

## Chemical Safety Data Sheet MSDS / SDS

## Silver chloride

Revision Date:2024-03-30 Revision Number:1

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

## Product identifier

Product name : Silver chloride  
CBnumber : CB3151552  
CAS : 7783-90-6  
EINECS Number : 232-033-3  
Synonyms : SILVER CHLORIDE,AgCl

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Warning

## Precautionary statements

P234 Keep only in original container.  
P273 Avoid release to the environment.  
P390 Absorb spillage to prevent material damage.  
P406 Store in corrosive resistant/... container with a resistant inner liner.  
P501 Dispose of contents/container to.....

## Hazard statements

H290 May be corrosive to metals  
H400 Very toxic to aquatic life  
H401 Toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects

## SECTION 3: Composition/information on ingredients

### Substance

|              |                        |
|--------------|------------------------|
| Product name | : Silver chloride      |
| Synonyms     | : SILVER CHLORIDE,AgCl |
| CAS          | : 7783-90-6            |
| EC number    | : 232-033-3            |
| MF           | : AgCl                 |
| MW           | : 143.32               |

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## SECTION 4: First aid measures

### 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.

### 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

### Indication of any immediate medical attention and special treatment needed

No data available

### Notes to physician

No data available

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## SECTION 5: Firefighting measures

### 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.

### Special hazards arising from the substance or mixture

Hydrogen chloride gas Silver/silver oxides Not combustible.

Fire may cause evolution of:

Hydrogen chloride gas

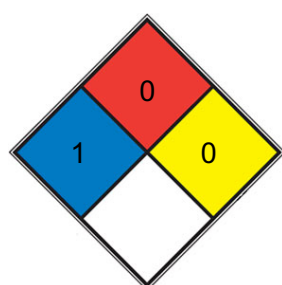
Ambient fire may liberate hazardous vapours.

### Advice for firefighters

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

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

### NFPA 704



HEALTH 1 Exposure would cause irritation with only minor residual injury (e.g. [acetone](#), sodium bromate, potassium chloride)

FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

SPEC.

HAZ.

## SECTION 6: Accidental release measures

### 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.

### 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

## Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### Precautions for safe handling

For precautions see section 2.2.

### Conditions for safe storage, including any incompatibilities

### Storage conditions

Tightly closed. Dry.

Recommended storage temperature see product label.

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## SECTION 8: Exposure controls/personal protection

### control parameter

#### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

### 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

### Information on basic physicochemical properties

|  |   |
|--|---|
| Appearance                                   | white powder  |
| Odour  | odorless  |
| Odour Threshold                              | Not applicable  |
| pH   | No data available   |
| Melting point/freezing point                 | Melting point: 455 °C   |
| Initial boiling point and boiling range      | 1,554 °C at 1,013 hPa   |
| Flash point                                  | Not applicable  |
| Evaporation rate                             | No data available   |
| Flammability (solid, gas)                    | No data available   |
| Upper/lower flammability or explosive limits | No data available   |
| Vapour pressure                              | 1 hPa at 912 °C   |
| Vapour density                               | No data available   |
| Relative density                             | 5.56  |
| Water solubility                             | 0.00188 g/l at 25 °C  |
| Partition coefficient: n-octanol/water       | Not applicable for inorganic substances                                       |
| Autoignition temperature                     | No data available   |
| Decomposition temperature                    | No data available   |
| Viscosity                                    | Viscosity, kinematic: No data available Viscosity, dynamic: No data available |
| Explosive properties                         | No data available   |
| Oxidizing properties                         | No data available   |
| Solubility Product Constant (Ksp)            | pKsp: 9.75  |

### Other safety information

No data available

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## SECTION 10: Stability and reactivity

### Chemical stability

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

### **Possibility of hazardous reactions**

Risk of explosion with: Ammonia

Alkali metals powdered aluminium

Violent reactions possible with: peroxi compounds

sulfoxides

### **Conditions to avoid**

Avoid moisture.

no information available

### **Incompatible materials**

Metals

### **Hazardous decomposition products**

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### **Information on toxicological effects**

#### **Acute toxicity**

LD50 Oral - Rat - male and female - > 5,000 mg/kg (OECD Test Guideline 401)

Inhalation

#### **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+) sulfate Test 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**

No data available

#### **Reproductive toxicity**

No data available

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

No data available

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

No data available

#### **Aspiration hazard**

No data available

#### **Toxicity**

LD50 orally in Rabbit: > 5110 mg/kg

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## SECTION 12: Ecological information

### **Toxicity**

#### **Toxicity to fish**

semi-static test LC50 - Pimephales promelas (fathead minnow) - 0.0012 mg/l - 96 h

(US-EPA)

Remarks: (referred to the cation) (in analogy to similar products)

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

Remarks: (referred to the cation) (ECHA)

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

Remarks: (ECHA)

(in analogy to similar products)

The value is given in analogy to the following substances: Silver nitrate

### **Persistence and degradability**

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

### **Bioaccumulative potential**

Bioaccumulation Cyprinus carpio (Carp) - 41 d

at 20 °C(silver chloride)

Bioconcentration factor (BCF): 70

#### **Mobility in soil**

No data available

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

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

#### **Other adverse effects**

No data available

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## SECTION 13: Disposal considerations

#### **Waste treatment methods**

#### **Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

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## SECTION 14: Transport information

#### **UN number**

ADR/RID: 3077 IMDG: 3077 IATA-DGR: 3077

#### **UN proper shipping name**

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (silver chloride)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (silver chloride)

IATA-DGR: Environmentally hazardous substance, solid, n.o.s. (silver chloride)

#### **Transport hazard class(es)**

ADR/RID: 9 IMDG: 9 IATA-DGR: 9

#### **Packaging group**

ADR/RID: III IMDG: III IATA-DGR: III

#### **Environmental hazards**

ADR/RID: yes IMDG Marine pollutant: yes IATA-DGR: yes

#### **Special precautions for user**

#### **Incompatible materials**



Metals

## Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids. Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

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## SECTION 15: Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

#### Measures for Environmental Management of New Chemical Substances

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

EC Inventory:Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

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## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

**[ 1 ]** CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

**[ 2 ]** ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

**[ 3 ]** ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**[ 4 ]** eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

**[ 5 ]** ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>  
Chemical Book

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

**Disclaimer:**

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