

# • SAFETY DATA SHEET

Version 6.16  
Revision Date 08/27/2025  
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## SECTION 1. IDENTIFICATION

### 1.1 Product identifiers

Product name : Mercury(II) sulfate

Product Number : 31014  
Brand : Sigma-Aldrich  
Index-No. : 080-002-00-6  
CAS-No. : 7783-35-9

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

Identified uses : Scientific research and development, Reagent for analysis  
Uses advised against :

The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

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

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

### 1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

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## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

**Hazards for the product as supplied**

Acute toxicity (Oral) : Category 2

|  |                       |
|--|-----------------------|
| Acute toxicity (Inhalation)                        | : Category 2          |
| Acute toxicity (Dermal)                            | : Category 1          |
| Skin corrosion                                     | : Sub-category 1A     |
| Serious eye damage                                 | : Category 1          |
| Skin sensitisation                                 | : Category 1          |
| Germ cell mutagenicity                             | : Category 2          |
| Specific target organ toxicity - repeated exposure | : Category 2 (Kidney) |
| Short-term (acute) aquatic hazard                  | : Category 1          |
| Long-term (chronic) aquatic hazard                 | : Category 1          |

#### Other hazards

None known.

#### GHS label elements

|                   |   |   |
|-------------------|---|---|
| Hazard pictograms | : |  |
|-------------------|---|---|

|             |          |
|-------------|----------|
| Signal Word | : Danger |
|-------------|----------|

|                   |  |
|-------------------|--|
| Hazard Statements | : H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.<br>H314 Causes severe skin burns and eye damage.<br>H317 May cause an allergic skin reaction.<br>H341 Suspected of causing genetic defects.<br>H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.<br>H410 Very toxic to aquatic life with long lasting effects. |
|-------------------|--|

|                                |                                       |
|--------------------------------|---------------------------------------|
| Supplemental Hazard Statements | : Corrosive to the respiratory tract. |
|--------------------------------|---------------------------------------|

|                          |   |
|--------------------------|---|
| Precautionary statements | : <b>Prevention:</b><br>P201 Obtain special instructions before use.<br>P202 Do not handle until all safety precautions have been read and understood.<br>P260 Do not breathe dust. |
|--------------------------|---|

P262 Do not get in eyes, on skin, or on clothing.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P284 Wear respiratory protection.

**Response:**

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.  
P391 Collect spillage.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Substance

**Components**

| Chemical name        | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|----------------------|-------------------|-----------------------|--------------|
| mercury(II) sulphate | 7783-35-9*        | >= 80 - <= 100        | TSC          |

\* Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

#### SECTION 4. FIRST AID MEASURES

- General advice : First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.
- If inhaled : After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.
- 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. 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.
- 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
- Protection of first-aiders : For personal protection see section 8.
- Notes to physician : No data available

#### SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing : For this substance/mixture no limitations of

media extinguishing agents are given.

Specific hazards during fire fighting : Not combustible.

Ambient fire may liberate hazardous vapours.

Hazardous combustion products : Sulphur oxides

Mercury/mercury oxides.

Specific extinguishing methods : No data available

Further information : Suppress (knock down) gases/vapours/mists with a water spray jet.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

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.  
Advice for emergency responders:  
For personal protection see section 8.

Environmental precautions : Do not let product enter drains.

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. Dispose of properly. Clean up affected area.

Avoid generation of dusts.

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## SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

- Advice on safe handling : Work under hood. Do not inhale substance/mixture.
- Further information on storage conditions : Tightly closed.  
Dry.  
Keep in a well-ventilated place.  
Keep locked up or in an area accessible only to qualified or authorised persons.
- Storage class : 6.1B, Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials
- Recommended storage temperature : Recommended storage temperature see product label.
- Further information on storage stability : Store under inert gas.  
Light sensitive.  
Moisture sensitive.  
Air sensitive.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters

| Components           | CAS-No.   | Value type<br>(Form of exposure) | Control parameters /<br>Permissible concentration | Basis     |
|----------------------|-----------|----------------------------------|---|-----------|
| mercury(II) sulphate | 7783-35-9 | TWA                              | 0.025 mg/m <sup>3</sup><br>(Mercury)              | ACGIH     |
|                      |           | TWA<br>(Vapour)                  | 0.05 mg/m <sup>3</sup><br>(Mercury)               | NIOSH REL |
|                      |           | C                                | 0.1 mg/m <sup>3</sup><br>(Mercury)                | NIOSH REL |

**Engineering measures** : No data available

### Personal protective equipment

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 : Filter type P3  
type:

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.

Hand protection

Material : Nitrile rubber  
Break through time : 480 min  
Glove thickness : 0.11 mm  
Protective index : Full contact  
Manufacturer : KCL 741 Dermatril® L

Material : Nitrile rubber  
Break through time : 480 min  
Glove thickness : 0.11 mm  
Protective index : Splash contact  
Manufacturer : KCL 741 Dermatril® L

Remarks : 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](http://www.kcl.de)).

Eye 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 and body protection : protective clothing

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : crystalline

Color : white

|   |   |
|---|---|
| Odor  | : odourless                               |
| Odor Threshold                                      | : Not applicable                          |
| pH  | : No data available                       |
| Melting point                                       | : No data available                       |
| Boiling point/boiling range                         | : No data available                       |
| Flash point   | : Not applicable                          |
| Evaporation rate                                    | : No data available                       |
| Flammability (solid, gas)                           | : The product is not flammable.           |
| Flammability (liquids)                              | : No data available                       |
| Burning rate  | : No data available                       |
| Upper explosion limit /<br>Upper flammability limit | : No data available                       |
| Lower explosion limit /<br>Lower flammability limit | : No data available                       |
| Vapor pressure                                      | : No data available                       |
| Relative vapour density                             | : No data available                       |
| Relative density                                    | : No data available                       |
| Density   | : 6.470 g/cm <sup>3</sup>                 |
| Water solubility                                    | : No data available                       |
| Partition coefficient: n-<br>octanol/water          | : Not applicable for inorganic substances |
| Autoignition temperature                            | : > 842 °F / > 450 °C                     |
| Decomposition<br>temperature                        | : No data available                       |
| Viscosity, dynamic                                  | : No data available                       |
| Viscosity, kinematic                                | : No data available                       |
| Flow time   | : No data available                       |
| Explosive properties                                | : Not classified as explosive.            |

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Oxidizing properties : none  
Molecular weight : 296.65 g/mol  
Particle characteristics  
Particle size : No data available

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity : No data available  
Chemical stability : The product is chemically stable under standard ambient conditions (room temperature) .  
Possibility of hazardous reactions : Violent reactions possible with: Hydrogen halides  
Conditions to avoid : no information available  
Incompatible materials : No data available  
Hazardous decomposition products : In the event of fire: see section 5

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## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Mouse - 25 mg/kg

Remarks: (RTECS)

Acute toxicity estimate Inhalation - 0.051 mg/l - dust/mist

(Expert judgement)

Acute toxicity estimate Dermal - 5.1 mg/kg

(Expert judgement)

No data available

#### Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

(OECD Test Guideline 431)

Remarks: (ECHA)

#### Serious eye damage/eye irritation

Remarks: (ECHA)

#### Respiratory or skin sensitization

(ECHA)

#### Germ cell mutagenicity

Suspected of causing genetic defects.

### **Carcinogenicity**

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

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

### **Aspiration hazard**

No data available

## **11.2 Additional Information**

RTECS: OX0500000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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## **SECTION 12. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

#### **Components:**

#### **mercury(II) sulphate:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.19 mg/l  
Exposure time: 96 h  
Remarks: (Hommel)

Toxicity to algae/aquatic plants : EC50 (Ankistrodesmus falcatus): 0.07 mg/l  
Exposure time: 14 Days  
Remarks: (ECHA)

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic : 1  
toxicity)

### **Persistence and degradability**

#### **Components:**

##### **mercury(II) sulphate:**

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

### **Bioaccumulative potential**

#### **Components:**

##### **mercury(II) sulphate:**

Partition coefficient: n-octanol/water : Remarks: Not applicable for inorganic substances

### **Mobility in soil**

No data available

### **Other adverse effects**

#### **Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

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## **SECTION 14. TRANSPORT INFORMATION**

### **International Regulations**

#### **IATA-DGR**

UN/ID No. : UN 1645  
Proper shipping name : Mercury sulphate  
Class : 6.1

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Packing group : II  
Labels : Division 6.1 - Toxic substances  
Packing instruction (cargo : 676  
aircraft)  
Packing instruction : 669  
(passenger aircraft)

**IMDG-Code**

UN number : UN 1645  
Proper shipping name : MERCURY SULPHATE

Class : 6.1  
Packing group : II  
Labels : 6.1  
EmS Code : F-A, S-A  
Marine pollutant : yes

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**National Regulations**

**49 CFR Road**

UN/ID/NA number : UN 1645  
Proper shipping name : Mercury sulfates

Class : 6.1  
Packing group : II  
Labels : Division 6.1 - Toxic substances  
ERG Code : 151  
Marine pollutant : yes

Poison Inhalation Hazard : No

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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**SECTION 15. REGULATORY INFORMATION**

**CERCLA Reportable Quantity**

| Components           | CAS-No.   | Component<br>RQ (lbs) | Calculated product<br>RQ (lbs) |
|----------------------|-----------|-----------------------|--------------------------------|
| mercury(II) sulphate | 7783-35-9 | 10                    | 10                             |

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Acute Health Hazard  
Chronic Health Hazard

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

mercury(II) sulphate 7783-35-9 >= 90 - <= 100 %

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).  
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

mercury(II) sulphate 7783-35-9 >= 90 - <= 100 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

### Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

mercury(II) sulphate 7783-35-9 >= 90 - <= 100 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

mercury(II) sulphate 7783-35-9 >= 90 - <= 100 %

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

mercury(II) sulphate 7783-35-9 >= 90 - <= 100 %

This product does not contain any priority pollutants related to the U.S. Clean Water Act

### US State Regulations

#### Massachusetts Right To Know

mercury(II) sulphate 7783-35-9

#### Pennsylvania Right To Know

mercury(II) sulphate 7783-35-9

#### Maine Chemicals of High Concern

Product does not contain any listed chemicals

#### Vermont Chemicals of High Concern

mercury(II) sulphate 7783-35-9

#### Washington Chemicals of High Concern

mercury(II) sulphate 7783-35-9

#### California Prop. 65

WARNING: This product can expose you to chemicals including mercury(II) sulphate, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**The components of this product are reported in the following inventories:**

TSCA : All substances listed as active on the TSCA inventory

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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**SECTION 16. OTHER INFORMATION****Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
NIOSH REL : USA. NIOSH Recommended Exposure Limits  
ACGIH / TWA : 8-hour, time-weighted average  
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek  
NIOSH REL / C : Ceiling value not be exceeded at any time.

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory;

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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

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](http://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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