

SECTION 1 Identification

1.1. Product identifier

Product form : Article
Trade name : 1-LOT-LF
Product code : 1-LOT-LF

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Solder

1.4. Supplier's details

Hottinger Brüel & Kjaer
19 Bartlett St.
Marlborough, MA 01590
USA
T 1-508-804-3268
support.@hbm.com

1.5. Emergency phone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) / 703-527-3887 (Virginia, USA)
CCN 1015295
Back-up Emergency Number: +1 703-741-5970 (Washington, DC)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification
Not classified

2.2. Label elements

GHS US labeling
No labeling applicable

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Tin	CAS-No.: 7440-31-5	80 – 100	Not classified
Silver	CAS-No.: 7440-22-4	1 – 5	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: If you feel unwell, seek medical advice. First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. Give artificial respiration if necessary. Induce artificial respiration with mask fitted with one-way valve or other suitable device but not mouth-to-mouth.
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If the victim is unconscious : Lay in a stable manner on victim's side. Induce artificial respiration with mask fitted with one-way valve or other suitable device; not mouth-to-mouth. Call a physician immediately.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin areas with mild soap and water, followed by warm water rinse. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: Inhalation of vapors may cause respiratory irritation.
Symptoms/effects after skin contact	: Risk of thermal burns on contact with molten product.
Symptoms/effects after eye contact	: May cause thermal burns.
Symptoms/effects after ingestion	: Risk of thermal burns on contact with molten product.
Most Important Symptoms/Effects	: Main symptoms arise when material is heated and proper protection is not used. Symptoms include burn injuries to the skin or eyes. The vapours cause irritations of the mucosa. Systemic effects should only be expected under extreme conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use dry chemical or CO2. Metal fire powder.
Unsuitable extinguishing media	: Do not use a heavy water stream.

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

5.2. Specific hazards arising from the chemical

- Fire hazard : No fire hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Metallic oxides.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Move containers from fire area if it can be done without personal risk. Prevent fire-fighting water from entering environment.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid all personal contact including breathing in the vapors. Do not take actions involving personal risks. Absorb spillage to prevent material-damage. Notify authorities if product enters sewers or public waters.

For non-emergency personnel

- Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Evacuate the danger area. If outdoors, move to an area upwind of the danger area. If possible without taking personal risks, Remove ignition sources, ventilate area. Prevent other non-emergency personnel from entering the danger area.

For emergency responders

- Protective equipment : Wear the recommended personal protective equipment. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Do not touch spilled material. Stop release.
Environmental precautions : Do not let the product reach soil, drains, sewers, or surface and ground water.

6.2. Methods and materials for containment and cleaning up

- For containment : Collect spillage. If liquid is present, contain with non-combustible inert absorbent.
Methods for cleaning up : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

For further information refer to section 8: "Exposure controls/personal protection", For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Use only outdoors or in a well-ventilated area. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing fume. Take precautionary measures against static discharge.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed : Contact with molten substance could cause severe burns to skin and eyes.

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7.2. Conditions for safe storage, including incompatibilities

Storage conditions	: Store metal to be melted in dry form in tightly closed container. Store in a cool, well-ventilated place.
Incompatible materials	: Strong acids. Strong oxidizing agents. Acetylene. Strong bases. Chlorine. Turpentine.
Packaging materials	: Store always product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Silver (7440-22-4)

USA - OSHA - Occupational Exposure Limits

Local name	Silver, metal and soluble compounds (as Ag)
OSHA PEL TWA	0.01 mg/m ³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

Tin (7440-31-5)

USA - OSHA - Occupational Exposure Limits

Local name	Tin
OSHA PEL TWA	2 mg/m ³ (inorganic compounds (except oxides) (as Sn)) 0.1 mg/m ³ (organic compounds (as Sn))
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station. Use general ventilation, local exhaust ventilation, or process enclosure to keep the airborne concentrations below the permissible exposure limits.
Environmental exposure controls	: Avoid release to the environment. Take measures to reduce or limit air emissions and releases to soil and the aquatic environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Personal protective equipment should be chosen according to national standards and in discussion with the supplier of the protective equipment. Wear recommended personal protective equipment.

