



**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 25<sup>th</sup> 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	Proprietary	<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



## 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

Persistence & 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.
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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 1920.1200)
SATA Title III Section313	Not listed
<u>Inventory Status</u>	
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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