

# SAFETY DATA SHEET

according to the OSHA  
Hazard Communication Standard

Version 6.10  
Revision Date 07/10/2026  
Print Date 07/11/2026

## SECTION 1. IDENTIFICATION

### 1.1 Product identifiers

Product name : Manganese(II) carbonate

Product Number : 377449  
Brand : Aldrich  
CAS-No. : 598-62-9

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

Identified uses : Laboratory chemicals, Synthesis of substances

Restrictions on use : Not Available

### 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

Short-term (acute) : Category 2  
aquatic hazard

#### Other hazards

None known.

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## GHS label elements

Hazard statements : H401 Toxic to aquatic life.

Precautionary statements : **Prevention:**  
P273 Avoid release to the environment.  
**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

CAS-No. : 598-62-9

### Components

| Chemical name       | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|---------------------|-------------------|-----------------------|--------------|
| Manganous carbonate | 598-62-9*         | $\geq 90 - \leq 100$  | -            |

\* Indicates that the identifier is a CAS No.  
Actual concentration is withheld as a trade secret

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## SECTION 4. FIRST AID MEASURES

If inhaled : After inhalation: fresh air.

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

In case of eye contact : After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed : After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

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## SECTION 5. FIREFIGHTING MEASURES

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|                                                |                                                                                                           |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media                   | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
|                                                | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.   |
| Unsuitable extinguishing media                 | : For this substance/mixture no limitations of extinguishing agents are given.                            |
|                                                | For this substance/mixture no limitations of extinguishing agents are given.                              |
| Specific hazards during fire fighting          | : Not combustible.                                                                                        |
|                                                | Ambient fire may liberate hazardous vapours.                                                              |
| Hazardous combustion products                  | : Carbon oxides                                                                                           |
|                                                | Manganese/manganese oxides                                                                                |
| Specific extinguishing methods                 | : No data available                                                                                       |
| Further information                            | : Prevent fire extinguishing water from contaminating surface water or the ground water system.           |
| Special protective equipment for fire-fighters | : In the event of fire, wear self-contained breathing apparatus.                                          |

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

|                                                                     |                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | : Advice for non-emergency personnel:<br>Avoid inhalation of dusts.<br>Ensure adequate ventilation.<br>Evacuate the danger area, observe emergency procedures, consult an expert.<br>Advice for emergency responders:<br>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).<br>Take up dry. 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.

|                                           |                                                      |
|-------------------------------------------|------------------------------------------------------|
| Further information on storage conditions | : Tightly closed.<br>Dry.                            |
| Storage class                             | : 13, Non Combustible Solids                         |
| Recommended storage temperature           | : Recommended storage temperature see product label. |
| Further information on storage stability  | : Hygroscopic.                                       |

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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     |
|---------------------|----------|----------------------------------------|---------------------------------------------------|-----------|
| Manganous carbonate | 598-62-9 | C                                      | 5 mg/m <sup>3</sup><br>(Manganese)                | OSHA Z-1  |
|                     |          | TWA<br>(Inhalable particulate matter)  | 0.1 mg/m <sup>3</sup><br>(Manganese)              | ACGIH     |
|                     |          | TWA<br>(Respirable particulate matter) | 0.02 mg/m <sup>3</sup><br>(Manganese)             | ACGIH     |
|                     |          | TWA                                    | 1 mg/m <sup>3</sup><br>(Manganese)                | NIOSH REL |
|                     |          | ST                                     | 3 mg/m <sup>3</sup><br>(Manganese)                | 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 type: : Filter type P2

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 : Handle with impervious gloves.  
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).  
Safety glasses

Hygiene measures : Change contaminated clothing. Wash hands after working with substance.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                                     |                                                                                                                |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Appearance                                          | : powder                                                                                                       |
| Colour                                              | : light brown                                                                                                  |
| Odour                                               | : No data available                                                                                            |
| Odour Threshold                                     | : No data available                                                                                            |
| pH                                                  | : No data available                                                                                            |
| Melting point/ range                                | : > 842 °F / > 450 °C<br>Decomposition: yes<br>Method: Regulation (EC) No. 440/2008, Annex, A.1                |
| 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                                                                                            |
| Vapour pressure                                     | : No data available                                                                                            |
| Relative vapour density                             | : No data available                                                                                            |
| Relative density                                    | : 3.27 (72 °F / 22 °C)<br>Method: Regulation (EC) No. 440/2008, Annex, A.3                                     |
| Density                                             | : 3.12 g/cm <sup>3</sup> (77 °F / 25 °C)<br>Method: lit.                                                       |
| Solubility(ies)<br>Water solubility                 | : 0.00363 g/l slightly soluble (68 °F / 20 °C)<br>Method: Regulation (EC) No. 440/2008, Annex, A.6<br>GLP: yes |

|                                           |                                                             |
|-------------------------------------------|-------------------------------------------------------------|
| Partition coefficient: n-octanol/water    | : Not applicable for inorganic substances                   |
| Autoignition temperature                  | : No data available                                         |
| Decomposition temperature                 | : No data available                                         |
| Viscosity, dynamic                        | : No data available                                         |
| Viscosity, kinematic                      | : No data available                                         |
| Flow time                                 | : No data available                                         |
| Explosive properties                      | : No data available                                         |
| Oxidizing properties                      | : Method: Regulation (EC) No. 440/2008, Annex, A.17<br>none |
| Molecular weight                          | : 114.95 g/mol                                              |
| Particle characteristics<br>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 | : No data available                                                                       |
| Conditions to avoid                | : Avoid moisture.<br><br>no information available                                         |
| Incompatible materials             | : Strong oxidizing agents<br>Strong acids                                                 |
| 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 - Rat - female - > 2,000 mg/kg

