



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

**Product identifier** Silver Lead Alloy

**Other means of identification**  
SDS number W93

**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer**

**Company name** Materion Electronic Materials  
**Address** 6070 Parkland Boulevard  
Mayfield Heights, OH 44124  
United States

**Telephone** EH&S 1.216.383.4019  
**Website** www.materion.com  
**E-mail** ehs@materion.com  
**Contact person** Theodore Knudson  
**Emergency phone number** See Section 16.

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards**

Acute toxicity, oral	Category 4
Acute toxicity, dermal	Category 2
Acute toxicity, inhalation	Category 4
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Reproductive toxicity	Category 1A
Reproductive toxicity	Effects on or via lactation
Specific target organ toxicity, repeated exposure	Category 1

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement** The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated. Harmful if swallowed. Fatal in contact with skin. Harmful if inhaled. Suspected of causing genetic defects. Suspected of causing cancer. May damage fertility or the unborn child. May cause harm to breast-fed children. Causes damage to organs through prolonged or repeated exposure.

## Precautionary statement

### Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust or mists. Avoid breathing dust. Do not get in eyes, on skin, or on clothing. Avoid contact during pregnancy/while nursing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

### Response

If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. Take off immediately all contaminated clothing and wash it before reuse.

### Storage

Store locked up.

### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Hazard(s) not otherwise classified (HNOC)

None known.

### Supplemental information

For further information, please contact the Product Stewardship Department at +1.216.383.4019.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Silver		7440-22-4	90 - 97
Lead		7439-92-1	3 - 10

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

### Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a poison center or doctor/physician if you feel unwell.

### Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Wash contaminated clothing before reuse.

### Eye contact

Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

### Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

### Most important symptoms/effects, acute and delayed

Prolonged exposure may cause chronic effects.

### Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

### General information

Take off immediately all contaminated clothing. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Discard any shoes or clothing items that cannot be decontaminated.

## 5. Fire-fighting measures

### Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

### Unsuitable extinguishing media

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

### Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk.  Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.  Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.  Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid breathing dust. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store locked up. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Components	Type	Value
Lead (CAS 7439-92-1)	TWA	0.05 mg/m3

#### US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Silver (CAS 7440-22-4)	PEL	0.01 mg/m3

#### US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Lead (CAS 7439-92-1)	TWA	0.05 mg/m3	
Silver (CAS 7440-22-4)	TWA	0.1 mg/m3	Dust and fume.

**NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended**

Components	Type	Value
Lead (CAS 7439-92-1)	IDLH	100 mg/m3
Silver (CAS 7440-22-4)	IDLH	10 mg/m3

**US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)**

Components	Type	Value	Form
Lead (CAS 7439-92-1)	TWA	0.05 mg/m3	
Silver (CAS 7440-22-4)	TWA	0.01 mg/m3	Dust.

**US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants**

Components	Type	Value	Form
Lead (CAS 7439-92-1)	PEL	0.05 mg/m3	Dust and fume.
	TWA	0.03 mg/m3	Dust and fume.
Silver (CAS 7440-22-4)	PEL	0.01 mg/m3	

**Biological limit values****ACGIH Biological Exposure Indices (BEI)**

Components	Value	Determinant	Specimen	Sampling Time
Lead (CAS 7439-92-1)	200 µg/l	Lead	Blood	*

\* - For sampling details, please see the source document.

**Appropriate engineering controls**

Good general ventilation 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.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection** Wear appropriate chemical resistant gloves.

**Other**

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Observe any medical surveillance requirements. When using, do not eat, drink or smoke. 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.

**9. Physical and chemical properties****Appearance**

**Physical state** Solid.

**Form** Solid.

**Color** Gray-silver

**Odor** None.

**Odor threshold** Not applicable.

**pH** Not applicable.

**Melting point/freezing point** 621.32 °F (327.4 °C) estimated

**Initial boiling point and boiling range** 3164 °F (1740 °C) estimated

**Flash point** Not applicable.

**Evaporation rate** Not applicable.

**Flammability (solid, gas)** Not flammable

#### Upper/lower flammability or explosive limits

Explosive limit - lower (%)	Not applicable.
Explosive limit - lower (%) temperature	Not applicable.
Explosive limit - upper (%)	Not applicable.
Explosive limit - upper (%) temperature	Not applicable.

Vapor pressure -0.01 hPa estimated

Vapor density Not applicable.

Relative density Not applicable.

#### Solubility(ies)

Solubility (water) Insoluble

Partition coefficient  
(n-octanol/water) Not applicable.

Auto-ignition temperature Not applicable.

Decomposition temperature Not applicable.

Viscosity Not applicable.

#### Other information

Density 10.57 g/cm<sup>3</sup> estimated

Explosive properties Not explosive.

Kinematic viscosity Not applicable.

Oxidizing properties Not oxidizing.

