



LTS Research Laboratories, Inc.
Safety Data Sheet
Silver

1. Product and Company Identification

Trade Name: Silver
Chemical Formula: Ag
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 2001 Oaks Pkwy
City: Belmont
State: North Carolina
Zip Code: 28012
Country: USA
Tel #: +1 (704) 899 2840

24-Hour Emergency Contact: 800-424-9300 (US & Canada)
+1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Warning



Hazard Statements: H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements: P273: Avoid release to the environment
P391: Collect spillage.
P501: Dispose of contents/ container in accordance with local/ regional/ national/ international regulations.

HMIS Health Ratings (0-4):

Health:	0
Flammability:	0
Physical:	0

3. Composition

Chemical Family: Metal
Additional Names: None

Silver (Ag):
Percentage: 0-100 wt.%
CAS #: 7440-22-4
EC #: 231-131-3

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	Treat symptomatically
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.
Ingestion:	Clean mouth with water and give one to two glasses of water to drink. Seek medical attention.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

5. Firefighting Measures

Flammability:	Non-flammable
Extinguishing Media:	Do not use water for metal fires – use CO ₂ , sand, extinguishing powder.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Wear personal protective equipment/ face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Protect from moisture. Keep away from acids. Air sensitive. Store under inert gas. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.01 mg/m ³ as Ag, long-term value
Threshold Limit Value:	0.1 mg/m ³ as Ag, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator. Filter type P1.
Protective Gloves:	Nitrile rubber gloves, 0.11 mm thick
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Silver-colored
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	2210 °C
Melting Point:	960 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	10.5 g/cc
Molecular weight:	107.868 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, halogen-halogen compounds, nitric acid, azides. ethylene oxide, peroxi compounds, organic substances, ammonia, ammonium compounds, ethanol, nitric acid, oxalic acid, performic acid, acetylidene.
Incompatible Conditions:	Air sensitive. Avoid excess heat.
Hazardous Decomposition Products:	Silver/ silver oxides.

11. Toxicological Information

Potential Health Effects:	
Eyes:	Avoid contact with eyes
Skin:	Avoid contact with skin
Ingestion:	May be harmful if swallowed
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	> 2,000 mg/kg for rat by mouth
Carcinogen:	N/A

12. Ecological Information

Aquatic Toxicity:	Very toxic
Persistent Bioaccumulation Toxicity:	Low
Very Persistent, Very Bioaccumulative:	Yes
Notes:	Very toxic to aquatic life. May cause long lasting harmful effects on aquatic life.

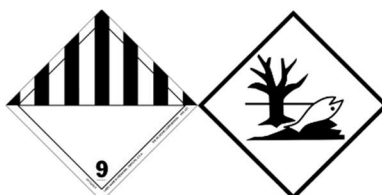
Do not allow material to be released into the environment without proper governmental permits.
Do not allow product to reach any water sources.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer to the environment.

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

14. Transportation Data

Hazardous: Hazardous for transportation as powder only.



Hazard Class: 9 Miscellaneous dangerous substances and articles
Packing Group: III
UN Number: UN3077
Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s. (Silver)

15. Regulatory Information

Sec 302 Extremely Hazardous: No
Sec 304 Reportable Quantities: No
Sec 313 Toxic Chemicals: Yes

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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