

MATERIAL SAFETY DATA SHEET

MSDS Date: 05.16.2012

MSDS Name: Kapp Copper-Bond Flux for Metals Other Than Aluminum 550°F to 800°F

MSDS Number: 553

Page 1 of 3

SECTION I: PRODUCT AND COMPANY INFORMATION

Product Name: Kapp Copper-Bond Flux for Metals Other Than Aluminum 550°F to 800°F

CAS Number:

Component	CAS Number
Zinc Chloride	7646-85-7
Hydrochloric Acid	7647-01-0
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****. Target Organ Statement**

- **DANGER: Causes severe burns to skin, eyes, and respiratory system. Harmful if inhaled, swallowed, or absorbed into the skin.**

Effects of Overexposure:

- **Contact burns, irritation to skin (scarring), eyes, and respiratory system.**
- **Possible liver and kidney effects**

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	Corrosive
Ammonium Chloride	12125-02-9	10	OSHA
Hydrochloric Acid	7647-01-0	7	Corrosive

*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.

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.**
- **Professionally wash contaminated clothing before re-use.**
- **Existing lung disorders will have increased toxic susceptibility.**

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION

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

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: ~229°C / 444°F
 Specific Gravity: (H₂O = 1 @ 72 °F) : 1.55
 Solubility in Water: Appreciable
 Evaporation Rate (Butyl Acetate = 1): <1
 Active Temperature range: Active between 550 – 800 °F
 Percent volatiles by volume: 37
 Appearance and Odor: Red, clear liquid with no significant odor.
 Use: General purpose soft soldering flux, corrosive residue.

SECTION X: STABILITY AND REACTIVITY

Stability: Stable
 Conditions to avoid: None
 Incompatibility (materials to avoid): Acid may react with metals to produce explosive gas
 Hazardous Decomposition Products: Hydrogen chloride and zinc oxide.

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, for COPPER-BOND FLUX.

Effects of Chronic Exposure

- Contact burns, irritation to the skin (scarring), eyes and respiratory system.
- Possible liver and kidney effects.

SECTION XII: ECOLOGY INFORMATION

STATE RIGHT-TO-KNOW PROGRAMS:

- Pennsylvania:** As currently manufactured this product contains ammonium chloride, zinc chloride and hydrochloric acid which are listed in PA Code Title 34, Hazardous Substance List.
- California:** As currently manufactured, this material contains no compounds Subject to the reporting and labeling requirements of Proposition 65.
- 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 liquid, N.O.S. (Zinc Chloride, Hydrochloric Acid)
 Hazard Class: 8
 ID & Packing Group Number: UN 1760, PG III
 ERG Guide Number: 60

SECTION XV: REGULATORY INFORMATION

SARA Title III Program:

- This product contains the following toxic chemicals subject to the reporting requirements of EPCRA of 1986 and 40 CFR 372.

CHEMICAL NAME	CAS NO.	CONCENTRATION
Zinc Compounds	N/E	< 50%
Hydrochloric Acid	7647-01-1	< 4%

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.**

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.