

SAFETY DATA SHEET

1. Identification

Product identifier: SILVER CHLORIDE

Other means of identification

Product No.: 2142, 2147

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Avantor Performance Materials, Inc.
3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone:

Customer Service: 855-282-6867

Fax:

610-573-2610

Contact Person:

Environmental Health & Safety

E-mail:

info@avantormaterials.com

Emergency telephone number: CHEMTREC: 1-800-424-9300 within US and Canada

CHEMTREC: 1-703-527-3887 outside US and Canada

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Corrosive to metals Category 1

Environmental Hazards

Acute hazards to the aquatic environment Category 1

Chronic hazards to the aquatic environment Category 1

Label Elements

Hazard Symbol:



Signal Word: Warning

Hazard Statement: May be corrosive to metals.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Precautionary Statement

Prevention:	Keep only in original container. Avoid release to the environment.
Response:	Absorb spillage to prevent material damage. Collect spillage.
Storage:	Store in corrosive resistant container with a resistant inner liner.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
SILVER CHLORIDE		7783-90-6	90 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion:	Rinse mouth thoroughly. Drink a few glasses of water or milk. Call a POISON CENTER or doctor/physician if you feel unwell.
Inhalation:	Move to fresh air. Get medical attention if symptoms persist.
Skin Contact:	Wash skin thoroughly with soap and water for several minutes. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
Eye contact:	Flush thoroughly with water. If irritation occurs, get medical assistance.

Most important symptoms/effects, acute and delayed

Symptoms: May cause irritation to skin, eyes, and respiratory tract.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Keep unauthorized personnel away. Keep upwind. Avoid inhalation of dust. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Avoid contact with eyes. Avoid contact with skin. Avoid inhalation of dust. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only in well-ventilated areas. Wash thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store in cool, dry place. Store in a well-ventilated place. Store away from incompatible materials. Store in corrosive resistant container with a resistant inner liner.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
SILVER CHLORIDE - as Ag	TWA	0,01 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
SILVER CHLORIDE - as Ag	STEL	0,03 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0,01	Canada. British Columbia OELs.

		mg/m3	(Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Silver chloride (AgCl) - as Ag	TWA	0,01 mg/m ³	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
SILVER CHLORIDE - as Ag	TWAEV	0,01 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Silver chloride (AgCl) - as Ag	8 HR ACL	0,01 mg/m ³	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	15 MIN ACL	0,03 mg/m ³	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
SILVER CHLORIDE - as Ag	TWA	0,01 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
SILVER CHLORIDE - as Ag	TWA	0,01 mg/m ³	US. ACGIH Threshold Limit Values (2011)

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

General information:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.
Eye/face protection:	Wear safety glasses with side shields (or goggles). Use tight fitting goggles if dust is generated.
Skin Protection	
Hand Protection:	Wear protective gloves.
Skin protection:	Wear suitable protective clothing.
Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with a high efficiency particulate filter.
Hygiene measures:	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Avoid contact with eyes, skin, and clothing.

9. Physical and chemical properties

Appearance

Physical state:	solid
Form:	Powder.
Color:	White
Odor:	Odorless
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	455 °C
Initial boiling point and boiling range:	1.550 °C
Flash Point:	not applicable
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	5,56 (20 °C)
Solubility(ies)	
Solubility in water:	Slightly Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Molecular weight:	143,32 g/mol (AgCl)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Contact with incompatible materials.
Incompatible Materials:	Strong oxidizing agents. Ammonia. Alkali metals.
Hazardous Decomposition Products:	Chlorine. Silver fumes.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May cause irritation of the gastrointestinal tract.
Inhalation:	Dust may irritate respiratory system.

Skin Contact: May cause irritation.

Eye contact: May irritate eyes.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: No data available.

Dermal

Product: No data available.

Inhalation

Product: No data available.

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: May cause skin irritation.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: Not a skin sensitizer.

Carcinogenicity

Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

ACGIH Carcinogens:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Reproductive toxicity

Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure

Product: None known.

Specific Target Organ Toxicity - Repeated Exposure

Product: None known.

Aspiration Hazard

Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

SILVER CHLORIDE LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 0,51 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

SILVER CHLORIDE
LC 50 (Water flea (*Daphnia magna*), 10 d): > 12 mg/l Mortality
LC 50 (Water flea (*Daphnia magna*), 96 h): > 1,93 mg/l Mortality
LC 50 (Scud (*Hyalella azteca*), 96 h): > 1,93 mg/l Mortality
LC 50 (Water flea (*Ceriodaphnia dubia*), 96 h): > 1,93 mg/l Mortality
LC 50 (Water flea (*Daphnia magna*), 96 h): > 1,93 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: The product is not readily biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log K_{ow})

Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Do not allow to enter drains, sewers or watercourses.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

TDG

UN Number	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SILVER CHLORIDE)
Class	9
Packing Group	III
Label(s)	9
Subsidiary risk label	—

IMDG

UN Number:	UN 3077
UN Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(SILVER CHLORIDE)
Transport Hazard Class(es)	
Class:	9
Label(s):	9
EmS No.:	F-A, S-F
Packing Group:	III
Marine Pollutant:	Yes
Special precautions for user:	—

IATA

UN Number:	UN 3077
Proper Shipping Name:	Environmentally hazardous substance, solid, n.o.s.(Silver chloride)
Transport Hazard Class(es):	
Class:	9
Label(s):	9
Marine Pollutant:	Yes
Packing Group:	III
Special precautions for user:	—

15. Regulatory information

Canada Federal Regulations

List of Toxic Substances (CEPA, Schedule 1)

Not Regulated

Export Control List (CEPA 1999, Schedule 3)

Not Regulated

National Pollutant Release Inventory (NPRI)

Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements

NPRI PT5 Not Regulated

Canada. Canadian Environmental Protection Act (CEPA). National Pollutant Release Inventory (NPRI) (Parts 1-4)

NPRI SILVER CHLORIDE

Greenhouse Gases

Not Regulated

Controlled Drugs and Substances Act

CA CDSI	Not Regulated
CA CDSII	Not Regulated
CA CDSIII	Not Regulated
CA CDSIV	Not Regulated
CA CDSV	Not Regulated
CA CDSVII	Not Regulated
CA CDSVIII	Not Regulated

Precursor Control Regulations

Not Regulated

International regulations

Montreal protocol

not applicable

Stockholm convention

not applicable

Rotterdam convention

not applicable

Kyoto protocol

not applicable

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

Issue Date:	20.04.2016
Revision Date:	No data available.
Version #:	2.0
Further Information:	No data available.

Disclaimer:

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