****Kinematic viscosity**

Not applicable.

**Dynamic:**

Not applicable.

**Solubility****water at 20 °C:**

409.5 g/L

**Partition coefficient n-octanol/water (log value)**

Not determined.

**Vapour pressure:**

Not applicable.

**Density and/or relative density****Density at 20 °C:**0.97 g/cm<sup>3</sup>**Relative density**

Not determined.

**Vapour density**

Not applicable.

**Relative gas density**

Not applicable.

**Particle characteristics**

See item 3.

**Other information****Explosive properties:**

Product does not present an explosion hazard.

**Molecular weight**

229.41 g/mol

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**Oxidising properties**  
**Evaporation rate**

No  
 Not applicable.

### 10 Stability and reactivity

**Reactivity** No further relevant information available.  
**Chemical stability** No decomposition if used and stored according to specifications.  
**Thermal decomposition / conditions to be avoided:**  
 No decomposition if used according to specifications.  
**Possibility of hazardous reactions** No dangerous reactions known.  
**Conditions to avoid** No further relevant information available.  
**Incompatible materials:** No further relevant information available.  
**Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

**Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Acute toxicity**

Harmful if swallowed.

**LD/LC50 values relevant for classification:**

Oral LD50 1064 mg/kg (Rat) (OECD Guideline 401)

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/irritation**

Causes serious eye damage.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

**Information on other hazards**

**Endocrine disrupting properties** Substance is not listed.

### 12 Ecological information

**Toxicity**

**Aquatic toxicity:**

LC50 (96h) 31.8 mg/L (Fish) (OECD Guideline 203, Danio rerio)  
 semi-static

EC10 80 mg/L (Bacteria) (Pseudomonas putida)  
 18h

ErC50 (72h) (static) 0.2 mg/L (Algae) (OECD Guideline 201, Pseudokirchneriella subcapitata)

EC50 (48h) (static) 3.9 mg/L (Daphnia) (OECD Guideline 202, Daphnia magna)

**Persistence and degradability** No further relevant information available.

**Bioaccumulative potential** No further relevant information available.

**Mobility in soil** No further relevant information available.

**Results of PBT and vPvB assessment** Not determined.

**Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

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Other adverse effects No further relevant information available.

### 13 Disposal considerations

**Waste treatment methods**
**Recommendation:** Must be specially treated adhering to official regulations.

**Uncleaned packaging**
**Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

**UN number or ID number**  
**ADR/RID/ADN, IMDG, IATA**  
**UN proper shipping name**

UN3077

**ADR/RID/ADN**3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
SOLID, N.O.S. (dodecyldimethylamine oxide)**IMDG, IATA**ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
SOLID, N.O.S. (dodecyldimethylamine oxide)**Transport hazard class(es)****ADR/RID/ADN, IMDG, IATA****Class**

9 Miscellaneous dangerous substances and articles.

**Label**

9

**Packing group****ADR/RID/ADN, IMDG, IATA**

III

**Environmental hazards:****Marine pollutant:**

Symbol (fish and tree)

**Special marking (ADR/RID/ADN):**

Symbol (fish and tree)

**Special marking (IATA):**

Symbol (fish and tree)

**Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

**Hazard identification number (Kemler code):** 90**EMS Number:**

F-A,S-F

**Stowage Category**

A

**Stowage Code**SW23 When transported in BK3 bulk container, see  
7.6.2.12 and 7.7.3.9.**Maritime transport in bulk according to IMO instruments**

Not applicable.

**Transport/Additional information:****ADR/RID/ADN****Tunnel restriction code**

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**UN "Model Regulation":**UN 3077 ENVIRONMENTALLY HAZARDOUS  
SUBSTANCE, SOLID, N.O.S.  
(DODECYLDIMETHYLAMINE OXIDE), 9, III

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### 15 Regulatory information

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

**Directive 2012/18/EU**

**Named dangerous substances - ANNEX I** Substance is not listed.

**Seveso category E1** Hazardous to the Aquatic Environment

**Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t

**Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

**DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

Substance is not listed.

**REGULATION (EU) 2019/1148**

**Annex I - RESTRICTED EXPLOSIVES PRECURSORS** (Upper limit value for the purpose of licensing under Article 5(3))

Substance is not listed.

**Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.

**Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.

**Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

Substance is not listed.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Abbreviations and acronyms:**

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

MARPOL: (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

UN: United Nations (also UNO: United Nations Organization)

NOEC: No Observed Effect Concentration

OECD: Organisation for Economic Co-operation and Development

ASTM: American Society for Testing and Materials

WAF: Water Accommodated Fraction

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1