

## 1 Identification of the substance/mixture and of the company/undertaking

**Trade name:** EM828 Sn96.5Ag3.0Cu0.5

**Relevant identified uses of the substance or mixture and uses advised against** Soldering Paste

Application of the substance / the preparation: Solder paste

### Details of the supplier of the safety data sheet

This Safety Data Sheet has been updated in accordance with the Global Harmonized System (GHS).

#### Manufacturer/Supplier:

Kester  
800 West Throntdale Ave.  
Itasca, IL 60143  
Tel (630) 616-4000  
Fax (630) 616-4044

Kester Components Pte Ltd  
500 Chai Chee Lane  
Singapore 469024  
Tel: 65-64491133

**Information department:** SDS Coordinator (630) 616-6844

#### Emergency telephone number:

CHEMTREC 24-Hour Emergency Response Telephone Number : (800) 424-9300

CHEMTREC 24-Hour Emergency Response (Outside US & Canada) Telephone Number : (703) 527-3887

## 2 Hazards identification

### Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

### Label elements

**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS08

Signal word Danger

Hazard-determining components of labelling:

Proprietary Hydrogenated Resin

Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

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**Precautionary statements**

- P285 *In case of inadequate ventilation wear respiratory protection.*
- P261 *Avoid breathing dust/fume/gas/mist/vapours/spray.*
- P280 *Wear protective gloves/protective clothing/eye protection/face protection.*
- P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- P342+P311 *If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.*
- P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

**Classification system:**

**NFPA ratings (scale 0 - 4)**



**HMIS-ratings (scale 0 - 4)**



**Other hazards**

**Results of PBT and vPvB assessment**

PBT: Not applicable.  
vPvB: Not applicable.

**3 Composition/information on ingredients**

**Chemical characterization: Mixtures -**

**Description:** Mixture of the substances listed below with nonhazardous additions.

CAS No.	Description	% Range
CAS: 7440-31-5 EINECS: 231-141-8	tin	50-100%
CAS: 9004-98-2	Polyethylene glycol monooleyl ether	2.5-10%
CAS: 7440-22-4 EINECS: 231-131-3	silver	2.5-10%
CAS: 8050-09-7 EINECS: 232-475-7	Rosin ⚠ Acute Tox. 1, H300 ⚠ Skin Sens. 1, H317	≤ 2.5%
CAS: 9004-87-9	Polyethylene glycol isoocetyl phenyl ether	≤ 2.5%
CAS: 61790-85-0	Ethoxylated N-(tallow alkyl)trimethylene diamines ⚠ Eye Dam. 1, H318 ⚠ Skin Irrit. 2, H315	≤ 2.5%
CAS: 8050-09-7 EINECS: 232-475-7	Rosin ⚠ Acute Tox. 1, H300 ⚠ Skin Sens. 1, H317	≤ 2.5%
CAS: 7440-50-8 EINECS: 231-159-6	copper	≤ 2.5%

**4 First aid measures**

**Description of first aid measures**

- After inhalation:** Supply fresh air; consult doctor in case of complaints.
- After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- After eye contact:** Rinse opened eye for several minutes under running water.

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**After swallowing:** Seek immediate medical advice.

**Information for doctor:**

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

## 5 Firefighting measures

**Extinguishing media**

**Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.

**Special hazards arising from the substance or mixture** In case of fire, the following can be released:

**Advice for firefighters**

**Protective equipment:** Wear self-contained respiratory protective device.

## 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation

**Environmental precautions:** No special measures required.

**Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

**Handling:**

**Precautions for safe handling** Prevent formation of aerosols.

**Information about protection against explosions and fires:** No special measures required.

**Conditions for safe storage, including any incompatibilities**

**Storage:**

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None.

**Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

**Additional information about design of technical systems:** No further data; see item 7.

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

**7440-31-5 tin**

PEL	2 mg/m <sup>3</sup> metal
REL	2 mg/m <sup>3</sup>
TLV	2 mg/m <sup>3</sup> metal

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**7440-22-4 silver**

PEL	0.01 mg/m <sup>3</sup> metal and soluble compounds (as Ag)
REL	0.01 mg/m <sup>3</sup>
TLV	0.1 mg/m <sup>3</sup> metal: dust and fume

**Additional information:**

PEL = Permissible Exposure Limit (OSHA)  
TLV= Threshold Limit Value (ACGIH)  
OSHA= Occupational Safety and Health Administration  
ACGIH= American Conference of Governmental Industrial Hygienists

**Exposure controls**

**Personal protective equipment:**

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Breathing equipment:

Exposure Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation to control airborne levels below recommended exposure limits.