(OECD Test Guideline 420)

LC50 Inhalation - Rat - male and female - 4 h - > 5.35 mg/l - dust/mist

(OECD Test Guideline 403)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Manganese oxide

Dermal: No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h

(OECD Test Guideline 405)

#### Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Manganese oxide

#### Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: manganese(II) chloride

Test Type: Chromosome aberration test in vitro

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: manganese(II) chloride

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: manganese(II)

chloride

#### 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**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. A stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. 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:**

**Manganous carbonate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.17 mg/l  
End point: mortality  
Exposure time: 96 h  
Test Type: flow-through test  
Analytical monitoring: yes  
Remarks: (in analogy to similar products)  
The value is given in analogy to the following substances: Manganese Sulfate Monohydrate

Toxicity to daphnia and : EC50 (Daphnia magna (Water flea)): > 3.6 mg/l

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|                                                                        |                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| other aquatic invertebrates                                            | <p>End point: Immobilization<br/> Exposure time: 48 h<br/> Test Type: static test<br/> Analytical monitoring: yes<br/> Method: OECD Test Guideline 202<br/> GLP: yes</p>                                                                                                                                                                                              |
| Toxicity to algae/aquatic plants                                       | <p>: ErC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): &gt; 2.2 mg/l<br/> Exposure time: 72 h<br/> Test Type: static test<br/> Analytical monitoring: yes<br/> Method: OECD Test Guideline 201<br/> GLP: yes</p>                                                                                                                                          |
| Toxicity to fish (Chronic toxicity)                                    | <p>: NOEC (<i>Salvelinus fontinalis</i> (Brook trout)): 0.55 mg/l<br/> Exposure time: 65 d<br/> Test Type: flow-through test<br/> Analytical monitoring: yes<br/> Method: OECD Test Guideline 210<br/> Remarks: (in analogy to similar products)<br/> The value is given in analogy to the following substances: Manganese Sulfate Monohydrate</p>                    |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | <p>: EC50 (<i>Ceriodaphnia dubia</i> (water flea)): 4.1 mg/l<br/> End point: Immobilization<br/> Exposure time: 8 d<br/> Test Type: static test<br/> Analytical monitoring: yes<br/> Method: OECD Test Guideline 211<br/> GLP: yes<br/> Remarks: (in analogy to similar products)<br/> The value is given in analogy to the following substances: Manganese oxide</p> |
| Toxicity to microorganisms                                             | <p>: EC50 (activated sludge): &gt; 1,000 mg/l<br/> Exposure time: 3 h<br/> Test Type: static test<br/> Method: OECD Test Guideline 209<br/> GLP: yes<br/> Remarks: (in analogy to similar products)<br/> The value is given in analogy to the following substances: Manganese oxide</p>                                                                               |

### Ecotoxicology Assessment

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

### Persistence and degradability

#### Components:

#### **Manganous carbonate:**

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

### **Bioaccumulative potential**

#### **Components:**

##### **Manganous carbonate:**

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

##### **Mobility in soil**

No data available

##### **Other adverse effects**

No data available

##### **Endocrine disrupting properties**

No data available

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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**

Not regulated as a dangerous good

#### **IMDG-Code**

Not regulated as a dangerous good

#### **Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

### **National Regulations**

#### **49 CFR**

Not regulated as a dangerous good

Poison Inhalation Hazard : No

### **Special precautions for user**

Remarks : Not classified as dangerous in the meaning of transport regulations.

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## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

### 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** : Chronic Health Hazard

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

|                     |          |                  |
|---------------------|----------|------------------|
| Manganous carbonate | 598-62-9 | >= 90 - <= 100 % |
|---------------------|----------|------------------|

### US State Regulations

#### Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right To Know

|                     |          |
|---------------------|----------|
| Manganous carbonate | 598-62-9 |
|---------------------|----------|

#### Maine Chemicals of High Concern

Product does not contain any listed chemicals

#### Vermont Chemicals of High Concern

Product does not contain any listed chemicals

#### Washington Chemicals of High Concern

Product does not contain any listed chemicals

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

US 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)

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|                 |                                                                                             |
|-----------------|---------------------------------------------------------------------------------------------|
| NIOSH REL       | : USA. NIOSH Recommended Exposure Limits                                                    |
| OSHA Z-1        | : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants          |
| 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 / ST  | : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday    |
| OSHA Z-1 / C    | : Ceiling                                                                                   |

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; 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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US / EN