

**Section 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Revision Date: May 1, 2001

Product Name: Plating Solution, Solder Strip  
Product Number: 1oz: 115-3851  
4oz: 115-3854

DISTRIBUTOR: Circuit Technology Center  
45 Research Drive, Haverhill, MA 01832-1293  
Phone: 978-374-5000, FAX: 978-372-5700

**Emergency Response 24-Hour Telephone: CHEMTREC United States: (800) 424-9300  
International: (703) 527-3887 (collect)**

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**Section 2. COMPOSITION, INFORMATION OR INGREDIENTS**

CHEMICAL	C.A.S. Number	Weight %
Ammonium Hydrogen Fluoride (Ammonium Bifluoride)	1341-49-7	10-30
Hydrogen Peroxide	7722-84-1	5-10
Fluoboric Acid	16872-11-0	5-10

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

	Exposure Limits 8 Hours TWA (PPM)	
	OSHA PEL	ACGIH TLV
Ammonium Hydrogen Fluoride (Ammonium Bifluoride)	NA	2.5ppm
Hydrogen Peroxide	NA	1ppm
Fluoboric Acid	NA	2.5mg/M3

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**Section 3. HAZARD IDENTIFICATION**

Emergency Overview:

Potential Health Effects:

INHALATION: Inhalation of vapors or mist, which may be produced at elevated temperature, may cause ulcers of the respiratory tract.

EYES: Contact with eyes may cause permanent injury.

SKIN: Splashes on skin, if not removed promptly, may cause redness and blistering.

INGESTION: If swallowed, may cause injury to mouth, throat, esophagus, and stomach.

NOTE 1: Chronic effects of overexposure to fluorides include sclerosis of bones, calcification of ligaments, loss of weight, anorexia, anemia and dental effects. May aggravate existing dermatitis. May cause discoloration of teeth.

Routes of entry: Inhalation (Secondary), Skin (Primary), Ingestion (Unlikely).

None of the ingredients in this product are listed by IARC, NTP or OSHA as carcinogenic.

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**Section 4. FIRST AID MEASURES**

INHALATION: Remove to fresh air. Restore breathing if necessary. Consult a physician.

EYE CONTACT: Flush eyes with water for at least 15 minutes - consult a physician immediately.

SKIN CONTACT: Wash with soap and water, consult a physician if irritation develops.

INGESTION: Give two glasses of water or milk. Induce vomiting by use of emetic. Get medical attention

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**Section 5. FIRE-FIGHTING MEASURES**

Flash Point & Method: None

Flammable Limits: LEL: NA UEL: NA

Autoignition Temperature: NA

GENERAL HAZARD: If all water evaporates, oxygen may be released, intensifying fire.

FIRE FIGHTING INSTRUCTIONS: As in any fire involving chemicals, self contained breathing apparatus and protective clothing should be worn.

HAZARDOUS COMBUSTION PROD.: NA  
EXTINGUISHING MEDIA: NA

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**Section 6. ACCIDENTAL RELEASE MEASURES**

LAND SPILL: Small spills, neutralize with lime and flush to sewer with local approval. Large spills should be contained, pumped to salvage tank and waste treated.

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**Section 7. HANDLING AND STORAGE**

STORAGE TEMPERATURE: Ambient  
STORAGE PRESSURE: Atmospheric  
GENERAL: In use the solution may undergo rapid exothermic decomposition if adequate volume per surface area relationship is not maintained. See Technical Data Sheet for more information. When opening drum, unscrew bung slowly, letting any pressure escape through loosened threads. Store in cool place above 40°F. Precipitation of ammonium bifluoride may occur at lower temperatures.

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**Section 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

Engineering Controls:  
(X) Local Exhaust ventilation acceptable.  
( ) Mechanical ventilation recommended.  
( ) Use explosion proof ventilation equipment.  
( ) Do not use in confined spaces without mechanical ventilation equipment.  
See section 2 for component exposure guidelines.

Personal Protection:  
RESPIRATOR: Not normally required for the solution as shipped. Exposure to the working bath may require an acid gas respirator if ventilation is inadequate.