When ventilation is not sufficient to remove airborne levels from the breathing zone, a NIOSH safety approved respirator or self-contained breathing apparatus should be worn. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Protection of hands:



Protective gloves

Material of gloves:

Nitrile rubber, NBR

Natural rubber, NR

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Safety glasses

**9 Physical and chemical properties**

**Information on basic physical and chemical properties**

**General Information**

Appearance:

Form:	Pasty
Color:	Silver grey
Odor:	Mild

**pH-value:** Not determined.

**Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	2362°C (4284 °F)

**Flash point:** > 55°C (> 131 °F)

**Auto igniting:** Product is not selfigniting.

**Danger of explosion:** Product does not present an explosion hazard.

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**Density:** Not determined.

**Solubility in / Miscibility with Water:** Not miscible or difficult to mix.

**Solvent content:**

Organic solvents: 0.0 %

Solids content: 99.0 %

**10 Stability and reactivity**

**Reactivity**  
**Chemical stability**  
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.  
**Possibility of hazardous reactions** No dangerous reactions known.  
**Conditions to avoid** No further relevant information available.  
**Incompatible materials:** Strong acids, strong oxidizers.  
**Hazardous decomposition products:** No dangerous decomposition products known.

**11 Toxicological information**

**Information on toxicological effects**  
**Acute toxicity:**  
Primary irritant effect:  
on the skin: Irritant to skin and mucous membranes.  
on the eye: Irritating effect.

**12 Ecological information**

**Toxicity**  
**Acquatic toxicity:** No further relevant information available.  
**Additional ecological information:**  
**General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
**Results of PBT and vPvB assessment**  
**PBT:** Not applicable.  
**vPvB:** Not applicable.

**13 Disposal considerations**

**Waste treatment methods**  
**Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Disposal must be made according to official regulations.

**Uncleaned packagings:**  
**Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

**UN-Number**  
**DOT, ADR, ADN, IMDG, IATA** Not applicable

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**UN proper shipping name**

**DOT, ADR, ADN**

**IMDG, IATA**

**Transport hazard class(es)**

Not applicable

Not regulated

**DOT**

**Class**

Not applicable

Not regulated.

**ADR, ADN, IMDG, IATA**

**Class**

Not applicable

**Packing group**

**DOT, ADR, IMDG, IATA**

**Special precautions for user**

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable

Not applicable.

Not applicable.

**15 Regulatory information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

USA The following information relates to product regulation specific to the USA.

SARA (Superfund Amendments and Reauthorization Act)

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

7440-22-4 silver

7440-50-8 copper

TSCA (Toxic Substances Control Act): Kester certifies that all components listed below for the subject finished product are on the TSCA Inventory of Chemical Substances and are not subject to any chemical specific regulation under TSCA Section 12(b) export notification requirements delineated at 40 CFR part 707, subpart D.

7440-31-5 tin

9004-98-2 Polyethylene glycol monooleyl ether

7440-22-4 silver

8050-09-7 Rosin

9004-87-9 Polyethylene glycol isooctyl phenyl ether

61790-85-0 Ethoxylated N-(tallow alkyl)trimethylene diamines

8050-09-7 Rosin

7440-50-8 copper

California Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity:

None of the ingredients is listed.

Carcinogenic categories

EPA (Environmental Protection Agency)

7440-22-4 silver

D

7440-50-8 copper

D

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

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*NTP (National Toxicology Program)*

*None of the ingredients is listed.*

*NIOSH-Ca (National Institute for Occupational Safety and Health)*

*None of the ingredients is listed.*

*OSHA-Ca (Occupational Safety & Health Administration)*

*None of the ingredients is listed.*

*CANADA: Not classified.*

**Labelling according to Regulation (EC) No 1272/2008**

*The product is classified and labelled according to the CLP regulation.*

*Hazard pictograms*



GHS08

*Signal word Danger*

*Hazard-determining components of labelling:*

*Proprietary Hydrogenated Resin*

*Hazard statements*

*H315 Causes skin irritation.*

*H319 Causes serious eye irritation.*

*H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.*

*H317 May cause an allergic skin reaction.*

*Precautionary statements*

*P285 In case of inadequate ventilation wear respiratory protection.*

*P261 Avoid breathing dust/fume/gas/mist/vapours/spray.*

*P280 Wear protective gloves/protective clothing/eye protection/face protection.*

*P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

*P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.*

*P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

**Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibility as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Material Safety Data Sheet as a source for hazard information.*

**\* Data compared to the previous version altered.**