



Safety Data Sheet Reduced Silver

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1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product Identifiers

Substance Name: Reduced Silver
CAS No.: 7440-22-4
Product Code: UIC, Inc. Catalog Number CM300-012

1.2. Intended Use of the Product

Use of the substance/mixture: professional, scientific and technical activities: other professional, scientific and technical activities

Name, Address, and Telephone of the Responsible Party

UIC Inc
1225 Channahon Rd
Joliet, IL 60436
Phone: (815) 744-4477
Fax: (815) 744-1561

Emergency Telephone Number

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call emergency number: 1-815-474-8753

2. Hazards Identification of the product

2.1. Classification of the substance or mixture

Physical hazards	Not classified.	
Health hazards	Not classified.	
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment long-term hazard	Category 1
OSHA defined hazards	Not classified.	

2.2. GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention	Avoid release to the environment.
Response	Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
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.

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

3. Composition/information on ingredients

3.1. Substances

Synonyms: Argentum, Silver metal, Algaedyn, Amalgum
Formula: Ag
Molecular weight: 107.8682 g/mol
CAS-No.: 7440-22-4
EC-No.: 231-131-3

Hazardous components

Component	Classification	Concentration
Reduced Silver		100 %

4. First Aid Measures

4.1. Description of first aid measures

General Information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

If inhaled

Move to fresh air. Call a physician if symptoms develop or persist.

In case of skin contact

Rinse skin with water/shower. Get medical attention if irritation develops and persists.

In case of eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

If swallowed

Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting without advice from poison control center. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed

Skin irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

5. Fire Fighting Measures

5.1. Suitable Extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

5.2. Unsuitable Extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.3. Special hazards arising from the substance or mixture

None known.

5.4. Advice for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Use water spray to cool unopened containers.

5.5. Further information

No unusual fire or explosion hazards noted.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2. Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

6.3. Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. The product is immiscible with water and will spread on the water surface. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Should not be released into the environment. Prevent entry into waterways, sewers, basements or confined areas. Stop the flow of material, if this is without risk. Avoid dust formation. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Save all spills for silver recovery.

6.4. Reference to other sections

For disposal see section 13.

7. Handling and Storage

7.1. Precautions for safe handling

Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

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

8. Exposure Controls and Personal Protection

8.1. Control Parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control Parameters	Basis
Reduced Silver	7440-22-4	PEL	0.01 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Remarks	Dust and Fume Dust	TWA	0.1 mg/m ³	US. ACGIH Threshold Limit Values
		TWA	0.01 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards

Biological limit values

No biological exposure limits noted for the ingredient(s).

8.2. Exposure Controls

Appropriate engineering controls

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.

Personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Wear appropriate chemical resistant gloves.

Body Protection

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General Hygiene Considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Control of environmental exposure

Do not let product enter drains.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: Solid, granules
b) Color	White (silvery)
c) Odor	Odorless
d) Odor Threshold	No data available
e) pH	No data available
f) Melting point/freezing point	1760.9 °F (960.5 °C)
g) Initial boiling point and boiling range	3632 °F (2000 °C)
h) Flash point	No data available
i) Evaporation rate	No data available
j) Flammability (solid, gas)	No data available
k) Upper/lower flammability or explosive limits	No data available
l) Vapor pressure	No data available
m) Vapor density	No data available
n) Relative density	No data available
o) Water solubility	Insoluble
p) Partition coefficient: n-octanol/water	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Viscosity	No data available
t) Explosive properties	No data available
u) Oxidizing properties	No data available

9.2 Other safety information

Density	10.5 g/cm ³
Specific gravity	10.49 at 15 °C

10. Stability and Reactivity

10.1 Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 Chemical stability

No hazardous self-reactivity.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

None known. Contact with incompatible materials.

10.5 Incompatible materials

Ammonia. Chlorine.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

In the event of fire: see section 5

11. Toxicological Information

11.1 Information on likely routes of exposure

Inhalation

Prolonged inhalation may be harmful.

Skin contact

No adverse effects due to skin contact are expected.

Eye contact

Direct contact with eyes may cause temporary irritation.

Ingestion

Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Skin irritation.

11.2 Information on toxicological effects

Acute toxicity

Product	Species	Test Results
SILVER (CAS 7440-22-4)		
Acute Dermal LD50	Rat	> 2000 mg/kg
		> 2000 mg/kg
Acute Oral LD50	Rat	> 5000 mg/kg
		> 5000 mg/kg

Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation

Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation

None known.

Respiratory or skin sensitization

Not available.

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not available.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not available.

Chronic effects

Prolonged inhalation may be harmful.

Additional Information

This product has no known adverse effect on human health.

12. Ecological Information

12.1 Toxicity

Toxicity to Crustacea EC50-Water flea (*Daphnia magna*)-0.0002 mg/l, 48 hours

Toxicity to Fish LC50-Fathead minnow (*Pimephales promelas*)-0.0023 - 0.0033 mg/l, 96 hours

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

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 other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component

13. Disposal Considerations

13.1 Disposal Instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

13.2 Local disposal regulations

Dispose in accordance with all applicable regulations.

13.3 Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company

13.4. Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

13.5. Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT (US)

UN number	UN3077
UN proper shipping name	Environmentally hazardous substances, solid, n.o.s. (SILVER RQ = 1000 LBS), MARINE POLLUTANT
Transport hazard class(es)	
Class	9
Subsidiary risk	–
Label(s)	9
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	8, 146, 335, A112, B54, IB8, IP3, N20, T1, TP33
Packaging exceptions	155
Packaging non bulk	213
Packaging bulk	240

IATA

UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (SILVER)
Transport hazard class(es)	
Class	9
Subsidiary risk	–
Packing group	III
Environmental hazards	Yes
ERG Code	9L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed.
Cargo aircraft only Allowed

IMDG

UN number UN3077
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(SILVER), MARINE POLLUTANT
Transport hazard class(es)
Class 9
Subsidiary risk –
Packing group III
Environmental hazards
Marine pollutant Yes
EmS F-A, S-F
Special precautions for user Read safety instructions, SDS and emergency procedures before
handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

SILVER (CAS 7440-22-4) Listed.

SARA 304 Emergency release notification

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard – No
Delayed Hazard – No
Fire Hazard – No
Pressure Hazard – No
Reactivity Hazard - No

SARA 302 Components

Not listed

SARA 313 Components (TRI reporting)

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

Chemical name	CAS-No.	Revision Date
Silver	7440-22-4	

SARA 311/312 Hazards

Hazardous chemical

US State Regulations

Massachusetts Right to Know Components

	CAS-No.	Revision Date
Silver	7440-22-4	

Pennsylvania Right to Know Components

	CAS-No.	Revision Date
Silver	7440-22-4	

New Jersey Right to Know Components

	CAS-No.	Revision Date
Silver	7440-22-4	

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

California Prop. 65 Components

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA)

Priority pollutant

Section 112(r) (40 CFR 68.130)

Toxic pollutant

Safe Drinking Water Act (SDWA)

Not regulated.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory Yes	
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

Full text of H-Statements referred to under sections 2 and 3.

Further information

UIC, Inc. has obtained the most current chemical information available to us in updating this Safety Data Sheet. However, users should always use caution when working with chemicals, as UIC, Inc. assumes no liability resulting from its use. Additionally, we make no warranty with respect to any information published on this sheet, either stated or implied.