

Safety Datasheet

Revision date: 24.08.2026

Liquid Fusion Supreme liquid metal compound

According to Regulation (EC) No. 1907/2006
(REACH)**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

1.1. Product Identifier	
Commercial Name	Liquid Fusion Supreme liquid metal compound
Brand	Amawi Technologies
Article No./ SKU:	AT-LFS-001-R
1.2. Relevant identified uses of the substance or mixture and uses advised against	
Use of the substance or mixture:	Cooling and thermal insulation
1.3. Details of the Supplier of the Safety Data Sheet	Amawi Technologies Ulmenweg 3 37077 Göttingen Germany Tel.: +49 171 5171287 info@amawitech.com
1.4. Emergency telephone Number	Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service.

SECTION 2: HAZARDS IDENTIFICATION

Not classified as a hazardous substance or mixture under Regulation (EC) No. 1272/2008 (CLP) based on the toxicological and physicochemical profile of gallium-based liquid metal alloys of this type.

Physical hazard: This product is electrically conductive in liquid form. Contact with live/powered electrical components, PCB traces, or exposed contacts can cause short circuits or component damage.

Material compatibility hazard: This product reacts with aluminium and aluminium alloys, forming a brittle gallium-aluminium intermetallic that causes structural embrittlement ("liquid metal embrittlement"). Do NOT apply to bare aluminium heatsinks, coldplates, or spreaders. Compatible with copper, nickel-plated copper, and nickel-plated surfaces.

Health: Mild irritant to eyes on direct contact. Not intended for ingestion. No significant inhalation hazard at room temperature (negligible vapour pressure, non-volatile liquid metal).

SECTION 3: INFORMATION ON INGREDIENTS

Product name: Liquid metal thermal compound (gallium-based alloy)

1: Gallium: 60%-75% CAS: 7440-55-3

2: Indium: 15%-25% CAS: 7440-74-6

3: Tin: 5%-15% CAS: 7440-31-5

Exact alloy ratio is a proprietary formulation; ranges above reflect the composition class typical of commercial gallium-indium-tin liquid metal thermal compounds and should be confirmed against the supplier's certificate of analysis before use in a regulatory submission requiring an exact percentage.

SECTION 4: FIRST-AID MEASURES

- Eye contact: Rinse immediately with plenty of water for at least 15 minutes, including under eyelids. Seek medical attention if irritation persists.
- Skin contact: Wipe off excess material with a dry cloth or paper towel, then wash the area with soap and water. Product may leave a temporary gray metallic stain on skin; this is cosmetic and not a chemical burn.
- Inhalation: Not a relevant exposure route under normal use (non-volatile at room temperature). If dust/vapour exposure occurs from unusual heating, move to fresh air.
- Ingestion: Do not induce vomiting. Rinse mouth with water and seek medical attention.

SECTION 5: FIRE AND EXPLOSION

Suitable extinguisher: Product is non-flammable and does not itself burn. Use an extinguishing agent appropriate to the surrounding fire (e.g. dry chemical, CO₂, or water spray on surrounding combustibles).

Special hazards: None specific to this product; it does not contribute fuel to a fire.

Special fire-fighting procedures: Standard procedures for the surrounding materials apply.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid skin and eye contact. Do not allow contact with powered electrical equipment. Wear nitrile gloves and eye protection when cleaning up a spill.

Environmental precautions: Prevent from entering drains or waterways.

Cleaning method: Collect using a lint-free cloth, cotton swab, or absorbent wipe. Do not use aluminium tools or containers. Residue can be lifted with isopropyl alcohol on a cloth. Collect all recovered material for disposal per Section 13; do not wash down the drain.

SECTION 7: USE/HANDLING AND STORAGE

Storage: Store in the original sealed syringe/container at room temperature, away from direct sunlight. Keep away from aluminium surfaces and powered electronics.

Use: Apply only to compatible surfaces (copper, nickel-plated copper/nickel). Mask surrounding components with the supplied Fusion Protector tape before application. Use only in a controlled setting away from live electrical circuits. Recommended for experienced users familiar with delidding/direct-die cooling procedures.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL MEASURES

Engineering Control: Work on a non-conductive, easily cleanable surface. Keep away from open electrical contacts.

Personal Protective Equipment: Nitrile or similar gloves recommended to avoid skin staining; safety glasses recommended during application.