Hand protection:

Chemical-resistant protective gloves should be worn at all times when handling this product. When handling molten product, thermally protective, chemical-resistant, and impervious gloves are recommended. Gauntlet style gloves should be worn if contact with forearms is likely

Eye protection:

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles

Skin and body protection:

Body protection should be chosen depending on activity and possible exposure. A thermally protective, chemical-resistant apron and long sleeves are recommended if product is hot.

Respiratory protection:

In case of inadequate ventilation wear respiratory protection. In case of emergency: Self-contained breathing apparatus

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Solid
Appearance	: Wire.
Color	: Gray
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Explosion limits	: Not applicable
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Acetylene. Chlorine. Turpentine.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates: Metallic oxides.

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Silver

LC50 Inhalation - Rat > 5.16 mg/l air

Tin

LD50 oral rat > 2000 mg/kg body weight

LD50 dermal rat > 2000 mg/kg body weight

LC50 Inhalation - Rat > 4.75 mg/l air

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Silver

LOAEL (animal/female, F0/P) 40 mg/kg body weight

NOAEL (animal/female, F0/P) 4 mg/kg body weight

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Silver

LOAEL (oral,rat,90 days) 125 mg/kg body weight

Aspiration hazard : Not classified

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Viscosity, kinematic Not applicable

Symptoms/effects after inhalation : Inhalation of vapors may cause respiratory irritation.

Symptoms/effects after skin contact : Risk of thermal burns on contact with molten product.

Symptoms/effects after eye contact : May cause thermal burns.

Symptoms/effects after ingestion : Risk of thermal burns on contact with molten product.

Most Important Symptoms/Effects : Main symptoms arise when material is heated and proper protection is not used. Symptoms include burn injuries to the skin or eyes. The vapours cause irritations of the mucosa. Systemic effects should only be expected under extreme conditions.

SECTION 12 Ecological information

12.1. Ecotoxicity

Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life

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Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects

Silver	
LC50 - Fish [1]	4.7 µg/l
LC50 - Fish [2]	89.4 µg/l
Tin	
LC50 - Fish [1]	> 12.4 µg/l

12.2. Persistence and degradability

1-LOT-LF	
Persistence and degradability	Not rapidly degradable
Silver	
Persistence and degradability	Not rapidly degradable
Tin	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone : Not classified
Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations. Dispose of this material and its container at hazardous or special waste collection point. Refer to all applicable national, international and local regulations or provisions.
Additional information : Do not re-use empty containers.
Ecological waste information : Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
Not regulated	3077	3077

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DOT	IMDG	IATA
14.2. Proper Shipping Name		
Not regulated	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (SILVER)	Environmentally hazardous substance, solid, n.o.s. (Silver)
14.3. Transport hazard class(es)		
Not regulated	9	9
14.4. Packing group		
Not regulated	III	III
14.5. Environmental hazards		
	Dangerous for the environment: No Marine pollutant: Yes	
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Not regulated

IMDG

Special provision (IMDG) : 274, 335, 966, 967, 969
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : LP02, P002
Packing provisions (IMDG) : PP12
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : BK1, BK2, BK3, T1
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW23

IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y956
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 956
PCA max net quantity (IATA) : 400kg
CAO packing instructions (IATA) : 956
CAO max net quantity (IATA) : 400kg
ERG code (IATA) : 9L

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SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Silver	CAS-No. 7440-22-4	1 – 5%
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Silver (7440-22-4)

CERCLA RQ	1000 lb
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15.2. International regulations

CANADA

Silver (7440-22-4)

Listed on the Canadian DSL (Domestic Substances List)

Tin (7440-31-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Silver (7440-22-4)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Tin (7440-31-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Silver(7440-22-4)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
Tin(7440-31-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16 Other information

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Revision date : 7/11/2025
Issue date : 12/13/2024

Full text of hazard classes and H-statements	
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Indication of changes:
HazCom 2024.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.