

SAFETY DATA SHEET

GHS SDS Date: 01/01/2025

SDS Name: Kapp Comet Flux™ for Metals Other Than Aluminum 350–550°F / 177–288°C

SDS Number: 550

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SECTION I: PRODUCT AND COMPANY INFORMATION

Product Name: Kapp Comet Flux™ for Metals Other Than Aluminum 350–550°F / 177–288°C

Recommended use of the chemical and restrictions on use: General purpose soft soldering flux, corrosive residue

CAS Number:

Component	CAS Number	ECHA Number	Component	CAS Number	ECHA Number
Zinc Chloride	7646-85-7	231-592-0	2-aminoethanol HCl	2002-24-6	217-900-6
Hydrochloric Acid	7647-01-0	231-595-7	Ammonium Chloride	506-87-6	208-058-0
Glycerin	56-81-5	200-289-5			

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

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 Oral (Category 4), H302

Skin Corrosion (Category 1B), H314

Serious Eye Damage (Category 1), H318

Acute Aquatic Toxicity (Category 1), H400

Chronic Aquatic Toxicity (Category 1), H410

Specific target organ toxicity – single exposure (Category 3), Respiratory System

Corrosive to metals (Category 1)



GHS05

Eye Damage 1 H318 Causes serious eye damage.



GHS07

Skin Irritation 1B H315 Causes skin irritation.



Aquatic Acute and Chronic Toxicity 1

H400: Very toxic to aquatic life

H410: Very toxic to aquatic life with long-lasting effects



GHS05



GHS07

**Label Elements:** Hazard Pictograms

Labelling according to Regulation (EC) No 1272/2008

Signal word: Danger

H290: May be corrosive to metals

H302 - Harmful if swallowed.

H314 - Causes severe skin burns and eye damage.

H318 - Causes serious eye damage

H319 - Causes serious eye irritation

H332 - Harmful if inhaled.

H335 - May cause respiratory irritation.

H400: Very toxic to aquatic life

H410: Very toxic to aquatic life with long-lasting effects

H411: Toxic to aquatic life with long-lasting effects

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Precautionary statements:

P234 -	Keep in original container.
P260 -	Do not breathe dust.
P261 -	Avoid breathing dust/fumes/gas/mist/vapors/spray
P264 -	Wash thoroughly after handling.
P270 -	Do not eat, drink or smoke when using this product.
P271 -	Use only outdoors or in a well-ventilated area
P273 -	Avoid release to the environment.
P280 -	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 -	IF SWALLOWED: Immediately call a POISON CENTER or physician, rinse mouth and
+P330+P331	DO NOT induce vomiting.
P302+P352 -	IF ON SKIN: Wash with plenty of water
P303+P361+P353 -	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304+P340 -	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
+P311+P310	Immediately call a POISON CENTER or physician.
P305+P351 -	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses
+P338+P310	if present and easy to do – continue rinsing. Contact a physician
P321 -	Specific treatment see section 2.3
P332+P313 -	If skin irritation occurs: Get medical advice/attention
P337+P313 -	If eye irritation persists: Get medical advice/attention.
P362 -	Take off contaminated clothing
P363 -	Wash contaminated clothing before reuse.
P391 -	Collect spillage.
P403+P233 -	Store in a well ventilated place and keep container tightly closed.
P501 -	Dispose of contents/container in accordance with local/national/international regulations.

Target Organ Statement

- Causes severe burns to skin, eyes, and respiratory system

Effects of Chronic Exposure

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

SECTION III: COMPOSITION / INGREDIENTS

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

COMPONENT	CAS NO.	EINECS NO.	OSHA PEL	HAZARD
Zinc Chloride	7646-85-7	231-592-0	1	Corrosive
Hydrochloric Acid	7647-01-0	231-595-7	5	Corrosive
2-aminoethanol HCl	2002-24-6	217-900-6	3	Eye Irritant
Ammonium Chloride	506-87-6	235-186-4	10	OSHA
Glycerin	56-81-5	200-289-5	NA	NA

PEL = Permissible Exposure Limit; NA = Not Applicable; NE = Not Established; NAIF = No Applicable Information found

SECTION IV: FIRST AID MEASURES

Ingestion:	Call a physician or Poison Control Center. Advise of chemical composition (Section III). Do not induce vomiting. 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; advise of chemical composition (section III). Provide oxygen.
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.

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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, ·UEL: N/A

Extinguisher Media: Water spray, fog, dry chemical, carbon dioxide, or alcohol-resistant foam.

**DO NOT USE WATER ON MOLTEN METAL:
LARGE FIRES MAY BE FLOODED WITH WATER FROM A DISTANCE**

Special Fire Fighting Procedures Full protective equipment required. May release zinc oxide and HCl fumes. Toxic metal halide fumes produced.
Unusual Fire and Explosion Hazards Dense smoke may be generated.

EMERGENCY PHONE NUMBER: CALL Kapp Alloy (800) 327-6533 – AVAILABLE 24 HOURS

SECTION VI: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures:**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so.

6.3 Methods and materials for containment and cleaning up:

Contain spill, absorb, sweep-up and dispose. Flush area to chemical sewer. Soda ash (sodium bicarbonate) is neutralizer for acid.

6.4 Reference to other sections:

For disposal see section 13.

SECTION VII: HANDLING AND STORAGE**7.1 Precautions for safe handling:**

Do not take internally. Avoid contact with skin and eyes. No eating or drinking in work area. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust, mist, or smoke is formed. Professionally wash contaminated clothes before re-use. For precautions see section II.