Specific gravity 10.57 estimated

## 10. Stability and reactivity

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

**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** Acids. Strong oxidizing agents. Ammonia. Chlorine.

**Hazardous decomposition products** No hazardous decomposition products are known.

## 11. Toxicological information

#### Information on likely routes of exposure

**Inhalation** Harmful if inhaled.

**Skin contact** Fatal in contact with skin.

**Eye contact** Direct contact with eyes may cause temporary irritation.

**Ingestion** Harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.

#### Information on toxicological effects

**Acute toxicity** Fatal in contact with skin. Harmful if inhaled. Harmful if swallowed.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

**Respiratory or skin sensitization****Respiratory sensitization** Not a respiratory sensitizer.**Skin sensitization** This product is not expected to cause skin sensitization.**Germ cell mutagenicity** Suspected of causing genetic defects.**Carcinogenicity** Suspected of causing cancer.**IARC Monographs. Overall Evaluation of Carcinogenicity**

Lead (CAS 7439-92-1) 2B Possibly carcinogenic to humans.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Not listed.

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

Lead (CAS 7439-92-1) Reasonably Anticipated to be a Human Carcinogen.

**Reproductive toxicity** May cause harm to breastfed babies. May damage fertility or the unborn child.**Specific target organ toxicity - single exposure** Not classified.**Specific target organ toxicity - repeated exposure** Causes damage to organs through prolonged or repeated exposure.**Aspiration hazard** Not an aspiration hazard.**Chronic effects** Prolonged inhalation may be harmful. Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.**12. Ecological information****Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results	
Silver Lead Alloy			
<b>Aquatic</b>			
Crustacea	EC50	Daphnia	0.0052 mg/l, 48 hours
Fish	LC50	Fish	2.8785 mg/l, 96 hours
<i>Acute</i>			
Fish	LC50	Fish	0.0019 mg/l, 96 hours estimated
Components	Species	Test Results	

Lead (CAS 7439-92-1)

**Aquatic***Acute*

Fish LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss) 1.17 mg/l, 96 hours

Silver (CAS 7440-22-4)

**Aquatic***Acute*

Fish LC50 Fathead minnow (Pimephales promelas) 0.0019 - 0.003 mg/l, 96 hours

**Persistence and degradability** No data is available on the degradability of this product.**Bioaccumulative potential** No data available.**Mobility in soil** No data available.**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

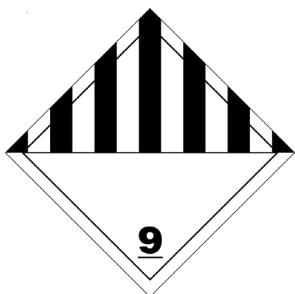
<b>Disposal instructions</b>	Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	D008: Waste Lead D011: Waste Silver The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	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).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

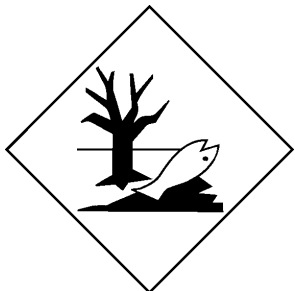
<b>DOT</b>	
<b>UN number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s. (Silver RQ = 1031 LBS, Lead RQ = 100 LBS), MARINE POLLUTANT (Silver, Lead)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	8, 146, 335, A112, B54, B120, IB8, IP3, N20, T1, TP33
<b>Packaging exceptions</b>	155
<b>Packaging non bulk</b>	213
<b>Packaging bulk</b>	240
<b>IATA</b>	
<b>UN number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s. (Silver, Lead)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	9L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed with restrictions.
<b>Cargo aircraft only</b>	Allowed with restrictions.
<b>IMDG</b>	
<b>UN number</b>	UN3077
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver, Lead), MARINE POLLUTANT (Silver, Lead)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-

**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.  
 Silver  
 Lead

**DOT; IATA; IMDG**



**Marine pollutant**



**General information** IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

**15. Regulatory information**

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

**Toxic Substances Control Act (TSCA)**

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

Lead (CAS 7439-92-1) 0.1 % Annual Export Notification required.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Lead (CAS 7439-92-1) Listed.

Silver (CAS 7440-22-4) Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

Lead (CAS 7439-92-1) Reproductive toxicity  
 Central nervous system  
 Kidney  
 Blood  
 Acute toxicity

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes



**Classified hazard categories** Acute toxicity (any route of exposure)  
Germ cell mutagenicity  
Carcinogenicity  
Reproductive toxicity  
Specific target organ toxicity (single or repeated exposure)

**SARA 313 (TRI reporting)**

<b>Chemical name</b>	<b>CAS number</b>	<b>% by wt.</b>
Lead	7439-92-1	3 - 10
Silver	7440-22-4	90 - 97

**Other federal regulations**

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

Lead (CAS 7439-92-1)

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

Not regulated.

**Safe Drinking Water Act (SDWA)**

Contains component(s) regulated under the Safe Drinking Water Act.

**US state regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Lead (CAS 7439-92-1)

Silver (CAS 7440-22-4)

**California Proposition 65**



**WARNING:** WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Lead (CAS 7439-92-1)

Listed: October 1, 1992

**California Proposition 65 - CRT: Listed date/Developmental toxin**

Lead (CAS 7439-92-1)

Listed: February 27, 1987

**California Proposition 65 - CRT: Listed date/Female reproductive toxin**

Lead (CAS 7439-92-1)

Listed: February 27, 1987

**California Proposition 65 - CRT: Listed date/Male reproductive toxin**

Lead (CAS 7439-92-1)

Listed: February 27, 1987

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

**Issue date** 08-20-2015

**Revision date** 10-27-2023

**Version #** 02

**Disclaimer**

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**Revision information**

This document has undergone significant changes and should be reviewed in its entirety.