# SAFETY DATA SHEET according to the OSHA Hazard Communication Standard

Version 6.11
Revision Date 07/21/2026
Print Date 07/22/2026

## SECTION 1. IDENTIFICATION

### 1.1 Product identifiers

Product name : Ammonium chloride

Product Number : PHR1327
Brand : Sigma-Aldrich
Index-No. : 017-014-00-8
CAS-No. : 12125-02-9

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

Identified uses : Laboratory chemicals, Synthesis of substances

Restrictions on use : 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

## 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 4



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

Eye irritation : Category 2A

**Other hazards**

None known.

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.
H319 Causes serious eye irritation.

Precautionary statements :

**Prevention:**

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear eye protection/ face protection.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

**Disposal:**

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

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

CAS-No. : 12125-02-9

**Components**

| Chemical name | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|---|---|---|---|
| ammonium chloride | 12125-02-9* | >= 80 - <= 100 | TSC |

* Indicates that the identifier is a CAS No.
TSC- the actual concentration or concentration range is withheld as a trade secret



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

## SECTION 4. FIRST AID MEASURES

| | | |
|---|---|---|
| General advice | : | Show this safety data sheet to the doctor in attendance. |
| 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.<br>Call in ophthalmologist.<br>Remove contact lenses. |
| If swallowed | : | After swallowing: immediately make victim drink water (two glasses at most).<br>Consult a physician. |
| Most important symptoms and effects, both acute and delayed | : | The most important known symptoms and effects are described in the labelling (see section 2 GHS label elements) 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 media | : | For this substance/mixture no limitations of extinguishing agents are given. |
| Specific hazards during fire fighting | : | Not combustible.<br><br>Ambient fire may liberate hazardous vapours. |
| Hazardous combustion products | : | Nitrogen oxides (NOx)<br><br>Hydrogen chloride gas |



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

| | | |
|---|---|---|
| Specific extinguishing methods | : | No data available |
| Further information | : | Suppress (knock down) gases/vapours/mists with a water spray jet.<br>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. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Advice for non-emergency personnel:<br>Avoid inhalation of dusts.<br>Avoid substance contact.<br>Ensure adequate ventilation.<br>Evacuate the danger area, observe emergency procedures, consult an expert.<br>Advice for emergency responders:<br>Wear appropriate personal protective equipment, as indicated in 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.<br>Observe possible material restrictions (see sections 7 and 10).<br>Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts. |

## SECTION 7. HANDLING AND STORAGE

For precautions see section 2 GHS label elements

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



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

| | | |
|---|---|---|
| Further information on storage stability | : | Store at Room Temperature.<br>Hygroscopic. |

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| ammonium chloride | 12125-02-9 | TWA (Fumes) | 10 mg/m3 | ACGIH |
| | | STEL (Fumes) | 20 mg/m3 | ACGIH |
| | | TWA (Fumes) | 10 mg/m3 | NIOSH REL |
| | | ST (Fumes) | 20 mg/m3 | 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 entrepeneur 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 |



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

| | | |
|---|---|---|
| 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). |
| Eye protection | : | Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).<br>Safety glasses |
| Skin and body protection | : | protective clothing |
| Hygiene measures | : | Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | solid (68 °F / 20 °C, 1,013 hPa) |
| Colour | : | white |
| Odour | : | odourless |
| Odour Threshold | : | Not applicable |
| pH | : | 5 - 5.5 (77 °F / 25 °C) |
| Melting point/ range | : | 640 °F / 338 °C<br>Decomposition: yes<br>(sublimed) |
| Boiling point/boiling range | : | 968 °F / 520 °C |
| Flash point | : | Not applicable |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | The product is not flammable. |



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

| | | |
|---|---|---|
| Flammability (liquids) | : | No data available |
| Burning rate | : | No data available |
| Self-ignition | : | > 752 °F / > 400 °C<br>Method: Relative self-ignition temperature for solids does not ignite |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapour pressure | : | 1.3 hPa (320.7 °F / 160.4 °C)<br><br>1.3 hPa (86 °F / 30 °C) |
| Relative vapour density | : | No data available |
| Relative density | : | No data available |
| Density | : | 1.53 g/cm3 (77 °F / 25 °C) |
| Solubility(ies)<br>Water solubility | :<br>: | <br>372 g/l (68 °F / 20 °C) |
| Partition coefficient: n-octanol/water | : | Not applicable for inorganic substances |
| Autoignition temperature | : | > 752 °F / > 400 °C |
| Decomposition temperature | : | Not applicable |
| Viscosity, dynamic | : | No data available |
| Viscosity, kinematic | : | No data available |
| Flow time | : | No data available |
| Explosive properties | : | Method: Explosive properties<br>Not classified as explosive. |
| Oxidizing properties | : | Method: Regulation (EC) No. 440/2008, Annex, A.17<br>none |
| Molecular weight | : | 53.49 g/mol |
| Particle characteristics<br>Particle size | :<br>: | <br>No data available |



