



Revision Number: 004.3

Issue date: 12/22/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: 97SC LF318 AGS 88.5 600GR SEMCO **IDH number:** 721471
Product type: Solder Paste **Item number:** M00573
Region: United States
Company address: **Contact information:**
 Henkel Corporation Telephone: 800.888.4910
 14000 Jamboree Road Emergency telephone: 860.571.5100
 Irvine, CA 92606 Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state:	paste	HEALTH:	*2
Color:	Gray	FLAMMABILITY:	1
Odor:	mild	PHYSICAL HAZARD:	0
		Personal Protection:	See MSDS Section 8

WARNING: MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTION.
 MAY BE HARMFUL IF SWALLOWED OR INHALED.
 MAY CAUSE RESPIRATORY TRACT IRRITATION.

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: Fumes and/or dust produced by this product may be hazardous in case of ingestion or inhalation. Rosin thermal decomposition product (as formaldehyde) is classified by NIOSH as a potential occupational carcinogen. Fumes may be irritating and may cause an allergic respiratory reaction. Excessive inhalation of fumes from many metals can produce an acute reaction known as "metal fume fever". Symptoms consist of chills and fever (very similar to and easily confused with flu symptoms) which come on a few hours after large exposures.

Skin contact: Harmful if absorbed through skin. Prolonged or repeated skin contact may cause irritation, skin sensitization and argyria (a non-toxic, cosmetic blue-gray discoloration of the skin and mucous membranes that is irreversible).

Eye contact: Contact with eyes will cause irritation.

Ingestion: Symptoms of lead poisoning include abdominal pain, nausea, vomiting, and headache. May cause gastrointestinal tract irritation if swallowed.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Tin	7440-31-5	60 - 100
Rosin, reaction products with acrylic acid, hydrogenated	144413-22-9	1 - 5
Rosin	8050-09-7	1 - 5
Silver	7440-22-4	1 - 5
Copper	7440-50-8	0.1 - 1

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get immediate medical attention.
Skin contact:	Wash with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse. If a person feels unwell or symptoms of skin irritation appear, consult a physician.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Ingestion:	Induce vomiting as directed by medical personnel if person is conscious. Never give anything by mouth to an unconscious person. Get immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	117 °C (242.6 °F)
Autoignition temperature:	Not determined
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear a self-contained breathing apparatus with a full face piece operated in pressure-demand or other positive pressure mode.
Unusual fire or explosion hazards:	Not available.
Hazardous combustion products:	High temperatures may produce heavy metal dust, fumes or vapors. The flux will give rise to irritating fumes.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Scrape up spilled material and place in a closed container for disposal.

7. HANDLING AND STORAGE

Handling:	Avoid skin contact with molten resins. Avoid contact with eyes, skin and clothing. Do not wear contact lenses. Wash thoroughly after handling.
Storage:	Store in original container until ready to use.

For information on product shelf life contact Henkel Customer Service at (626) 968-6511

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Tin	2 mg/m3 TWA	2 mg/m3 TWA (as Sn)	None	None
Rosin, reaction products with acrylic acid, hydrogenated	None	None	None	None
Rosin	Included in the regulation but with no data values. See regulation for further details Exposure by all routes should be carefully controlled to levels as low as possible. (Sensitiser.)	None	None	None
Silver	0.1 mg/m3 TWA Dust and fume.	0.01 mg/m3 TWA (as Ag)	None	None
Copper	1 mg/m3 TWA (as Cu) Dust and mist. 0.2 mg/m3 TWA Fume.	1 mg/m3 TWA (as Cu) Dust and mist. 0.1 mg/m3 TWA (as Cu) Fume.	None	None

Engineering controls:

Use only with adequate ventilation. Use local ventilation if general ventilation is insufficient to maintain vapor concentration below established exposure limits.

Respiratory protection:

When workplace hazards warrant the use of a respirator, appropriate respirators must be used, and a program that follows 29 CFR 1910.134 must be followed.

Eye/face protection:

Safety goggles or safety glasses with side shields.

Skin protection:

Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	paste
Color:	Gray
Odor:	mild
Odor threshold:	Not available.
pH:	Not applicable
Vapor pressure:	Not available.
Boiling point/range:	256 °C (492.8 °F) (solvent)
Melting point/ range:	217 °C (422.6 °F) (solder alloy)
Specific gravity:	4.37
Vapor density:	Heavier than air.
Flash point:	117 °C (242.6 °F)
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not determined
Evaporation rate:	Not available.
Solubility in water:	Not miscible
Partition coefficient (n-octanol/water):	Not determined
VOC content:	0 %; 0 g/l

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Thermal decomposition can lead to release of irritating gases and vapors. Formaldehyde
Incompatible materials:	Incompatible with oxidising agents.
Conditions to avoid:	Solder alloy will react with concentrated nitric acid to produce toxic fumes of nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Tin	No	No	No
Rosin, reaction products with acrylic acid, hydrogenated	No	No	No
Rosin	No	No	No
Silver	No	No	No
Copper	No	No	No

Hazardous components	Health Effects/Target Organs
Tin	Gastrointestinal, Irritant, Kidney, Liver, Lung, Nervous System
Rosin, reaction products with acrylic acid, hydrogenated	No Target Organs
Rosin	Respiratory, Irritant, Allergen
Silver	Allergen, Eyes, Irritant, Respiratory, Skin
Copper	Allergen, Blood, Central nervous system, Developmental, Gastrointestinal, Immune system, Irritant, Kidney, Liver, Mutagen, Sensory, Skin

12. ECOLOGICAL INFORMATION

Ecological information: Harmful to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations. Do not dispose of in an uncontrolled manner.

Hazardous waste number: D011. silver

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/MDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification:	None above reporting de minimus
CERCLA/SARA Section 302 EHS:	None above reporting de minimus
CERCLA/SARA Section 311/312:	None above reporting de minimus
CERCLA/SARA 313:	Immediate Health, Delayed Health This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Silver (CAS# 7440-22-4).
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Export Restrictions:	This product is controlled for export by the United States Department of Commerce. The Export Classification Control Number (ECCN) is 1C995.a.2.a

Canada Regulatory Information

CEPA DSL/NDL Status:	One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.
WHMIS hazard class:	D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Lou Fabrizio, Regulatory Affairs Specialist

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