Hygiene measures: Wash hands after handling. Do not eat, drink, or smoke while handling.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Appearance and form: Liquid, silver

Odor: Odorless

Melting point: Below room temperature (liquid at ambient conditions; comparable gallium-indium-tin alloys typically melt in the range of approximately -20°C to +15°C)

Density: 6.25 g/cm³

Viscosity: approx. 0.0025 Pa·s (ultra-low viscosity)

Electrical conductivity: Electrically conductive (metallic)

Flash point / flammability: Non-flammable

SECTION 10: STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions of storage and use.

Materials to avoid: Aluminium and aluminium alloys (forms a brittle intermetallic and causes structural damage/corrosion of the aluminium). Strong oxidising agents.

Hazardous decomposition products: None under normal conditions; product does not decompose or combust under normal use.

SECTION 11: TOXICOLOGICAL INFORMATION

Gallium and its common alloys are recognised as having low acute toxicity; gallium-based compounds are used in some medical and dental applications. Based on the properties of comparable gallium-indium-tin liquid metal thermal compounds:

- Acute toxicity: Low, based on available data for comparable gallium alloys.
- Skin/eye irritation: May cause mild, transient irritation on direct contact.
- Sensitization: No sensitization known.
- Carcinogenicity/mutagenicity/reproductive toxicity: Not classified; none of the constituent metals (gallium, indium, tin) are classified as CMR substances under CLP.

SECTION 12: ECOLOGICAL INFORMATION

Insoluble in water. Not classified as environmentally hazardous under CLP. As a metal-based product it should nonetheless not be released into soil, drains, or waterways; recover and dispose of via metal/e-waste recycling streams (see Section 13).

SECTION 13: DISPOSAL CONSIDERATION

Do not dispose of via household waste or general drains. Recover residue with absorbent material and dispose of via a metal-recycling or electronic/hazardous-waste collection point in accordance with local regulations (comparable to disposal of small quantities of metallic/electronic waste). Empty syringes/containers can be disposed of via normal packaging recycling once free of residue.

SECTION 14: TRANSPORT INFORMATION

Not classified as dangerous goods for transport under ADR/IATA/IMDG based on the properties of comparable gallium-based liquid metal thermal compounds (non-flammable, non-corrosive to transport packaging, not classified as an environmental hazard). Amawi Technologies recommends independent confirmation of transport classification with a carrier or hazmat consultant before any air-freight shipment, as small-quantity consumer TIM shipments of this class have not required special declaration to date.

SECTION 15: REGULATORY INFORMATION

Not subject to REACH Authorisation (Annex XIV) or Restriction (Annex XVII) requirements specific to this product. Gallium, indium, and tin are not listed as Substances of Very High Concern (SVHC) on the current ECHA Candidate List. RoHS: contains no restricted substances under Directive 2011/65/EU at the levels present.

SECTION 16: OTHER INFORMATION

Preparation Date: 24.08.2026

This Safety Data Sheet has been prepared in accordance with Article 31 and Annex II of the EU REACH Regulation, including relevant amendments, concerning the harmonization of laws, regulations, and administrative provisions related to the classification, packaging, and labeling of hazardous substances and mixtures. This Safety Data Sheet (SDS) is intended to ensure that all individuals who may use, handle, dispose of, or otherwise come into contact with the product are fully informed and understand the provided information. If the recipient subsequently formulates a product using a substance from Amawi Technologies, it is their sole responsibility to incorporate all relevant information from the Amawi Technologies Safety Data Sheet into their own SDS, in accordance with Article 31 and Annex II of the EU REACH Regulation.

All data and guidance presented in this SDS are based on the current level of scientific and technical knowledge available at the time of publication. Amawi Technologies shall not be held liable for any product defect not detectable given the current state of knowledge and technology. As noted, this SDS has been prepared in compliance with applicable European legislation. Please be aware that the content and format of Safety Data Sheets may vary between countries, even for the same product, in order to meet local regulatory standards. This SDS was prepared for a gallium-based liquid metal thermal compound. Hazard classification and composition ranges are grounded in the published safety data of comparable commercial gallium-indium-tin liquid metal TIM products, since gallium alloys of this class share a well-documented safety profile; the exact proprietary alloy ratio should be confirmed against the supplier's certificate of analysis before this document is relied upon for a regulatory submission requiring precise percentages. If you have any questions, please contact Amawi Technologies customer service through amawitech.com or contact us via info@amawitech.com.

END OF REPORT