

MATERIAL SAFETY DATA SHEET

MSDS Date: 08/25/2010

MSDS Name: KappaTinning Compound 500°F to 550°F

MSDS Number: 559

Page 1 of 4

SECTION I: PRODUCT AND COMPANY INFORMATION

Product Name: KappaTinning™ Compound for pre-tinning metal surfaces for Babbitt and solder applications.

CAS Number:

Component	CAS Number
Zinc Chloride	7646-85-7
Tin	7440-31-5
Ammonium Chloride	12125-02-9

Company Identification: Kapp Alloy and Wire, 1 Klein Street / PO Box 1188, Oil City, PA 16301 USA

Contact: Operations Team Leader, Telephone: 814.676.0613, Fax: 814.676.5565, Email: info@kappalloy.com**SECTION II: HAZARD INFORMATION****Emergency Overview**

Fumes may cause irritation of the eyes, skin and respiratory tract.

Potential Health Effects: Eyes

Irritation from contact with smoke from soldering.

Potential Health Effects: Skin

Possible local irritation.

Potential Health Effects: Ingestion

Most of the solder paste will pass through the body unabsorbed. Lead that is absorbed is caught by the liver and, in part, excreted in the bile.

Potential Health Effects: Inhalation

Flux fumes during soldering may cause irritation and damage of mucous membranes and pulmonary system.

Medical Conditions Aggravated by Exposure

Pre-existing conditions or diseases of the blood and blood-forming organs, Kidneys, nerves and possibly reproductive system

HMIS Ratings: Health: 2 Fire: 1 HMIS Reactivity 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

SECTION III: COMPOSITION / INGREDIENTS

*(Hazardous components 1% or greater; Carcinogens 0.1% or greater)

COMPONENT	CAS NO.	OSHA PEL	HAZARD
Zinc Chloride	7646-85-7	1 mg/m ³	Corrosive
Ammonium Chloride	12125-02-9	10 mg/m ³	OSHA
Tin	7440-31-5	2 mg/m ³	OSHA

*Remaining ingredients, if any, are non-hazardous and considered to be a trade secret.

NA = Not Applicable NE = Not Established NAIF = No Applicable Information Found

SECTION IV: FIRST AID MEASURES

Swallowing: Drink large quantities of water – do not induce vomiting. Call a physician at once; advise of chemical composition (section III). Give large quantities of water, milk, or 5% sodium bicarbonate solution.

Skin: Promptly flush with water to remove any residue. If a rash or burn develops, consult a physician. Product is corrosive.

Inhalation: Terminate exposure and remove to fresh air. Call physician; provide oxygen. Advise of chemical composition (section III).

Eyes: Flush with water for at least 20 minutes to remove irritant. Get medical help immediately – blindness can result!

SECTION V: FIRE FIGHTING MEASURES

Flash point & Methods Used:

N/A

Auto Ignition Temperature:

N/A

Flammability Limits:

(in air, % by volume) LEL: N/A and UEL: N/A

Extinguisher Media:

Water, fog, or foam.

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MSDS Name: KappaTinning Compound 500°F to 550°F

MSDS Number: 559

Page 2 of 4

Special Fire Fighting Procedures Full protective equipment required. May release zinc oxide and HCl fumes. Toxic metal halide fume produced.

Unusual Fire and Explosion Hazards Dense smoke may be generated.

SECTION VI: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is spilled or released:

- Contain, absorb, sweep-up, and dispose.
- Flush area to chemical sewer.

SECTION VII: HANDLING AND STORAGE

Precautions to be taken in handling and storage:

- Store flux at ambient conditions, with temperatures between 35 – 100°F and 2 – 38°C.
- Wash thoroughly after handling to remove any residue.

Other Precaution / Special Handling:

- Do not take internally.
- Do NOT breathe fumes when heated
- Professionally wash contaminated clothing before re-use.
- Existing lung disorders will have increased toxic susceptibility.

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION**A: Component Exposure Limits**

Zinc chloride (7646-85-7) ACGIH: 1mg/m³ TWA (fume); 2mg/m³ STEL (fume);
OSHA: 1mg/m³ TWA (fume); 2mg/m³ STEL (fume);
NIOSH: 1mg/m³ TWA (fume); 2mg/m³ STEL (fume).

Tin (7440-31-5) ACGIH: 2mg/m³ TWA (fume);
OSHA: 2mg/m³ TWA (fume);
NIOSH: 2mg/m³ TWA (fume).

Ammonium chloride (12125-02-9) ACGIH: 10mg/m³ TWA (fume); 20mg/m³ STEL (fume);
OSHA: 10mg/m³ TWA (fume); 20mg/m³ STEL (fume);
NIOSH: 10mg/m³ TWA (fume); 20mg/m³ STEL (fume);

Respiratory Protection: Use NIOSH-approved breathing apparatus to prevent exposure to dusts and fumes.

Eye Protection: Chemical tight safety goggles. Do NOT wear contact lenses.

Ventilation: Maintain air flow away from user to remove all fumes and vapors, so that the PEL is never exceeded. Adhere to Environmental regulations for exhausts. Conform to applicable regulatory statutes.

Other: Full protective equipment normally used in soldering (/applicable) operations so as to prevent any contact. Review operations to avoid contact with hazardous gas, liquids or solids.

