

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product Name: SILVER CYANIDE SALTS

Product Code: 310645

Recommended Use: Electroplating bath component; for industrial use only.

Supplier:

Reliable Silver Corporation
302 Platts Mill Rd
Naugatuck, CT 06770

Current SOS Preparation Date: July 24, 2014

Original SOS Preparation Date: October 22, 2012

SECTION 2: HAZARD IDENTIFICATION

Classification:

- Acute Toxicity – Oral, Category 3
- Skin Corrosion/Irritation, Category 2
- Eye Damage/Irritation, Category 1
- Acute Aquatic Toxicity, Category 1
- Chronic Aquatic Toxicity, Category 1

Label elements and precautionary statements:

Signal Word: Danger

Pictogram(s):



Hazards not otherwise classified: None

Hazard Statement(s):

- Toxic if swallowed
- Causes skin irritation
- Causes serious eye damage
- Very toxic to aquatic life with long lasting effects

Precautionary Statement(s):

- Wash hands thoroughly after handling
- Do not eat, drink, or smoke when using this product
- If swallowed: Immediately call a poison center or doctor/physician
- Rinse mouth; do not swallow
- Wear protective gloves, clothing, and eye protection
- If on skin: Wash with plenty of soap and water
- If skin irritation occurs: Get medical advice/attention

SAFETY DATA SHEET

Take off contaminated clothing and wash it before reuse
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists; Get medical advice/attention.
Avoid release to the environment. Collect spillage.
Dispose of contents and container in accordance with local, state, and federal regulations.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Name: Silver Cyanide

CAS Number: 506-64-9

EINECS Number: 208-048-6

Concentration: >99%

SECTION 4: FIRST AID MEASURES

Inhalation: Have someone contact a physician or poison control center immediately. If conscious but symptoms (nausea, difficult breathing, dizziness, etc.) are evident, first responders may give oxygen. If consciousness is impaired or patient is unconscious, oxygen and amyl nitrite should be administered by trained qualified medical squads. Amyl nitrite is given by breaking an ampoule in a gauze pad and inserting into the lip of the oxygen resuscitator mask for 15 seconds, and then taking it away for 15 seconds. Repeat this 5 or 6 times. If necessary, use a fresh ampoule every 3 minutes until the patient regains consciousness (usually 1-4 ampoules). Administer oxygen continuously. Guard against the ampoule entering the patient's mouth. Move the patient to an uncontaminated area. Keep the patient warm and calm.

Skin Contact: Have someone contact a physician or poison control center immediately. Immediately flush with large quantities of water for up to 5 minutes after contact and completely remove all contaminated clothing including shoes and boots. Flushing with water for up to 5 minutes is generally sufficient to effectively remove cyanide from the patient's skin. Rescue workers should protect themselves against exposure.

Eye Contact: Have someone contact a physician or poison control center immediately. Immediately flush eyes with copious amounts of water for up to 5 minutes while holding the

SAFETY DATA SHEET

eyelids apart. Eye contact will require further evaluation and possibly treatment. Continue rinsing the eyes during transport to the hospital.

Ingestion: Have someone call a physician or poison control center immediately. If conscious but symptoms (nausea, difficult breathing, dizziness, etc) are evident, first responders may give oxygen. If consciousness is impaired, administer oxygen and amyl nitrite as directed under inhalation section. Never give anything by mouth to an unconscious person. Do not induce vomiting as this could interfere with resuscitator use. If the patient is conscious, trained, qualified medical squads may give activated charcoal slurry. (50 grams of activated carbon slurried in 400 mL of water). Give 5 mL/1 kg. of wt – about 350 mL for an average adult.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use media appropriate for surrounding fire such as foam, extinguishing powder, carbon dioxide or water fog. In case of fire, cool endangered containers with water fog.

Unsuitable extinguishing media: High pressure water jet. Do not use carbon dioxide or other acidic type extinguisher.

Specific hazards in case of fire: May release toxic hydrogen cyanide fumes upon heating to dryness.

Special protective equipment and precaution for fire fighters: For fires in enclosed areas, wear self-contained breathing apparatus and full protective gear. Do not inhale combustion gases.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear appropriate skin, eye and respiratory protection. Do not eat, drink or smoke while cleaning up. Ensure adequate ventilation.

Methods and materials for containment and cleaning up: Wear appropriate personal protective gear including eye, skin and respiratory protection. Collect material for recovery by sweeping or other method without raising dust. Flush spill area with water. Do not allow this material or its rinsings to enter storm or sanitary sewers or other waterways. (See also section 13).

SAFETY DATA SHEET

Environmental precautions: Prevent spills and rinsings from entering storm or sanitary sewers or other waterways and contact with soil.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes. Avoid prolonged repeated skin contact and breathing mists or vapors. Use in well-ventilated area. Do not empty waste into sanitary drains.