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

## 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:<br>alkali hydroxides<br>acids<br>Risk of ignition or formation of inflammable gases or vapours with:<br>halogen-halogen compounds<br>alkalines<br>alkaline substances<br>Risk of explosion with:<br>nitrates<br>chlorates<br>Heavy metal salts<br>nitrites<br>Hydrogen cyanide (hydrocyanic acid)<br>Chlorine<br>silver salt<br>Strong oxidizing agents |
| Conditions to avoid | : | no information available |
| Incompatible materials | : | Aluminium<br>Lead<br>Iron<br>Copper<br>copper compounds |
| Hazardous decomposition products | : | For Hazardous combustion products in the event of fire: see section 5 |

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**
LD50 Oral - Rat - male and female - 1,410 mg/kg
(OECD Test Guideline 401)
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Inhalation: No data available
Symptoms: Possible damages:, mucosal irritations
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
Remarks: (ECHA)
No data available



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

**Skin corrosion/irritation**
Skin - Rabbit
Result: No skin irritation - 24 h
(Draize Test)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Eye irritation
Remarks: (ECHA)

**Respiratory or skin sensitization**
Maximisation Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

**Germ cell mutagenicity**
In vivo tests did not show mutagenic effects
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster lung cells
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 473
Result: positive

Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

**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



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

### 11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 90 d - No observed adverse effect level - 1,695.7 mg/kg
Remarks: Subchronic toxicity

RTECS: BP4550000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large qantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**ammonium chloride:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Cyprinus carpio (Carp)): 209.00 mg/l<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Analytical monitoring: yes<br>Remarks: (ECHA) |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 101 mg/l<br>End point: mortality<br>Exposure time: 48 h<br>Test Type: static test<br>Analytical monitoring: yes<br>Remarks: (ECHA) |
| Toxicity to algae/aquatic plants | : | ErC50 (Chlorella vulgaris (Fresh water algae)): 1,300 mg/l<br>Exposure time: 5 d<br>Test Type: static test<br>Remarks: (ECHA) |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 14.6 mg/l<br>End point: mortality<br>Exposure time: 21 d<br>Test Type: semi-static test<br>Analytical monitoring: yes |



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

Remarks: (ECHA)

| | | |
|---|---|---|
| Toxicity to microorganisms | : | EC50 (activated sludge): 1,310 mg/l<br>Exposure time: 0.5 h<br>Test Type: static test<br>Method: OECD Test Guideline 209 |

**Persistence and degradability**

**Components:**

**ammonium chloride:**

| | | |
|---|---|---|
| Biodegradability | : | Remarks: The methods for determining the biological degradability are not applicable to inorganic substances. |

**Bioaccumulative potential**

**Components:**

**ammonium chloride:**

| | | |
|---|---|---|
| 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<br>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). |

**Components:**

**ammonium chloride:**

| | | |
|---|---|---|
| Results of PBT and vPvB assessment | : | Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII. |

**Endocrine disrupting properties**

No data available



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

## 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.

## 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**

| | | |
|---|---|---|
| UN/ID/NA number | : | UN 3077 |
| Proper shipping name | : | Environmentally hazardous substance, solid, n.o.s. (ammonium chloride) |
| Class | : | 9 |
| Packing group | : | III |
| Labels | : | Class 9 - Miscellaneous dangerous substances and articles |
| ERG Code | : | 171 |
| Marine pollutant | : | no |
| Poison Inhalation Hazard | : | No |

### Special precautions for user

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

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.

## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---|---|---|---|



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

| | | | |
|---|---|---|---|
| ammonium chloride | 12125-02-9 | 5000 | 5000 |

**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

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

| | | |
|---|---|---|
| ammonium chloride | 12125-02-9 | >= 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).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
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 SOCMI 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:

ammonium chloride 12125-02-9 >= 90 - <= 100 %

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

ammonium chloride 12125-02-9 >= 90 - <= 100 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

**US State Regulations**

**Massachusetts Right To Know**

ammonium chloride 12125-02-9

**Pennsylvania Right To Know**

ammonium chloride 12125-02-9

**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 life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

**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.

## 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 |
| ACGIH / STEL | : | Short-term exposure limit |
| 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 |

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-



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

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 and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.
Copyright 2025 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

Revision Date : 07/21/2026

US / EN



The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada