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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: E/U/2262 DEVELOPMENT 97SCLF318DAGS89V **Item No. :** MB0721
Product type: Solder Paste **Region:** United States
Company address: **Contact Information:**
Henkel Corporation Telephone: 626.968.6511
15051 East Don Julian Road Emergency Telephone: 860.571.5100
Industry, California 91746 Internet: www.electronics.henkel.us

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous components</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Tin 7440-31-5	60-100	2 mg/m ³ TWA 2 mg/m ³ TWA except tin hydride, as Sn	2 mg/m ³ TWA as Sn 2 mg/m ³ TWA	None
Polyethylene glycol dibutyl ether 31885-97-9	1-5	None	None	None
Hydrogenated Rosin 144413-22-9	1-5	None	None	None
Rosin 8050-09-7	1-5	None	None	None
Silver 7440-22-4	1-5	0.1 mg/m ³ TWA	0.01 mg/m ³ TWA	None
Copper 7440-50-8	0.1-1	0.2 mg/m ³ TWA fume 1 mg/m ³ TWA dust and mist, as Cu	0.1 mg/m ³ TWA fume 1 mg/m ³ TWA dusts and mists	None
Polyalkenes, C>10 68527-08-2	0.1-1	None	None	None
1H-Benzotriazole 95-14-7	0.1-1	None	None	None
Trans-2,3dibromo-2-butene-1,4diol 3234-02-4	0.1-1	None	None	None
Triethanolamine 102-71-6	0.1-1	5 mg/m ³ TWA	None	None
Malonic Acid 141-82-2	0-0.1	None	None	None
Triphenylphosphine oxide 791-28-6	0-0.1	None	None	None
2,6-Di-t-butyl-p-cresol 128-37-0	0-0.1	2 mg/m ³ TWA inhalable fraction and vapor	None	None
N-Methyl-2-pyrrolidinone 872-50-4	0-0.1	None	None	100ppm, 10 ppm, skin TWA, (WEEL)
Toluene 108-88-3	0-0.1	50 ppm TWA (skin)	200 ppm TWA 300 ppm Ceiling	None

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2-propenoic acid, 2-
[methyl[(nonafluorobutyl)sulfonyl]ami
no]ethyl ester
67584-55-8

0-0.1

None

None

None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS:

Physical state: Paste
Color: Grey
Odor: Mild

HEALTH: 2
FLAMMABILITY: 1
PHYSICAL HAZARD: 0
Personal Protection: See Section 8

WARNING: 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 or cause sensitization to the respiratory system. 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: Not available

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Skin contact: Wash with soap and water. Remove contaminated clothing and shoes. 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: Get medical attention immediately. Induce vomiting as directed by medical personnel if person is conscious.

5. FIRE-FIGHTING MEASURES

Flash point: 151°C (304°F)
Autoignition temperature: 205°C (401°F)
Flammable/Explosive limits-lower %: Not applicable

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Flammable/Explosive limits-upper %:	Not applicable
Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special fire fighting procedures:	Fire fighters should wear positive pressure breathing apparatus.
Unusual fire or explosion hazards:	None
Hazardous combustion products:	High temperatures may produce heavy metal dust, fumes or vapours. The flux medium will give rise to irritating fumes.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions:	Do not let product enter drains.
Clean-up methods:	Scrape up spilled material and place in a closed container for disposal.

7. HANDLING AND STORAGE

Handling:	Avoid contact with molten material. 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.
Incompatible products:	Oxidizing agents.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls:	Ensure 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.
Skin protection:	Use impermeable gloves and protective clothing as necessary to prevent skin contact.
Eye/face protection:	Safety goggles or safety glasses with side shields.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Paste
Color:	Grey
Odor:	Mild
Vapor pressure:	Not determined
pH:	Not applicable
Boiling point/range:	>270°C (>>518°F) (solvent)
Melting point/range:	217°C (423°F) (solder alloy)
Specific gravity:	4.29
Vapor density:	Heavier than air
Evaporation rate:	Not available
Solubility in water:	Immiscible
Partition coefficient (n-octanol/water):	Not determined
VOC content:	Zero

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions
Hazardous polymerization:	Will not occur.

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Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapors.

Incompatibility: 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

Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Tin 7440-31-5	No	No	No
Polyethylene glycol dibutyl ether 31885-97-9	No	No	No
Hydrogenated Rosin 144413-22-9	No	No	No
Rosin 8050-09-7	No	No	No
Silver 7440-22-4	No	No	No
Copper 7440-50-8	No	No	No
Polyalkenes, C>10 68527-08-2	No	No	No
1H-Benzotriazole 95-14-7	No	No	No
Trans-2,3dibromo-2-butene-1,4diol 3234-02-4	No	No	No
Triethanolamine 102-71-6	No	No	No
Malonic Acid 141-82-2	No	No	No
Triphenylphosphine oxide 791-28-6	No	No	No
2,6-Di-t-butyl-p-cresol 128-37-0	No	No	No
N-Methyl-2-pyrrolidinone 872-50-4	No	No	No
Toluene 108-88-3	No	No	No
2-propenoic acid, 2- [methyl[(nonafluorobutyl)sulfonyl]am ino]ethyl ester 67584-55-8	No	No	No

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Tin 7440-31-5	Nervous System, Lung, Liver, Kidney, Irritant, Gastrointestinal
Polyethylene glycol dibutyl ether 31885-97-9	No Records
Hydrogenated Rosin 144413-22-9	No Target Organs
Rosin 8050-09-7	Respiratory, Irritant, Allergen
Silver 7440-22-4	Skin, Respiratory, Irritant, Eyes, Allergen
Copper 7440-50-8	Skin, Sensory, Mutagen, Liver, Kidney, Irritant, Immune system, Gastrointestinal, Central nervous system, Blood, Allergen, Developmental
Polyalkenes, C>10 68527-08-2	No Target Organs
1H-Benzotriazole 95-14-7	Central nervous system, Irritant
Trans-2,3dibromo-2-butene-1,4diol 3234-02-4	No Target Organs
Triethanolamine 102-71-6	Allergen, Irritant
Malonic Acid 141-82-2	Corrosive, Irritant, Nervous System
Triphenylphosphine oxide 791-28-6	Nervous System
2,6-Di-t-butyl-p-cresol 128-37-0	Mutagen, Irritant
N-Methyl-2-pyrrolidinone 872-50-4	Blood, Bone Marrow, Central nervous system, Immune system, Irritant, Lung
Toluene 108-88-3	Behavioral, Cardiac, Central nervous system, Developmental, Ear, Irritant
2-propenoic acid, 2- [methyl[(nonafluorobutyl)sulfonyl]am ino]ethyl ester 67584-55-8	No Target Organs

12. ECOLOGICAL INFORMATION

Ecological information:

No specific studies have been conducted by Henkel on the ecotoxicity or environmental fate of this material; however, commonly available data on the material indicate that uncontrolled releases to soil, groundwater, or surface waters could entail acute and/or chronic ecological effects, depending on the quantity and concentration of such releases. Releases of volatile components to the atmosphere are not believed to entail significant ecological consequences provided such releases are within the exposure levels set forth in this document. Accordingly, all appropriate measures should be taken to avoid uncontrolled releases to the environment, and any spills or other uncontrolled releases which may occur should be contained and cleaned up immediately in accordance with Section 6.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

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

EPA 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

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Water Transportation (IMO/IMDG):

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: Not available

CERCLA/SARA Section 302 EHS: None above reporting de minimus.
CERCLA/SARA Section 311/312: Immediate Health Hazard, Delayed Health Hazard
CERCLA/SARA 313: Not available

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDL Status: Contains one or more components listed on the Non-Domestic Substances list. 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.B

16. OTHER INFORMATION

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

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