

# SAFETY DATA SHEET

Version 6.6  
Revision Date 07/05/2021  
Print Date 04/09/2022

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

### 1.1 Product identifiers

Product name : Silver chloride

Product Number : 227927

Brand : SIGALD

CAS-No. : 7783-90-6

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

Identified uses : Laboratory chemicals, Synthesis of substances

### 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

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

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Corrosive to Metals (Category 1), H290

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H290

May be corrosive to metals.

|                            |  |
|----------------------------|--|
| H410                       | Very toxic to aquatic life with long lasting effects.                |
| Precautionary statement(s) |  |
| P234                       | Keep only in original container.                                     |
| P273                       | Avoid release to the environment.                                    |
| P390                       | Absorb spillage to prevent material damage.                          |
| P391                       | Collect spillage.  |
| P406                       | Store in corrosive resistant container with a resistant inner liner. |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.  |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |   |              |
|------------------|---|--------------|
| Formula          | : | AgCl         |
| Molecular weight | : | 143.32 g/mol |
| CAS-No.          | : | 7783-90-6    |
| EC-No.           | : | 232-033-3    |

| Component              | Classification   | Concentration |
|------------------------|--|---------------|
| <b>silver chloride</b> |  |               |
|                        | Met. Corr. 1; Aquatic Acute 1; Aquatic Chronic 1; H290, H400, H410<br>M-Factor - Aquatic Acute: 1,000 - Aquatic Chronic: 100 | <= 100 %      |

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

Show this material 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. Remove contact lenses.

#### If swallowed

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

#### **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

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### **SECTION 5: Firefighting measures**

#### **5.1 Extinguishing media**

##### **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.

#### **5.2 Special hazards arising from the substance or mixture**

Hydrogen chloride gas

Silver/silver oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

#### **5.3 Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.

#### **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.

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### **SECTION 6: Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. 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**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

#### **6.4 Reference to other sections**

For disposal see section 13.

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### **SECTION 7: Handling and storage**

#### **7.1 Precautions for safe handling**

For precautions see section 2.2.

## **7.2 Conditions for safe storage, including any incompatibilities**

### **Storage conditions**

No metal containers.

Tightly closed. Dry.

Handle and store under inert gas. Light sensitive. Moisture sensitive.

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

## **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

Change contaminated clothing. Wash hands after working with substance.

#### **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**

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

##### **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.

### **Control of environmental exposure**

Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

|   |   |
|---|---|
| a) Appearance                                   | Form: solid<br>Color: white                 |
| b) Odor   | odorless                                    |
| c) Odor Threshold                               | Not applicable                              |
| d) pH   | No data available                           |
| e) Melting point/freezing point                 | Melting point/range: 455 °C (851 °F) - lit. |
| f) Initial boiling point and boiling range      | 1,554 °C 2,829 °F at 1,013 hPa              |
| g) Flash point                                  | (-)Not applicable                           |
| h) Evaporation rate                             | No data available                           |
| i) Flammability (solid, gas)                    | The product is not flammable.               |
| j) Upper/lower flammability or explosive limits | No data available                           |
| k) Vapor pressure                               | 1 hPa at 912 °C (1674 °F)                   |
| l) Vapor density                                | No data available                           |
| m) Relative density                             | No data available                           |
| n) Water solubility                             | 0.00188 g/l at 25 °C (77 °F)                |
| o) Partition coefficient: n-octanol/water       | Not applicable for inorganic substances     |
| p) Autoignition temperature                     | No data available                           |
| q) Decomposition temperature                    | No data available                           |
| r) Viscosity                                    | No data available                           |
| s) Explosive properties                         | No data available                           |
| t) Oxidizing properties                         | No data available                           |

### **9.2 Other safety information**

No data available

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## **SECTION 10: Stability and reactivity**

### **10.1 Reactivity**

No data available

### **10.2 Chemical stability**

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

### **10.3 Possibility of hazardous reactions**

Risk of explosion with:

Ammonia

Alkali metals

powdered aluminium

Violent reactions possible with:

peroxy compounds

sulfoxides

### **10.4 Conditions to avoid**

Avoid moisture.

no information available

### **10.5 Incompatible materials**

Metals

### **10.6 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 - male and female - > 5,000 mg/kg  
(OECD Test Guideline 401)

Inhalation: No data available

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  
(OECD Test Guideline 405)

#### **Respiratory or skin sensitization**

No data available

#### **Germ cell mutagenicity**

Test Type: Micronucleus test

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 487

Result: negative

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Disilver(1+) sulfateTest Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: 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: Disilver(1+) sulfate

Test Type: Micronucleus test

Species: Rat

Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

### **Carcinogenicity**

IARC: No ingredient 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 ingredient 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**

Repeated dose toxicity - Rat - male and female - Oral - 30 Days - NOAEL (No observed adverse effect level) - 1.5 mg/kg - LOAEL (Lowest observed adverse effect level) - 1.5 mg/kg

Remarks: (ECHA)

RTECS: VW3563000

May cause argyria (a slate-gray or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver).

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

Hazardous properties cannot be excluded, but are relatively improbable due to the compound's poor water solubility.

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

|   |   |
|---|---|
| Toxicity to fish                                    | semi-static test LC50 - Pimephales promelas (fathead minnow) - 0.0012 mg/l - 96 h<br>(US-EPA)<br>Remarks: (referred to the cation)<br>(in analogy to similar products)<br>The value is given in analogy to the following substances: Silver nitrate |
| Toxicity to daphnia and other aquatic invertebrates | semi-static test LC50 - Daphnia magna (Water flea) - 0.00022 mg/l - 48 h<br>Remarks: (referred to the cation)<br>(ECHA)<br>The value is given in analogy to the following substances: Silver nitrate  |
| Toxicity to bacteria                                | static test NOEC - Bacteria - 0.025 mg/l - 13.3 min<br>Remarks: (ECHA)<br>(in analogy to similar products)<br>The value is given in analogy to the following substances: Silver nitrate   |

### **12.2 Persistence and degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

### **12.3 Bioaccumulative potential**

Bioaccumulation Cyprinus carpio (Carp) - 41 d at 20 °C(silver chloride)

Bioconcentration factor (BCF): 70

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

No data available

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## **SECTION 13: Disposal considerations**

### **13.1 Waste treatment methods**

#### **Product**

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. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## **SECTION 14: Transport information**

### **DOT (US)**

UN number: 1759 Class: 8                      Packing group: III  
Proper shipping name: Corrosive solids, n.o.s. (silver chloride)  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

### **IMDG**

UN number: 1759 Class: 8                      Packing group: III              EMS-No: F-A, S-B  
Proper shipping name: CORROSIVE SOLID, N.O.S. (silver chloride)  
Marine pollutant : yes

### **IATA**

UN number: 1759 Class: 8                      Packing group: III  
Proper shipping name: Corrosive solid, n.o.s. (silver chloride)

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## **SECTION 15: Regulatory information**

### **SARA 302 Components**

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

### **SARA 313 Components**

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

|                 | CAS-No.   | Revision Date |
|-----------------|-----------|---------------|
| silver chloride | 7783-90-6 | 2015-07-08    |

### **Massachusetts Right To Know Components**

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

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## **SECTION 16: Other information**

### **Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. 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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Version: 6.6

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

