



MATERIAL SAFETY DATA SHEET

MS2™ 200 LF Molten Solder Surfactant (Lead-Free—RoHS Compliant)

U.S. and Foreign Patents Pending

1. Product and Company Identification

Commercial Description: MS2™ molten solder surfactant for use with lead-free (RoHS-compliant) solder processes. This product conforms to ANSI Z400.1-1993 and ISO 11014.

Manufactured by: P. Kay Metal, Inc.
2448 E 25th Street
Los Angeles, CA 90058
Tel. 323-826-2102

Emergency Phone: 1-800-535-5053 (Infotrac)

2. Composition / information on Ingredients

Description	CAS Number	Content
Carboxy Alkanes	67254-79-9	>96%
Tin	7440-31-5	<2%
Other Non-Hazardous		<2%

Hazards Identification Not Considered as Hazardous

NFPA (National Fire Protection Association)

Health	0 - Insignificant
Flammability	1 - Slight
Reactivity	0 - Insignificant
Special Hazards	None

3. Hazards Identification

Human Health Hazards

Inhalation	Not applicable at ambient temperature
Skin	Unlikely to be irritant
Eye Contact	Can cause irritation
Ingestion	Unlikely to be harmful unless excessive amount swallowed

Physical/Chemical Hazards None identified

Environmental Hazards None identified

4. First Aid Measures

Inhalation	Remove to fresh air.
Skin Contact	Wash off with water and soap.
Eye Contact	Wash off with water. Get medical attention if any sensation persists.
Ingestion	Remove material from mouth. Drink plenty of water. If large amount swallowed or symptoms develop get medical attention.

5. Fire Fighting Measures

Extinguishing Media:	Dry chemical, water spray, foam, carbon dioxide
Unsuitable Extinguishing Media	None
Specific Hazards:	Thermal decomposition will evolve irritant vapors
Protection of Fire Fighters	Self-contained breathing apparatus, full protective clothing

6. Accidental Release Measures

Personal Precautions	Avoid contact with eyes. Do not breathe vapor.
Environmental Precautions	Minimize contamination of drains and surface and ground water.
Methods for Cleaning Up	Transfer product to suitably labeled containers for disposal at an approved site. Absorb liquid spillage on inert material (e.g., sand). Residues and small spillages may be washed away with water and detergent.
Other information	Spillages or uncontrolled discharge into watercourses must be alerted to the appropriate regulatory body.

7. Handling and Storage

Handling	No specific protective measures are required.
Storage	Store in the original closed containers.
Other information	For quality reasons, avoid elevated temperatures.
Shelf	2 years from date of manufacture

8. Exposure Controls/Personal Protection

Engineering Measures	Ensure ventilation or local exhaust if formation of vapor occurs.
Hygiene Measures	Good industrial hygiene should be followed.
Occupational Exposure	No occupational exposure limits have been established.
Personal Protective Equipment	Normal precautions should be observed as for handling all chemicals.

9. Physical and Chemical Properties

Physical State	Liquid (20° C)
Color	Light green
Odor	None
PH	Not applicable
Boiling Point/Boiling Range	>200° C
Flash Point	315° C (COC)
Flammability	Not applicable
Auto-ignition Temperature	400° C
Explosion Properties	Not to be expected
Oxidation Properties	Not to be expected
Density	955 kg/m ³ (25° C)
Solubility in Water	Insoluble
Solubility in Other Ingredients	Soluble in most organic solvents
Viscosity	7500 mPa.s (25° C)
Volatile Organic Compound VOC	Not volatile ambient

10. Stability and Reactivity

Stability	Stable under normal conditions
Conditions to Avoid	Not known
Materials to Avoid	Oxidizing agents
Hazardous Reactions	None
Hazardous Decomposition Products	None

11. Toxicological Information

Acute Toxicity	
Oral – LD 50	>2 g/kg (rat)
Skin Irritation	Not irritating (rabbit)
Eye Irritation	Not irritating (rabbit)
Mutagenicity	Negative (in-vitro short-term genotoxicity tests)

12. Ecological Information

Degradability	<10% degradation within 28 days (modified sturm test)
LC 50	>100mg/l (fish – 48 hours)
EC 50	>100mg/l (Pseudomonas putida – 16 hours)
NOEC	>0.85mg/l (fish – 28 days)
Not toxic to aquatic organisms	

13. Disposal Consideration

Methods of Disposal	Return to manufacturer for recycle (contact P.Kay Metal).
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14. Transportation Information

D.O.T. Classification	Not restricted
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15. Regulatory Information

OSHA HCS (29 CFR)	Not hazardous 1910.1200)
SATA Title III Section 313	Not listed
Inventory Status	
USA:	TSCA-CSI
EU:	NLP List
CANADA:	DSL
Japan:	ENCS (8-3050)
Australia:	AICS
Korea:	ECL (16486)
Philippines:	PICCS
China:	SEPA/First import
Switzerland:	Giftklasse/frei; BAG-T Nr. 618400

16. History

Date of Previous Issue	9/12/2004
Revised	12/20/2005
Prepared by	P. Ynda

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