

**MATERIAL SAFETY DATA SHEET**

MSDS Date: 05.31.2012

MSDS Name: Kapp Golden Flux for Aluminum Soldering 350°F TO 550°F

MSDS Number: 551

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**SECTION I: PRODUCT AND COMPANY INFORMATION**

Product Name: Kapp Golden Flux for Aluminum Soldering 350°F TO 550°F

CAS Number:

Component	CAS Number	Component	CAS Number
Aminoethylethanolamine	111-41-1	Ammonium Fluoborate	13826-83-0
Zinc Oxide	1314-13-2	Triethanolamine	102-71-6
Stannous Fluoborate	13814-97-6	Zinc Fluoborate	13826-88-5

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](mailto: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 THROUGH SKIN.**

**Effects of Chronic Exposure:**

- Coughing, liver, and kidney effects; nausea, erythema. Osseous fluorosis due to fluoride.

**SECTION III: COMPOSITION / INGREDIENTS**

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

COMPONENT	CAS NO.	SARA III	OSHA PEL	ACGIH TLV
Aminoethylethanolamine	111-41-1	-----	N/E	Hazard: Corrosive
Ammonium Fluoborate*	13826-83-0	< 20%	2.5 mg/m <sup>3</sup> as F*	2.5 mg/m <sup>3</sup> as F*
Zinc Oxide	1314-13-2	< 10%	5.0 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Triethanolamine	102-71-6	-----	-----	5.0 mg/m <sup>3</sup>
Stannous Fluoborate	13814-97-6	-----	2.5 mg/m <sup>3</sup> as F*	2.5 mg/m <sup>3</sup> as F*
Zinc Fluoborate	13826-88-5	-----	-----	2.5 mg/m <sup>3</sup> as F*

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

**\*Ammonium Fluoborate:**

- The PEL for fluoride as F is 2.5 mg/m<sup>3</sup>. Chronic fluoride absorption can result in osseous fluorosis, increased radiographic density of the bones and mottling of the teeth. Read OSHA 29 CFR 1910.1000, July 1, 1980, standard for fluorides.
- The PEL for boron oxide is: 10 mg/m<sup>3</sup>, B<sub>2</sub>O<sub>3</sub> as a fume. This compound when used as intended will generate fumes of boron oxide. Contact your industrial hygiene department.

**SECTION IV: FIRST AID MEASURES**

Ingestion:	Call a physical or Poison Control Center IMMEDIATELY; Advise of chemical composition. (Section III) and Potential Health Effects, (section VIII). Corrosive to mucous membranes. May contain corrosive hydrofluoric acid solution.
Skin:	Promptly flush with water to remove any residue. If a rash or burn develops, consult a physician. Product is corrosive. Hydrofluoric acid possible.
Inhalation:	Terminate exposure and remove to fresh air. If fumes are inhaled, call physician immediately; over-inhalation may be harmful.
Eyes:	Flush with water for at least 20 minutes to remove any residue. Get medical help NOW. Blindness can result. Hydrofluoric acid possible.

**SECTION V: FIRE FIGHTING MEASURES**

Flash point (°F):	> 275,
Flammability Limits:	(in air, % by volume) <ul style="list-style-type: none"> <li>LEL: 1.6 estimated</li> <li>UEL: 10.0 estimated</li> </ul>
Extinguisher Media:	Water, fog, foam, or dry chemical
Special Fire Fighting Procedures	Full protective equipment required. May release toxic ammonia, boron oxide, or fluoride fumes. Oxides of nitrogen.
Unusual Fire and Explosion Hazards	Avoid splashing this material and solutions of it onto personnel. Hydrofluoric acid solution may be formed within water runoff.

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**SECTION VI: ACCIDENTAL RELEASE MEASURES**

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Steps to be taken if material is spilled or released:

- Contain, absorb, sweep-up, and dispose. Flush area to chemical sewer.
- Prevent direct contact to skin, eyes, and clothes.

