MS2® SOLDER DROSS ELIMINATOR

MATERIAL SAFETY DATA SHEET
MS2® HAL

Molten Solder Surfactant
(Lead-Free and Sn/Pb HASL- – RoHS Compliant)
United States Patent#7,861,915
"Foreign Patents also Issued and Pending"

1. Product and Company Identification

Commerical Description – MS2® Molten Solder Surfactant for use with lead-free (RoHS-compliant) & Tin/Lead 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
Telephone 323-585-5058

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

2. Composition / Information on Ingredients

Description	CAS Number	Content
Carboxy Alkanes	67254-79-9	>93%
Polyalpha Olefins	68649-12-7	>5%
Colorant	Proprietory	<1%
Aromatic Esters	None	<1%

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 Helath 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 Extingusihing	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, 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). Resi dues and small spillage 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	3 years from date of manufacture

8. Exposure Control / 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	Clear
Odor	None
PH	Not applicable
Boiling Point/Boiling Range	>300°C
Flash Point	315° (COC)
Flammability	Not applicable
Auto-ignition Temperature	400° C
Explosion Properties	Not to be expected
Oxidation Properties	Not to be expected
Density	955 kg/m3 (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 Decompositions 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

Persistance & Degradation	(OECD 301B (28 Days) <10%, Not readily biodegradable
LC 50	>100mg/l (fish – 48 hours)
EC50	>100mg/l (Pseudomonas putida – 16 hours)
NOEC	>85mg/l (fish – 28 days)

Not toxic at concentration well above the water solubility

13. Disposal Consideration

Methods of Disposal	Return to manufacturer for recycle. Contact P.Kay Metal,Inc.

14. Transportation Information

D.O.T. Classification	Not restricted

15. Regulatory Information

OSHA HCS	(29 CFR Not hazardous 1920.1200)
SATA Title III Section313	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	Gifkklasse/frei: BAG-T Nr. 618400

16. History

Date of Previous Issue	03/2011
Revised	10/2012
Prepared by	J. Hardin

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MS2 SOLDER DROSS RECOVERY
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