7.2 Conditions for safe storage, including any incompatibilities:

Store flux at ambient conditions, with temperatures between 35-80°F (2-27°C). Wash thoroughly after handling to remove all residue.

7.3 Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Use NIOSH-approved breathing apparatus to prevent exposure to dusts and fumes. Approved safety glasses/welding goggles, appropriate to your procedure, should be worn. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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Body Protection: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Ventilation: Local Exhaust: YES; Mechanical: YES Maintain airflow away from user to remove all fumes and vapors, so that the PEL is never exceeded. Special: Conform to your 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. *Conform to all local, state, federal regulations.

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: ~500°F / 260°C @ 760 mmHg

Specific Gravity: (H₂O = 1 @ 72°F): 1.38

Active Temperature Range: Active between 350–550°F / 177–288°C

Solubility in Water: Appreciable

Evaporation Rate (Butyl Acetate = 1): <1

Percent volatiles by volume: N/E

Appearance and Odor: Pale yellow water solution with no significant odor.

Use: General purpose low temperature soft soldering flux, corrosive residue.

SECTION X: STABILITY AND REACTIVITY

Stability: Stable

Conditions to avoid: None

Incompatibility (materials to avoid): Strong Acids, Strong Alkalis, Acid may react with metals to produce explosive gases.

Hazardous Decomposition Products: Carbon dioxide, water, hydrochloric acid, ammonia, oxides of nitrogen, zinc oxide

SECTION XI: TOXICOLOGY INFORMATION

Swallowing: Can cause damage to digestive system. Corrosive to mucous membranes.

Skin Absorption / Contact: Burns; immediate hazard.

Inhalation: Irritates respiratory system, coughing, & sneezing. Aggravates existing lung disorders.

Eye Contact: Irritation to eyes, tearing, burns eye surfaces, corrosive to eyes. May cause blindness.

	*0 = Insignificant	1 = Slight	2 = Moderate	3 = High	4 = Extreme
	Health	Flammability	Reactivity	Special	
NFPA Rating	2	1	0	0	
HMIS Rating	2	1	0	0	

Components	LC50/Inhalation	LC50/Dermal/Rat	LD50/Oral/Rat
Zinc Chloride	No data available	No data available	350 mg/kg
Ammonium Chloride	No data available	No data available	1,650 mg/kg
Glycerine	No data available	>10,000 mg/kg/	12,600 mg/kg
2-aminoethanol hydrochloride	No data available	4,053 mg/kg/mouse	No data available

SECTION XII: ECOLOGY INFORMATION

This product will not biodegrade. Slight ecological hazard. In high concentrations, this product may be dangerous to plants, wildlife, and/or aquatic life. General notes: Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Danger to drinking water if large quantities leak into the ground. **Results of PBT and vPvB assessment:** PBT: Not applicable; vPvB: Not applicable.

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Components	LC50/96hr/48hr/24hr	EC50/96/48hr/24hr	Bioaccumulation Concentration Factor	No Observable Effect Concentration/96hr/48hr/24 hr
Zinc Chloride	0.4 - 2.2 mg/L (carp)	0.2 mg/L (flea)	No data available	No data available
Ammonium Chloride	209 mg/L (carp) 3.98 mg/L (rainbow trout)	No data available	No data available	No data available
Hydrochloric Acid	282 mg/l (mosquito fish)	No data available	No data available	No data available

SECTION XIII: DISPOSAL CONSIDERATIONWaste Disposal Method

- Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Dispose of according to federal, state, local, international, and OSHA regulations.

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

Hazard Class: 8

ID & Packaging Group Number: UN 1760, PG II

ERG Guide Number: 154

Marine pollutant (Yes/No) YES - Unless your shipments qualify for an exemption, you must mark the products with the marine pollutant mark and add the words "Marine Pollutant" to the product's basic description on your bill of lading.

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

Hazard Class: 8

ID & Packaging Group Number: UN 1760, PG II

ERG Guide Number: 154

SECTION XV: REGULATORY INFORMATIONInternational Inventories

USA (TSCA): Complies

Federal RegulationsCERCLA Section 103

This product contains the following substances which are subject to CERCLA Section 103 reporting requirements and which are listed on 40 CFR 302.4

Zinc Chloride

Ammonium Chloride

Toxic Substance Control Act (TSCA)

If listed below, non-proprietary substances are subject to export notification Section 12 (b) of TSCA:

None

SARA Title III 313 Reportable Substances:

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

CHEMICAL NAME	CAS NO.	COMPOSITION
Zinc Compounds	N982	30-40%
Hydrochloric Acid	7647-01-1	1-10%

SARA Title III Section 311/312 Hazard Categories:

Acute Health Hazard

Chronic Health Hazard

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RoHS, REACH, and REACH-SVHC Compliance:

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

State Regulations (RTK)**Massachusetts Right to Know Components**

Component	CAS No.
Zinc Chloride	7646-85-7
Ammonium Chloride	506-87-6
Hydrochloric Acid	7647-01-0
Glycerol	56-81-5

Pennsylvania and New Jersey Right to Know Components

Component	CAS No.
Zinc Chloride	7646-85-7
Ammonium Chloride	506-87-6
2-aminoethanol hydrochloride	2002-24-6
Hydrochloric Acid	7647-01-0
Glycerol	56-81-5

California Proposition 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. More information at www.P65Warnings.ca.gov.

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.**

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.