

# SMIC Confidential

## Data Sheet on Solder Paste

IDENTITY ECOSOLDER PASTE SHF M705-S101ZH-S4	No 102972	Revision A
--	--------------	---------------

### Section I

Manufacturer' Name Senju Metal Industry Co., Ltd.	Telephone Number for Information 03(3888) 5156
Address 23, Senju-Hashido-cho, Adachi-ku, Tokyo, JAPAN 120-8555	Data Prepared 25 Jun. 2010

### Section II – Hazardous Ingredients/Identity Information

Hazardous Components	CAS No.	OSHA PEL	ACGIH TLV	%
Tin	7440-31-5	2mg/m <sup>3</sup> (8-hrTWA)	2mg/m <sup>3</sup> (8-hrTWA)	80 ~ 90
*Current OSHA standard, and ACGIH (1980) Intended changes List for tin, tin oxide, and inorganic compounds (except SnH <sub>4</sub> ), as Sn. STEL is for 4 mg/m <sup>3</sup>				
Silver	7440-22-4	0.01mg/m <sup>3</sup> (8-hrTWA)	0.1mg/m <sup>3</sup> (8-hrTWA)	2 ~ 4
Copper	7440-50-8	0.1mg/m <sup>3</sup> (8-hrTWA)	0.2mg/m <sup>3</sup> (8-hrTWA)	< 1
Rosin	-			4 ~ 6
Bis[2-(2-methoxyethoxy-ethyl)] ether	143-24-8			< 2

### Section III – Physical/Chemical Characteristics

Boiling Point	275°C	Specific Gravity (H <sub>2</sub> O=1)	4
Vapor Pressure (mm Hg)	NA	Melting Point (°C)	217 ~ 220
		ALLOY	
Vapor Density (AIR=1)	NA	Evaporation Rate (Butyl Acetate=1)	NA

#### Solubility in Water

Insoluble

#### Appearance and Odor

Grey paste, mild ether-like.

### Section IV – Fire and Explosion Hazard Data

Flash Point (Solvent used in this flux) C.O.C 140 °C	Flammable Limits	LEL	UEL
		---	---

#### Extinguishing Media

Carbon dioxide and/or dry chemical

#### Special Fire Fighting Procedures

Use self-contained breathing apparatus and full protective clothing for fires in enclosed areas

#### Unusual Fire and Explosion Hazards

NA

# SMIC Confidential

Section V – Reactivity Data		IDENTITY ECOSOLDER PASTE SHF M705-S101ZH-S4	
Stability	Unstable		Conditions to Avoid
	Stable	×	Keep away from heat, sparks and open flames.
Incompatibility	Strong oxidizing materials, acids and hydrogen peroxide.		
Hazardous Decomposition or Byproducts	Rosin acids, CO, CO <sub>2</sub> and aliphatic aldehydes.		
Hazardous Polymerization	May Occur		Conditions to Avoid NA
	Will Not Occur	×	
Section VI – Health Hazard Data			
Route of Entry :	Inhalation	Skin	Ingestion
Health Hazards	When heated, vapors can cause irritation to eyes, nose and throat. may cause headache.		
Carcinogenicity: Not listed NTP	IARC Monographs	OHSA Regulated	
Signs and Symptoms of Exposure	Symptoms of the neurological effects may include irritability, headaches, insomnia, delirium, convulsion, muscular tremors and palsy of the extremities.		
Medical Conditions	Generally Aggravated by Exposure		
Emergency and First Aid Procedures	<p>Inhalation: Excessive overexposure may result in an acute or chronic illness. If symptoms are present, the individual should be removed from exposure and a physician consulted.</p> <p>Ingestion: Call a physician at once.</p> <p>Skin: For hot metal burns, exposed area should be cooled with water and get medical attention. After handling solder, wash thoroughly with soap and water.</p>		
Section VII – Precautions for Safe Handling and Use			
Steps to Be Taken in Case Material is Released or Spilled	Avoid inhalation of solder fume or dust. Vacuuming is recommended.		
Waste Disposal Method	Contact supplier or a licensed chemical waste disposal contractor for treatment, packaging and disposal requirements.		
Precautions to Be Taken in Handling and Storing	Avoid breathing smoke during soldering. Wash hands before eating or smoking after handling solder.		
Other Precautions			
Section VIII – Control Measures			
Respiratory Protection	A NIOSH approved dust/fume respirator should be worn where applicable limits may be exceeded.		
Ventilation	Local Exhaust	Remove smoke from breathing area	Special Not required
	Mechanical		Other
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 sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV's.		
Work/Hygienic Practices	NA		