Conditions for safe storage, including incompatibilities: Store in a cool, dry area. Use with adequate ventilation. Keep container tightly closed when not in use. Store only in the original container.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

<u>Ingredient</u>	<u>ACGIHTLV</u>	<u>OSHA PEL</u>	<u>Other Limits</u>
Silver Cyanide	5 mg/m ³ (CN) STEL/C 0.01 mg/m ³ (Ag) TWA	5 mg/m ³ (CN) 0.01 mg/m ³ (Ag)	5 mg/m ³ (CN) NIOSH REL 0.01 mg/m ³ (Ag) NIOSH REL

Appropriate engineering controls: Use in well-ventilated area with local exhaust.

Respiratory protection: Wear appropriate respirator in a major spill, or when ventilation is inadequate to meet exposure limits.

Eye Protection: Chemical splash goggles or safety glasses with side shields must be worn.

Skin Protection: Wear rubber or neoprene gloves. Wear rubber apron and long sleeves to prevent skin contact. Wash hands thoroughly with soap and water after handling and before eating or smoking.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid, powder

Color: White

Odor: Slight cyanide odor

Odor threshold: Not available

pH: Not applicable

Melting/freezing point: Not determined

SAFETY DATA SHEET

Initial boiling point: Not determined
Flash point: Not applicable
Evaporation rate: Not applicable
Flammability (solid, gas): Not applicable
Upper/lower explosion limits: Non-explosive
Vapor pressure: Not determined
Vapor density: Not determined
Relative density (H₂O=1) @ 25 °C: Not applicable
Solubility: Insoluble in water at 20 °C
Partition coefficient octanol/water: Not determined
Auto-ignition temperature: Not available
Decomposition temperature: Not available
Viscosity: Not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Reacts with acids to release toxic hydrogen cyanide gas.
Chemical stability: No decomposition if used according to specifications.
Possibility of hazardous reactions: None are known.
Conditions to avoid: None reported.
Incompatible materials: Acids and oxidizers.
Hazardous decomposition products: May release toxic hydrogen cyanide fumes upon heating to dryness.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Exposure and Symptoms:

Inhalation: May cause weakness, dizziness, headache, vomiting, unconsciousness and death.

Ingestion: Very poisonous. Ingestion may cause death or permanent injury from small quantities. Ingestion may cause an increase in the depth and rate of respiration. Cardiac irregularities often occur. Death is due to respiratory arrest of central origin. Signs are blue lips, lowered blood pressure, unconsciousness and convulsions. Other signs may include salivation, nausea without vomiting, anxiety, confusion, vertigo, giddiness, lower-jaw stiffness, opisthotonos, paralysis, coma and bradycardia.

SAFETY DATA SHEET

Skin Contact: May cause “cyanide rash” with itching and macular, papular, and vesicular eruptions. There is often secondary infection.

Eye Contact: Causes severe irritation.

Acute Oral Toxicity: LD50: 123 mg/kg (rat, silver cyanide)

Acute Dermal Toxicity: No applicable information available.

Acute Inhalation Toxicity: No applicable information available.

Acute Eye Irritation: Severe irritation – 5 mg/24 hours (rabbit, silver cyanide)

Dermal Irritation: Contact with the skin may cause “cyanide rash” with itching and macular, papular, and vesicular eruptions. There is often secondary infection.

Carcinogen Listings:

IARC: No

NTP: No

OSHA: No

Reproductive Effects: No applicable information available.

Target Organ Effects: No applicable information available.

SECTION 12: ECOLOGICAL INFORMATION

Aquatic Toxicity: This product is toxic to aquatic life

Persistence and degradability: No applicable information available.

Bio-accumulative potential: There is evidence to suggest bioaccumulation, particularly of silver, will occur.

Mobility in soil: Accidental spillage may lead to penetration in the soil and groundwater. Improper handling and disposal of this material may cause environmental damage.

SECTION 13: DISPOSABLE CONSIDERATIONS

Waste Disposal: Disposal of this material is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

SECTION 14: TRANSPORT INFORMATION

Classification for shipment by road or rail, sea (IMDG) and air (IATA/ICAO):

UN proper shipping name: RQ, Silver Cyanide

UN Number: UN1684

SAFETY DATA SHEET

Transport hazard class: 6.1

Packing Group: II

Marine Pollutant: Yes (Silver Cyanide)

SECTION 15: REGULATORY INFORMATION

Inventory Status: All components are on TSCA, EINECS/ELINCS, AICS and DSL.

U.S. Regulations:

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III:

SARA (311/312) HAZARD CATEGORIES:

None Immediate _Delayed _Fire _Reactive _Pressure Generating

SARA 313: This product contains the following SARA 313 Toxic Release Chemicals:

Chemical Name	CAS Number	Concentration
Silver Cyanide	506-64-9	>99%

The following product components are cited on the lists below:

Chemical Name	CAS Number	List Citations
None		California Proposition 65 List

SECTION 16: OTHER INFORMATION

VOC (Volatile Organic Compounds): None

HMIS Ratings:

Health: 3 **Flammability:** 0 **Reactivity:** 0 **Personal Protection:** C

Prepared by: Allan H. Reed

SDS Preparation Date: July 24, 2014

Supersedes previous version: December 16, 2013

This SDS contains revisions in the following section(s): Section 2

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