

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.9

Revision Date 12.01.2024

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

1.1 Product identifiers

Product name : Cholera Toxin, from *Vibrio cholerae*

Product Number : C8052

Brand : Sigma

REACH No. : This product is a mixture. REACH Registration Number see section 3.

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

Identified uses : Laboratory chemicals, Manufacture of substances

Uses advised against : For R&D use only. Not for pharmaceutical, household or other uses.

1.3 Details of the supplier of the safety data sheet

Company : Merck Life Science S.r.l.
Via Monte Rosa 93
I-20149 MILANO

Telephone : +39 02 3341 7340

Fax : +39 02 3801 0737

E-mail address : serviziotecnico@merckgroup.com

1.4 Emergency telephone

Emergency Phone # : 800-789-767 (CHEMTREC Italia)
+39-02-4555-7031 (CHEMTREC chiamate internazionali)
+39 02-6610-1029 (Centro Antiveleni Niguarda Ca' Granda - Milano)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Acute toxicity, (Category 2) H300: Fatal if swallowed.

Acute toxicity, (Category 4) H332: Harmful if inhaled.



Acute toxicity, (Category 2)

H310: Fatal in contact with skin.

Long-term (chronic) aquatic hazard, (Category 3)

H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal Word

Danger

Hazard Statements

H300 + H310

Fatal if swallowed or in contact with skin.

H332

Harmful if inhaled.

H412

Harmful to aquatic life with long lasting effects.

Precautionary Statements

P262

Do not get in eyes, on skin, or on clothing.

P273

Avoid release to the environment.

P280

Wear protective gloves/ protective clothing.

P301 + P310

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P302 + P352 + P310

IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.

P304 + P340 + P312

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

Supplemental Hazard Statements

none

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word

Danger

Hazard Statements

H412

Harmful to aquatic life with long lasting effects.

H300 + H310

Fatal if swallowed or in contact with skin.

Precautionary Statements

P262

Do not get in eyes, on skin, or on clothing.

P280

Wear protective gloves/ protective clothing.

P301 + P310

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P302 + P352 + P310

IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.

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.



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

3.2 Mixtures

Synonyms : Cholera enterotoxin
Cholergen

| Component | Classification | Concentration |
|---|---|-----------------|
| Exotoxin, vibrio cholerae | | |
| CAS-No. 9012-63-9 * | Acute Tox. 1; H300, H310 | >= 1 - < 10 % |
| Edetate disodium dihydrate | | |
| CAS-No. 6381-92-6 EC-No. 205-358-3 Registration number 01-2119486775-20-XXXX | Acute Tox. 4; STOT RE 2; H332, H373 | >= 1 - < 10 % |
| sodium azide | | |
| CAS-No. 26628-22-8 EC-No. 247-852-1 Index-No. 011-004-00-7 Registration number 01-2119457019-37-XXXX | Acute Tox. 2; Acute Tox. 1; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H300, H330, H310, H373, H400, H410 M-Factor - Aquatic Acute: 1 M-Factor - Aquatic Chronic: 1 | >= 0,25 - < 1 % |

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. 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.

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

Water Foam Carbon dioxide (CO₂) 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)

Hydrogen chloride gas

Sodium oxides

Mixture with combustible ingredients.

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

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: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. 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.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage stability Recommended storage temperature
2 - 8 °C

Handle material under Biosafety Level 1 (BSL-1) containment.

Storage class

Storage class (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

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

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). Safety glasses

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: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

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 EC 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

protective clothing

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P3



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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|--|
| a) Physical state | solid |
| b) Color | No data available |
| c) Odor | No data available |
| d) Melting point/freezing point | No data available |
| e) Initial boiling point and boiling range | No data available |
| f) Flammability (solid, gas) | No data available |
| g) Upper/lower flammability or explosive limits | No data available |
| h) Flash point | No data available |
| i) Autoignition temperature | No data available |
| j) Decomposition temperature | No data available |
| k) pH | No data available |
| l) Viscosity | Viscosity, kinematic: No data available Viscosity, dynamic: No data available |
| m) Water solubility | No data available |
| n) Partition coefficient: n-octanol/water | No data available |
| o) Vapor pressure | No data available |
| p) Density | No data available |
| Relative density | No data available |
| q) Relative vapor density | No data available |
| r) Particle characteristics | 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

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Dimethyl sulfate, Acid chlorides, Halogenated hydrocarbon, Metals, Acids

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Oral: No data available

Acute toxicity estimate Inhalation - 4 h - 4,82 mg/l - dust/mist(Calculation method)

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

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

11.2 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.

