

SAFETY DATA SHEET

GHS SDS Date: 01/01/2025

SDS Name: KappaTinning™ Compound 500°F to 550°F

SDS Number: 559

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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	ECHA Number
Zinc Chloride	7646-85-7	231-592-0
Tin	7440-31-5	231-141-8
Ammonium Chloride	506-87-6	208-058-0

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

Contact: Telephone: 814-676-0613 or 1-800-327-6533, Email: info@kappalloy.com**SECTION II: HAZARD INFORMATION****Classification of the mixture according to Regulation (EC) No. 1272/2008 and OSHA 29 CFR 1910**

Acute Toxicity 4

Skin Corrosive 1B

Eye Irritant 2

Aquatic Acute 1

Aquatic Chronic 1



GHS05 Corrosion Eye Damage 1

H314 - Causes serious skin burns & eye damage

H318 - Causes serious eye damage



GHS07 Skin Irritation 2

H302 – Harmful if swallowed.

H315 - Causes skin irritation.



GHS08 Health Hazard

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H373 – May cause damage to organs through prolonged or repeated exposure.



GHS09 Aquatic Toxicity

H400 – Very toxic to aquatic life

H401 – Very toxic to aquatic life with long lasting effects.

Label Elements - Labelling according to Regulation (EC) No. 1272/2008

Hazard Pictograms:



GHS05



GHS07



GHS08



GHS09

Signal Word: **DANGER**

Hazard-determining components of labelling: Zinc Chloride, Ammonium Chloride

Hazard Statements:

H302 Harmful if swallowed.

H314 - Causes serious skin burns & eye damage

H315 Causes skin irritation.

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- H318 Causes serious eye damage.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H373 – May cause damage to organs through prolonged or repeated exposure.
 H400 – Very toxic to aquatic life
 H401 – Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

- P220 - Wear protective gloves, clothing, eye, face, and respiratory protection.
 P260 - Do not breathe dust/fumes.
 P264 - Wash thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P305+P351+P338 – IF IN EYES: Flush with water for at least 15 minutes to remove irritant. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a physician.
 P304+P341 – IF INHALED: Terminate exposure and remove to fresh air. Call physician; advise of chemical composition (section III). Over-inhalation may cause life-threatening lung injury.
 P302+P352 IF ON SKIN: Wash thoroughly with soap and water to remove any residue. If a rash develops, call a physician.
 P301 + P310 IF SWALLOWED: Call a physician or Poison Control Center IMMEDIATELY; Advise of chemical composition (Section III). Corrosive to mucous membranes. May contain corrosive hydrochloric acid solution.
 P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards:

- PBT: Does not meet criteria for persistent – bio cumulative – toxic.
 vPvB: Does not meet criteria for very persistent – very bio cumulative.

SECTION III: COMPOSITION / INGREDIENTS

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

COMPONENT	CAS NO.	ECHA No.	OSHA PEL	ACGIH TLV	HAZARD
Zinc Chloride	7646-85-7	231-592-0	1 mg/m ³	1 mg/m ³	Corrosive
Ammonium Chloride	506-87-6	208-058-0	10 mg/m ³	10 mg/m ³	OSHA
Tin	7440-31-5	231-141-8	2 mg/m ³	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

- IF IN EYES: Flush with water for at least 15 minutes to remove irritant. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a physician immediately.
 IF INHALED: Terminate exposure and remove to fresh air. Call physician; advise of chemical composition (section III). Over-inhalation may cause life-threatening lung injury.
 IF ON SKIN: Wash thoroughly with soap and water to remove any residue. If a rash develops, call a physician.
 IF SWALLOWED: Call a physician or Poison Control Center IMMEDIATELY;
 Advise of chemical composition (Section III). Corrosive to mucous membranes. May contain corrosive hydrochloric acid solution.

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.

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.

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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, diseases of the blood and blood-forming organs, Kidneys, nerves and possibly reproductive system will have increased toxic susceptibility.

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION

Skin Protection: Wear protective gloves of Nitrile Rubber or Natural Rubber to protect hands and wrists.

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

Eye Protection: Chemical tight safety goggles, face shield. 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***SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	Gray metallic	Odor:	Mild
Physical State:	Powder Mixture	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 mixed with Tin, 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

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Target Organ Statement

- DANGER: Solids cause severe burns to skin, eyes, and respiratory system.

Effects of Chronic Exposure

- Dermatitis and contact burns to skin, eyes, and respiratory system (See target organ statement).
- Coughing, liver, and kidney effects; nausea, erythema.

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

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

*0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

	Health	Flammability	Reactivity	Special
NFPA Rating	2	0	2	0
HMIS Rating	2	0	2	0

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	No	No	No	No	No	No
Ammonium chloride	506-87-6	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.

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**TOXIC SUBSTANCE CONTROL ACT:** All components of this compound are listed within the TSCA inventory.**RoHS, REACH, and REACH-SVHC Compliance:**

This Product is RoHS and REACH Compliant. This product is free of REACH-SVHC substances.

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).

Component	CAS Number	SARA III
Zinc Chloride	7646-85-7	<50%
Ammonium Chloride	506-87-6	<20%

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SECTION XVI: OTHER INFORMATION

This information must be included in all SDS 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 Safety Data Sheets (MSDS) for each alloy and mixture 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 SDS 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.