

Material Safety Data Sheet

1. Identification of the Preparation and of the Company

MSDS Number: SSL409
 Revision Date: 02/12/09
 Trade Names: Series 408, SP7000
 Synonyms: Solder Paste, Solder Cream, SolderPlus[®], ESP[®] solder paste
 Manufacturer: **EFD Inc.**
 40 Catamore Boulevard
 East Providence, RI 02914 U.S.A.
 Phone: +1-401-431-7000
 Emergency: Chemtrec (Transportation) +1-800-424-9300
 Outside USA +1-703-527-3887

2. Composition/Information on Ingredients

Component	CAS#	% by Weight	OSHA PEL	ACGHIV TLV
			mg/m ³	mg/m ³
Tin	7440-31-5	**	2.0	2.0
Lead	7439-92-1	**	0.05	0.15
Silver	7440-22-4	**	0.01	0.01
Antimony	7440-36-0	**	0.5	0.5
Bismuth	7440-69-9	**	NE	NE
Copper	7440-50-8	**	1.0	1.0
Ethoxylated rosin amine	61791-17-1	7.5 – 10.0	NE	NE
Citric acid	77-92-9	0.5 – 2.5	NE	NE
Propylene glycol	57-55-6	0.5 – 2.5	NE	NE

** Compositions of alloy solder powders vary. Refer to product label for specific alloy composition.

NE = Not Established

3. Hazard Identification

EYE CONTACT: May cause mild eye irritation.
SKIN CONTACT: May cause mild skin irritation. Prolonged contact may cause sensitization. Hot, molten solder may cause serious burns.
INHALATION: Inhalation hazard is low. May cause nausea, vomiting, headache or joint pain.
INGESTION: Ingestion of metal alloys is harmful. Danger of cumulative effects. May cause damage to blood, kidneys and nervous system.

4. First Aid Measures

EYES: Remove contact lenses. Immediately flush with copious amounts of water for at least 15 minutes. Seek medical attention.
SKIN: Wash affected area with plenty of warm, soapy water. If irritation develops, seek medical attention. Do not try to remove cooled rosin from skin. Seek medical attention.
INHALATION: Remove person to fresh air. If breathing has stopped, perform artificial respiration and seek medical attention.
INGESTION: If person is conscious, give large quantity of water to drink. Seek immediate medical attention. Harmful if swallowed.

5. Fire Fighting Measures

EXTINGUISHING MEDIA: Dry chemical, foam, CO₂.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Flux in solder may burn if soldering is done with a flame.
FIRE FIGHTING EQUIPMENT: If large quantities of solder are on fire, SCBA should be used, as toxic fumes may be emitted.
PRECAUTIONS: Keep away from ignition sources. Use with adequate ventilation.
HAZARDOUS DECOMPOSITION PRODUCTS: May form carbon monoxide, carbon dioxide or other toxic fumes.

6. Accidental Release Measures

labeled waste container. Keep out of sewers and waterways. Dispose of properly.

7. Handling and Storage

Wash hands thoroughly after handling prior to eating, drinking or smoking. Store in a cool, dry place and away from heat or open flame. Keep away from children. For industrial use only.

8. Exposure Controls/Personal Protection

VENTILATION REQUIREMENTS: Maintain adequate local ventilation. Operators should be protected from soldering fumes.
PERSONAL PROTECTIVE EQUIPMENT:
EYES: Wear appropriate safety glasses.
SKIN: Wear appropriate protective clothing and gloves. Avoid skin contact. Workers should wash hands thoroughly before eating, drinking or smoking.
INHALATION: Use with adequate ventilation.
OTHER: Eating, drinking and smoking should not be permitted in areas where soldering is done. Do not store foodstuffs with solder.

9. Chemical and Physical Properties

APPEARANCE AND ODOR: Grey cream with a mild odor
FLASH POINT: >232°F (COC)
FLAMMABILITY: Not established
AUTO IGNITION TEMPERATURE: Not established
pH: Not applicable
VAPOR PRESSURE: Not established
VAPOR DENSITY: Not established
MELTING POINT: 138° – 290°C (varies with alloy)
BOILING POINT: 124° – 205°C (for flux)
SOLUBILITY IN WATER: 9.0% to 15.0% (flux is water soluble)
RELATIVE DENSITY: >4 (H₂O = 1)
EVAPORATION RATE: Not applicable

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10. Stability and Reactivity

STABILITY: Stable
INCOMPATIBLE MATERIALS: May react with concentrated acids. Lead reacts vigorously with oxidizing materials and some concentrated acids. Lead is very reactive with hydrogen peroxide. Silver is incompatible with hydrogen peroxide and reacts with diluted nitric acid and concentrated sulfuric acid.
HAZARDOUS DECOMPOSITION PRODUCTS: None identified.
HAZARDOUS POLYMERIZATION: Will not occur.

11. Toxicological Information

Metallic tin is relatively non-toxic. Lead and inorganic lead compounds are classified by IARC as possibly carcinogenic to humans. Exposure to lead may result in kidney damage, kidney tumors, and lung tumors. Lead poisoning in humans can result in damage to the central nervous system, the blood forming organs, and can lead to anemia. Lead may also impair the reproductive system of men and women. There is increasing evidence that lead exposure in adults results in high blood pressure.

12. Ecological Information

Ecological hazard. In high concentrations, this product may be dangerous to plants and animals.

13. Disposal Considerations

Dispose of according to federal, state and local regulations. Recycle when possible. Do not dump into sewers, on the ground, or into any body of water.

14. Transportation Information

UN Number:	Not regulated
ADR/RID	Not regulated
IMO/IMDG	Not regulated
CAO/IATA	Not regulated

15. Regulatory Information

TSCA STATUS: All chemical constituents used in the manufacture of this product are listed on the TSCA inventory maintained by the U.S. Environmental Protection Agency.

REGULATED CHEMICALS:

Chemical Name	CAS#	Regulation
Lead	7439-92-1	SARA 313 CA Proposition 65**
Silver	7440-22-4	SARA 313
Antimony	7440-36-0	SARA 313
Copper	7440-50-8	SARA 313

SARA Title III: This product may contain components at a level which could require reporting, including: lead, silver or antimony (see label for alloy composition).

** This product contains lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm.

16. Other Information

NFPA Rating: Health 2	Flammability 1
Reactivity 0	Special
HMS Rating: Health 2	Flammability 1
Reactivity 0	Personal Protection ___

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Additionally, EFD Inc. assumes no responsibility for injury to the end user proximately caused by the material even if reasonable safety procedures are followed. The end user assumes the risk in his use of this material.