Vomiting, Diarrhea, Abdominal pain

Laboratory experiments in animals have shown sodium azide to produce a profound hypotensive effect, demyelination of myelinated nerve fibers in the central nervous system, testicular damage, blindness, attacks of rigidity, and hepatic and cerebral effects. Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Components**Exotoxin, vibrio cholerae****Acute toxicity**

Acute toxicity estimate Oral - 0,5 mg/kg
(Expert judgment)

Inhalation: No data available

Acute toxicity estimate Dermal - 5 mg/kg
(Expert judgment)

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available



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

Edetate disodium dihydrate**Acute toxicity**

LD50 Oral - Rat - male and female - 2.800 mg/kg

(OECD Test Guideline 401)

Remarks: The value is given in analogy to the following substances:

Ethylenedinitrilotetraacetic acid disodium salt

Acute toxicity estimate Inhalation - 1,6 mg/l - dust/mist

(Expert judgment)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

(OECD Test Guideline 404)

Remarks: (ECHA)

The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid disodium salt

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

Remarks: (ECHA)

The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid disodium salt

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Remarks: (ECHA)

The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid disodium salt

Germ cell mutagenicity

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells

Result: negative

Remarks: (ECHA)

The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid trisodium salt



Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Result: negative

Remarks: (ECHA)

The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid disodium salt
The value is given in analogy to the following substances:
Ethylenedinitrilotetraacetic acid trisodium salt

Test Type: Ames test

Result: negative

Remarks: (ECHA)

The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid trisodium salt

Method: OECD Test Guideline 474

Species: Mouse

Remarks: (ECHA)

The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid disodium salt

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Inhalation - May cause damage to organs through prolonged or repeated exposure.

- Respiratory Tract

Aspiration hazard

No data available

sodium azide

Acute toxicity

LD50 Oral - Rat - 27 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Rat - male and female - 4 h - 0,054 - 0,52 mg/l - dust/mist
(US-EPA)

LD50 Dermal - Rabbit - 20 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - In vitro study

Result: No skin irritation

(OECD Test Guideline 439)

Serious eye damage/eye irritation

Eyes - Bovine cornea

Result: No eye irritation - 4 h



(OECD Test Guideline 437)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Result: negative

Test Type: unscheduled DNA synthesis assay

Test system: Chinese hamster lung cells

Result: negative

Test Type: sister chromatid exchange assay

Test system: Chinese hamster ovary cells

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Oral - May cause damage to organs through prolonged or repeated exposure.

- Brain

Aspiration hazard

No data available

SECTION 12: Ecological information

12.1 Toxicity

Mixture

No data available

12.2 Persistence and degradability

No data available

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

Components

Exotoxin, vibrio cholerae

No data available

Edetate disodium dihydrate

Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) -
> 100 mg/l - 96 h
(OECD Test Guideline 203)
Remarks: (ECHA)
The value is given in analogy to the following substances:
Sodium ferredetate

Toxicity to daphnia
and other aquatic
invertebrates static test EC50 - Daphnia magna (Water flea) - 140 mg/l - 48
h
(DIN 38412)
Remarks: (ECHA)
The value is given in analogy to the following substances:
Ethylenedinitrilotetraacetic acid disodium salt

NOEC - Daphnia magna (Water flea) - 25 mg/l - 21 d
Remarks: (ECHA)
The value is given in analogy to the following substances:
Ethylenedinitrilotetraacetic acid disodium salt

Toxicity to algae static test - Pseudokirchneriella subcapitata (green algae) - >
60 mg/l - 72 h
(OECD Test Guideline 201)
Remarks: (ECHA)
The value is given in analogy to the following substances:
Sodium ferredetate

Toxicity to bacteria NOEC - activated sludge - > 640 mg/l - 3 h
(OECD Test Guideline 209)
Remarks: (ECHA)
The value is given in analogy to the following substances:
Sodium ferredetate

sodium azide

Toxicity to fish flow-through test LC50 - Oncorhynchus mykiss (rainbow trout)



- 2,75 mg/l - 96 h
(OECD Test Guideline 203)

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata - 0,35 mg/l
- 96 h
(OECD Test Guideline 201)

Toxicity to bacteria

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

ADR/RID: 3462

IMDG: 3462

IATA: 3462

14.2 UN proper shipping name

ADR/RID: TOXINS EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. (Exotoxin, vibrio cholerae)

IMDG: TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S. (Exotoxin, vibrio cholerae)

IATA: Toxins, extracted from living sources, solid, n.o.s. (Exotoxin, vibrio cholerae)

14.3 Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

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.



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. H2 ACUTE TOXIC

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

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements

| | |
|--------|---|
| H300 | Fatal if swallowed. |
| H310 | Fatal in contact with skin. |
| H330 | Fatal if inhaled. |
| H332 | Harmful if inhaled. |
| H373 | May cause damage to organs through prolonged or repeated exposure if inhaled. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| EUH032 | Contact with acids liberates very toxic gas. |



Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Classification of the mixture

| | |
|------------------|------|
| Acute Tox.2 | H300 |
| Acute Tox.4 | H332 |
| Acute Tox.2 | H310 |
| Aquatic Chronic3 | H412 |

Classification procedure:

| |
|--------------------|
| Calculation method |
| Calculation method |
| Calculation method |
| Calculation method |



Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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