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**SECTION VII: HANDLING AND STORAGE**

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Precautions to be taken in handling and storage:

- Store flux at temperatures 35 °F to 100 °F, keep containers tightly closed and away from foodstuffs.
- Wash hands thoroughly after handling to remove any residue.
- No eating or smoking in work area.

Other Precaution / Special Handling:

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

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**SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION**

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Respiratory Protection:	If the work station is not properly ventilated to exhaust all fumes and dusts, uses a NIOSH approved mask for complete respiratory and eye protection.
Eye Protection:	Chemical tight safety goggles. Do NOT wear contact lenses.
Ventilation:	Maintain air flow away from user to remove all fumes and dusts, 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.

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

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**SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES**

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Boiling Point (@ 760 mmHg):	N/E F°
Solubility in Water (100 = complete):	0
Evaporation Rate (Butyl Acetate = 1):	N/E
Active Temperature Range:	Active between 350 – 550 °F
Percent volatiles by volume:	8.6
pH:	10-11
Appearance and Odor:	Viscous amber liquid with strong ammonia odor
Use:	General purpose low temperature aluminum soldering flux

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**SECTION X: STABILITY AND REACTIVITY**

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Stability:	Stable
Conditions to avoid:	Excessive heat; decomposes forming corrosive, skin penetrating, toxic gases
Incompatibility (materials to avoid):	Cyanides, sulfides, strong oxidants.
Hazardous Combustion / Decomposition:	Toxic hydrofluoric acid, ammonia, and boron trifluoride.

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**SECTION XI: TOXICOLOGY INFORMATION**

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Swallowing: Can cause damage to digestive system. Corrosive to mucous membranes. May cause salivation, nausea, vomiting, diarrhea, and abdominal pain. Fluoride ion can reduce serum calcium levels, possibly causing fatal hypocalcaemia. Systemic toxicity and shock.

Skin Absorption / Contact: None currently known. Fumes may penetrate / absorb into skin.

Inhalation: **Highly irritating to respiratory system.** Coughing & sneezing. Existing lung disorders will be aggravated. Inhalation may yield: chills, labored breathing, fevers, and unproductive cough. The fluoride ion may cause hypocalcaemia – calcium deficiency in the blood. Inflammation and necrosis of mucous membranes.

Eye Contact: Strong irritation to eyes, tearing, burn of eye surface, corrosive to eyes. May cause blindness.

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

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

**Pennsylvania:** The following chemicals are listed in PA code Title 34, Hazardous Substance List:  
Aminoethylethanolamine, Ammonium fluoborate, Zinc Oxide, Triethanolamine, Zinc Fluoborate

**California:** This material contains no compounds subject to the reporting and/or labeling requirements of Proposition 65.

**SECTION XIII: DISPOSAL CONSIDERATION**

Waste Disposal Method

- Dispose of according to federal, state, local, and OSHA regulations.

**SECTION XIV: TRANSPORT INFORMATION**

DEPARTMENT OF TRANSPORTATION

Proper shipping name: Solder alloy - NOT REGULATED  
 Hazard Class: NAIF  
 ID & Packing Group Number: NAIF  
 ERG Guide Number: NAIF

**SECTION XV: REGULATORY INFORMATION**

DEPARTMENT OF TRANSPORTATION:

DOMESTIC GROUND

Proper shipping name: Corrosive Liquid, N.O.S.(Aminoethylethanolamine, Ammonium Fluoborate)  
 Hazard Class: 8  
 ID & Packing Group Number: UN 1760, PG II  
 ERG Guide Number: 154

**TOXIC SUBSTANCE CONTROL ACT:** All components of this compound are listed within the TSCA inventory.

**Hazardous Communications Program:** Hazardous warnings and training requirements as mandated for corrosive material

**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	7646-85-7	< 10%
Ammonium Fluoborate	13826-83-0	< 20%

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

**CERCLA**

The following components of the product and their respective RQs are listed in 40 CFR 302:

- Ammonium Fluoborate 13826-83-0 RQ = 5000 lbs.

**SECTION XVI: OTHER INFORMATION**

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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.