See also: 29 CFR 1910.132 - 29 CFR 1910.140. *Personal Protective Equipment*
29 CFR 1910.251 - 29 CFR 1910.257. *Welding, Cutting and Brazing*

EMERGENCY PHONE NUMBER * CALL CHEMTREC (800) 424-9300 * AVAILABLE 24 HOURS

MATERIAL SAFETY DATA SHEET

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MSDS Name: KappaTinning Compound 500°F to 550°F

MSDS Number: 559

Page 3 of 4

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Gray metallic	Odor:	Mild
Physical State:	Paste	pH:	NA
Vapor Pressure:	NA	Vapor Density:	NA
Boiling Point:	NA	Melting Point:	NA
Solubility (H2O):	<5	Specific Gravity:	>1
Evaporation Rate:	<0.1	VOC:	70 g/l
Percent Volatile:	9	Octanol/H2O Coeff.:	ND
Flash Point:	>450°F (>232 °C)	Flash Point Method:	TOC
Upper Flammability Limit (UFL):	ND	Lower Flammability Limit (LFL):	ND
Burning Rate:	ND	Auto Ignition:	ND

Use: General purpose soft soldering flux, corrosive residue.

SECTION X: STABILITY AND REACTIVITY

Stability:	Stable
Conditions to avoid:	None
Incompatibility (materials to avoid):	Strong Acids, strong oxidizers
Hazardous Decomposition Products:	When heated to soldering temperatures, the solvents are evaporated & thermal degradation products may include aliphatic aldehydes and acids.

SECTION XI: TOXICOLOGY INFORMATION

MATERIAL	UNITS	OSHA		ACGIH	
		TWA	PEL	TLV-TWA	STEL
Zinc Chloride Fume	mg / m3	1	-	1	2

Ammonia chloride (fume) is listed in 29 CFR 1910.1000. Use above zinc chloride levels, which are the most restrictive.

Effects of Chronic Exposure

- Repeated contact with skin can cause a rash.
- Breathing fumes during soldering may cause pulmonary irritation, headache and irritation of mucous membranes.

SECTION XII: ECOLOGY INFORMATION**STATE RIGHT-TO-KNOW PROGRAMS:**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Zinc chloride	7646-85-7	Yes	Yes	Yes	Yes	Yes	Yes
Tin	7440-31-5	Yes	Yes	Yes	Yes	Yes	Yes
Ammonium chloride	12125-02-9	Yes	Yes	Yes	Yes	Yes	Yes

Miscellaneous: Material contains in excess 10% zinc chloride, classified as a marine pollutant.

SECTION XIII: DISPOSAL CONSIDERATION**Waste Disposal Method**

- Dispose of according to federal, state, local, and OSHA regulations.
- Product contains SARA and EPA classified components
- Re-evaluation of the product may be required at the time of disposal.
- Classification may change for reasons other than corrosivity.

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Page 4 of 4

SECTION XIV: TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION

DOMESTIC GROUND

Proper shipping name:	Corrosive solid (Zinc Chloride Anhydrous)
Hazard Class:	8
ID & Packing Group Number:	UN 2331, PG III
ERG Guide Number:	60

SECTION XV: REGULATORY INFORMATION

SARA Title III Program:

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Zinc chloride (7646-85-7)

CERCLA: 1000 lb final RQ;
454 kg final RQ

Ammonium chloride (12125-02-9)

CERCLA: 5000 lb final RQ;
2270 kg final RQ

SECTION XVI: OTHER INFORMATION

This information must be included in all MSDS that are copied and distributed for this material.

**GOOD HOUSEKEEPING PROCEDURES SHOULD BE MAINTAINED.
PERSONNEL SHOULD WASH THOROUGHLY BEFORE SMOKING OR EATING
FOOD AND DRINK SHOULD NOT BE CONSUMED, TOBACCO PRODUCTS USED, OR COSMETICS
APPLIED IN AREAS WHERE EXPOSURES EXIST.**

Key/Legend

NA - Not Applicable

ND - Not Determined

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

TLV - Threshold Limit Value

PEL - Permissible Exposure Limit

TWA - Time Weighted Average

STEL - Short Term Exposure Limit

NTP - National Toxicology Program

IARC - International Agency for Research on Cancer

Please retain this sheet for your files. Kapp Alloy maintains a file of Material Safety Data Sheets (MSDS) for each alloy produced in compliance with Federal OSHA Hazard Communication Standard (29 CFR 1910.1200) & various right-to-know laws.

The information and recommendations contained within this publication have been compiled from sources believed to be reliable and to represent the best information available to Kapp Alloy and Wire, Inc. at the time of issue. It is our policy to include an MSDS with initial orders for each product. This submission is to become a matter of record and need not accompany subsequent shipments for the same product to the same customer. The information contained on this sheet is intended solely for employee health and safety education and not for contract specification purposes. No warranty, guarantee, or representation is made by Kapp Alloy and Wire, Inc., nor does Kapp Alloy and Wire, Inc. assume any responsibility in connection there within; nor can it be assumed that all acceptable safety measures or other safety measures may not be required under particular or exceptional conditions or circumstances. Should you need additional information, contact us.