Material Safety Data Sheet

IDENTITY: Soldering paste BS-850

Section 1
Manufacturer's Name: TAIYO ELECTRIC IND. CO., LTD.
Address: 2-16-8 Yamate Fukuyama Hiroshima, Japan 720-0092
Telephone Number Fax Number for Information:
Tel: 81-(84)-951-1512 Fax: 81-(84)-51-9531
Data Prepared: 12 Aug. 2002 Data Revised: 10 April 2014

Section 2 - Material identification and information
Hazardous Component CAS No. OSHA PEL ACGIH TLV wt%
Chemical Name & Common Names
(Rosin Hazardous Component 1% or greater; Carcinogens 0.1% or greater)
Rosin 65997-05-09 N.A. N.A. 40-50
2-Methy-2, 4-pentandiol 107-41-5 N.I. 25ppm 40-50
Thixotropic agent 4-6
Organic acid N.A. Under 1
Activator 1-3
Total 100.0
N.A. : Not applicable N.I. : No information

Section 3 - Physical/Chemical Characteristics
Boiling Point 198.3°C Specific Gravity (H₂O=1) About 1.0 (20°C)
Vapor pressure (mm Hg) 0.02mmHg (20°C) Melting Point (°C) <50°C
Vapor Density (AIR=1) Unknown Evaporation Rate (Butyl Acetate=1) Unknown
Solubility in Water: Soluble
Solubility in organic solvent: Insoluble
Appearance and Odor: Brown paste with a slight ether-like odor

Section 4 - Fire and Explosion Hazard Data
Flash Point & Method used (Methy, pentandiol) 93°C
Auto-Ignition temperature: (Methy, pentandiol) 260°C
Flammable Limits: UEL : 9.9% LEL : 1.0%
Extinguishing Media: Carbon dioxide, dry chemical, alcohol foam AFFF.
For small fire, dry chemical powder, carbon dioxide, foam should be used.
Special Fire Fighting Procedure:
Use self-contained breathing apparatus and full protective clothing and protection goggles for fires in enclosed areas. Extinguish from upwind. In case of fire, remove the ignition sources, use extinguishing measures.
Cool the surfaces exposed to fire with water spray. In case of surrounding fire, immediately remove the container to a safe place. If not removable, cool container and surroundings with water.
Unusual Fire & Explosion Hazards:
It is a dangerous fire hazard and moderate explosion hazard when exposed to heat, flames or oxidizers.
Section 5 - Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>Unstable</th>
<th>Conditions to Avoid:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Keep away from heat, sparks and open flames.</td>
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<table>
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<tr>
<th>Incompatibility:</th>
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<tbody>
<tr>
<td>Oxidizing materials, acids, hydrogen peroxide</td>
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<table>
<thead>
<tr>
<th>Hazardous Decomposition or Byproducts:</th>
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<tbody>
<tr>
<td>Rosin acids, CO₂, CO₃, Aliphatic aldehyde</td>
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<table>
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<tr>
<th>Hazardous Polymerization</th>
<th>May Occur</th>
<th>Conditions to Avoid:</th>
<th>Will Not Occur</th>
<th>Not applicable</th>
</tr>
</thead>
</table>

Section 6 - Health Hazard Data

Route of Entry: Inhalation, Ingestion, Skin absorption

Health Hazards:
Inhalation of dust or fumes may be irritating to the nose, throat, and lungs. Prolong or repeated contact with skin may caused irritation while contact with the eyes may caused irritation or burns. Ingestion causes irritation of the mouth and gastrointestinal tract.

Carcinogen listed in: Not listed

Signs and Symptoms of Exposure:
Mild irritation of the eyes, nose, and throat.

Medical Conditions:
Generally aggravated by exposure.

Emergency and First Aid Procedures:
Seek medical assistance for further treatment, observation and support if necessary.

Eye:
Flush thoroughly with running water including under eyelids for at least 15 minutes and consult a physician.

Skin:
Promptly remove contaminated clothing. Wash exposed skin thoroughly with soap and water. Get medical attention if irritation persists.

Inhalation:
Remove victim to flesh air. Restore and/or support promptly with water.

Ingestion:
Give 2-3 glasses of milk or water to drink to dilute. DO NOT induce vomiting. Seek medical help for treatment, observation and support after first aid.

Section 7 - Precautions for Safe Handling and Use

Steps to be taken in Case Material is Released or Spilled:
Notify safety personnel. Provide ventilation. This material is handled and disposed as a strong acid.

Waste Disposal Method:
Contact supplier or licensed chemical waste disposal contractor for treatment, packaging and disposal requirements.

Precautions to be taken in Handling and Storing:
Store in a clean, cool dry area away from sparks, open flames, and oxidizing agents.

Other Precautions and/or special hazards
Not applicable
Section 8 - Control Measures

Respiratory Protection:
A self-contained respiratory equipment should be available for emergency.

Ventilation: Local exhaust | Special: Not required
Mechanical: NA | Other: NA
Remove smoke from breathing area

Protective Gloves:
Use plastic or rubber gloves and aprons where necessary to avoid skin contact.

Eye Protection:
Safety glasses or goggles should be worn in areas where splashing may occur.

Other Protective clothing or equipment:
Provide eye bath near work site and sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV's

Work/Hygienic Practices:
None

Section 9 - Toxicological information

2-Methy-2, 4-pentandiol
Acute toxicity: Oral (rat) LD_{50}: 4200mg/kg  Skin (rabbit) LD_{50}: 7900mg/kg
Corrosive and irritant properties: Irritating to skin  Severe irritating to eyes on rabbit test data.
Carcinogenic effects: No information
Specific target organ toxicity-single exposure: Irritating to respiratory system to human.
Possible narcosis is proven on rat or mouse oral test.
Specific target organ toxicity-repeated exposure: No information
Aspiration hazard: No information.

Section 10 - Ecological information

2-Methy-2, 4-pentandiol
Fish Toxicity: Killifish LC_{50} (96h)>100mg/L
Aquatic toxicity [Acute]: No information
Aquatic toxicity [Chronic]: No information

Section 11 - Disposal Considerations

Contact supplier or licensed chemical waste disposal contractor for treatment, packaging and disposal requireme nts.

Section 12 - Transport information

Hazardous class: Not applicable
UN number: Not applicable
Specific precautions: Avoid direct sunlight. Check that no damage, no corrosion and/or no leakage before shipping. Be sure to avoid load shifting. Don't put it on heavy weight goods. Keep away from flammable materials. Follow all regulations in your country.

Section 13 - Regulatory information

RoHS directive (2002/95/EC): 6 substances are not contained.
Follow all regulations in your country.

Section 14 - Other information

The information herein is given in good faith, but no warranty. Final determination of suitability any material is the sole responsibility of the user. All materials may present unknown hazards and should be used in caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.