

Silver Chloride

1. General information

The information contained herein was obtained from sources believed to be reliable; Electrochemical Devices, Inc. (EDI) disclaims all liability for the content. This information applies to material in bulk form and may not be relevant to the small quantities of material used in our products. Silver chloride is present in EDI reference electrodes with **AGC**, **AGD** or **AGG** in the second grouping of the model designation. The material is entirely contained within the electrode housing.

Synonyms: silver monochloride

CAS#: 7783-90-6

2. Hazard Overview

Appearance: White solid.

Warning! Causes respiratory tract irritation. May cause eye and skin irritation. May cause digestive tract irritation with nausea, vomiting, and diarrhea. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

Target Organs: Blood.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause mild skin irritation. May cause cyanosis of the extremities.

Ingestion: May cause irritation of the digestive tract. Ingestion of soluble silver salts may cause argyria, characterized by permanent blue-gray pigmentation of the skin, mucous membranes, and eyes. Ingestion of silver compounds may cause abdominal pain, rigidity, convulsions and shock.

Inhalation: Causes respiratory tract irritation.

Chronic: Chronic inhalation or ingestion of silver salts may cause argyria characterized by a permanent blue-gray discoloration of the eyes, skin, mucous membranes, and internal organs. This malady results from the accumulation of silver in the body. Chronic overexposure to silver compounds may cause argyria (a slate gray or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver).

3. First Aid

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically and supportively.

Antidote: The use of a metal chelator should be determined only by qualified medical personnel.

4. Fire Fighting

General Information: Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

5. Accidental Release

General Information: Use proper personal protective equipment as indicated in Section 7.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

6. Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Keep away from sources of ignition. Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

7. Exposure Control

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

ACGIH: none listed

NIOSH: none listed

OSHA - Final PELs: none listed

OSHA Vacated PELs: none listed

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

8. Physical and Chemical Characteristics

Physical State: Solid

Appearance: White

Odor: None reported

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 2822 deg F
Freezing/Melting Point: 851 deg F
Decomposition Temperature: Not available.
Solubility: Slightly soluble in water.
Specific Gravity/Density: 5.56
Molecular Formula: AgCl
Molecular Weight: 143.3

9. Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, dust generation, excess heat.

Incompatibilities with Other Materials: Ammonia, aluminum, bromine trifluoride, potassium sodium, and sodium peroxide+ charcoal.

Hazardous Decomposition Products: Chlorine, silver fumes.

Hazardous Polymerization: Has not been reported.

10. Toxicological Information

LD50/LC50: Not available.

Carcinogenicity: CAS#: 7783-90-6 Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found.

Teratogenicity: No information found.

Reproductive Effects: No information found.

Mutagenicity: No information found.

Neurotoxicity: No information found.

11. Ecological Information

No information available.