

SAFETY DATA SHEET

SDS Date: 01/01/2025

SDS Name: Kapp Copper-Bond Flux™ for Metals Other Than Aluminum 550–800°F / 288-427°C

SDS Number: 553

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SECTION I: PRODUCT AND COMPANY INFORMATION

Product Name: Kapp Copper-Bond Flux™ for Metals Other Than Aluminum 550–800°F / 288-427°C

Composition:

Component	CAS Number	ECHA Number
Zinc Chloride	7646-85-7	231-592-0
Hydrochloric Acid	7647-01-0	231-595-7
Ammonium Chloride	506-87-6	208-058-0

Company Identification: Kapp Alloy and Wire, Inc., 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**

Corrosive to metals (Category 1)

Acute toxicity, Oral (Category 3)

Skin corrosion (Category 1B)

Skin sensitization (Category 1)

Serious eye damage (Category 1)

Acute aquatic toxicity (Category 1)

Chronic aquatic toxicity (Category 1)

GHS06 Acute Toxicity
H301 – Toxic if swallowed.

GHS05 Corrosion Eye Damage 1

H318 - Causes serious eye damage



GHS07 Skin Irritation 2

H315 - Causes skin irritation.



GHS08 Health Hazard

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

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

Hazard Pictograms:



GHS05



GHS07



GHS08



GHS06

Signal Word: **DANGER**

Hazard-determining components of labelling:

Zinc Chloride, Ammonium Chloride, Hydrochloric Acid

Hazard Statements:

H301 – Toxic if swallowed

H315 Causes skin irritation.

H318 Causes serious eye damage.

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

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Precautionary Statements:

- P220 - Wear protective gloves, clothing, eye and face protection.
 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).
 P302+P352 IF ON SKIN: Wash thoroughly with soap and water to remove any residue. If a rash develops, call a physician.
 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	HAZARD
Zinc Chloride	7646-85-7	231-592-0	1	Corrosive
Ammonium Chloride	506-87-6	208-058-0	10	OSHA
Hydrochloric Acid	7647-01-0	231-595-7	7	Corrosive

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

PEL = Permissible Exposure Limit; 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.

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SECTION VII: HANDLING AND STORAGE

Precautions to be taken in handling and storage:

- Store flux at ambient conditions, with temperatures between 35-80°F (2-27°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

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**

Boiling Point:	~229°C / 444°F
Specific Gravity:	(H ₂ O = 1 @ 72°F) : 1.55
Solubility in Water:	Appreciable
Evaporation Rate (Butyl Acetate = 1):	<1
Active Temperature range:	Active between 550–800°F / 288-427°C
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 hydrogen gas
Hazardous Decomposition Products:	Hydrogen chloride and zinc oxide.

SECTION XI: TOXICOLOGY INFORMATION

MATERIAL	UNITS	OSHA		ACGIH	
		TWA 8 hours	STEL 15 min	TWA 8 hours	STEL 15 minutes
Zinc Chloride Fume	mg / m ³	1	2	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.

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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. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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**Ground - DOT Proper Shipping Name:****Corrosive liquid, N.O.S. (Zinc Chloride, Hydrochloric Acid)**

Hazard Class: 8

ID & Packaging Group Number: UN 1760, PG III

ERG Guide Number: 60

Air - IATA Proper Shipping Name:**Corrosive liquid, N.O.S. (Zinc Chloride, Hydrochloric Acid)**

Hazard Class: 8

ID & Packaging 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%

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.

SECTION XVI: OTHER INFORMATIONThis 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.**

Please retain this sheet for your files. Kapp Alloy maintains a file of Safety Data Sheets (SDS) 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 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.