HAND PROTECTION: (X) Protective Gloves (plastic PVC or rubber)  
EYE PROTECTION (use one): ( ) Safety Glasses (X) Chemical Goggles (X) Full Face Shield  
OTHER RECOMMEND. (use all): (X) Eye Bath (X) Safety Shower (X) Plastic Apron

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**Section 9. PHYSICAL AND CHEMICAL PROPERTIES**

Density..... 1.12 g/ml, 9.3 lb/gal pH..... NA  
Boiling Point..... NA % Volatile By Volume..... NA  
Freezing Point..... NA % Solids..... 0%  
Vapor Density (Air = 1)..... NA Evaporation Rate (Butyl Acetate = 1)... NA  
Solubility in Water..... Complete Viscosity..... NA  
Molecular Weight..... NA Physical State..... Liquid  
Non-Exempt VOC (g/L)..... 0 Odor..... Slight  
Appearance: Water white with slight odor. Vapor Pressure..... NA

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**Section 10. STABILITY AND REACTIVITY**

GENERAL: Unstable due to the possible decomposition of hydrogen peroxide into water and oxygen.  
INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: Metal containers, heat, and reducing agents.  
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Hydrofluoric acid, ammonia.  
HAZARDOUS POLYMERIZATION: Will not occur.

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**Section 11. TOXICOLOGICAL INFORMATION**

RESULTS OF COMPONENT TOXICITY TEST PERFORMED: Information not available.  
HUMAN EXPERIENCE: Information not available.

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**Section 12. ECOLOGICAL INFORMATION**

FURTHER INFORMATION: Information not available.

**Section 13. DISPOSAL CONSIDERATIONS**

RCRA 40 CFR 261 Classification:

Federal, State, and Local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

WASTE DISPOSAL METHOD: Precipitate metals and fluoride with lime. See technical data sheet for more information.

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**Section 14. TRANSPORT INFORMATION**

DOT, IATA, ICAO, and IMO Description:

Basic Description: Tin/Lead Stripper  
Proper Shipping Name: Corrosive Liquid Oxidizing, N.O.S. (Ammonium Hydrogen Fluoride)  
Hazard Class: 8  
Packaging Group: II  
UN Number: UN 3039  
Label Requirements: Corrosive Oxidizer  
Max. Shippable Qty.: 1 liter  
Packaging: Meets Performance Oriented Packaging Requirements  
Reportable Quantity (RQ): NA  
Limitations: Not Shippable Via Air Transportation

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**Section 15. REGULATORY INFORMATION**

**UNITED STATES FEDERAL REGULATIONS:**

MSDS complies with OSHA's Hazard Communication Rule, 29 CFR 1910.1200.

CERCLA/SUPERFUND, 40 CFR 117, 302:

--- None of the chemicals are Superfund hazards ---

SARA SUPERFUND AND REAUTHORIZATION ACT OF 1986 TITLE III Sections 302, 311, 312 and 313:

Section 302 - Extremely hazardous substances (40 CFR 355)

--- None of the chemicals are Section 302 hazards ---

Section 311/312 - Material Safety Data Sheet Requirements (40 CFR 370)

- ( ) By our hazard evaluation, this product is non-hazardous
- (X) By our hazard evaluation, this product is hazardous. It should be reported under the following EPA hazard:
  - (X) Immediate (acute) health hazard
  - (X) Delayed (chronic) chronic health hazard
  - ( ) Sudden release of pressure hazard
  - ( ) Reactive Hazard

Section 313 - List of Toxic Chemicals (40 CFC 372)

This product contains the following chemicals (at levels of 1% or greater) which are found on the 313 list of Toxic Chemicals

CHEMICAL	C.A.S. Number	Weight %
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TOXIC SUBSTANCE CONTROL ACT (TSCA): --- No information ---

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA 40 CFR 261) Subpart C&D:

Refer to Section 11. for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15

(FORMERLY SECTION 307), 40 CFR 116 (FORMERLY SECTION 311)

This product contains the following chemicals which are listed:

CHEMICAL	C.A.S. Number	Weight %
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CLEAN AIR ACT: --- No Information ---

**STATE REGULATIONS:**

CALIFORNIA PROPOSITION 65:

This product contains the following ingredients which appear on the California proposition 65 list:

<u>CHEMICAL</u>	<u>C.A.S. Number</u>	<u>Weight %</u>
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**INTERNATIONAL REGULATIONS:**

CANADA WHIMS: NA

EUROPE EINECS NUMBERS: NA

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**Section 16. OTHER INFORMATION**

**LABEL INFORMATION:**

European risk and Safety Phrases: NA

European Symbols Needed: NA

Canadian WHIMS Symbols: NA

**NFPA HAZARD RATING:**

(0) Flammability      (3) Health      (1) Reactivity      (B) Personal Protection

**REVISION DATES, SECTIONS, REVISED BY:**

08-OCTOBER-98, J. FORBES

**ABBREVIATIONS USED IN THIS DOCUMENT:**

NE - Not Established, NA - Not Applicable/Not Available, NIF - No Information Found

**REFERENCES:**

- Code of Federal Regulations (CFR)
- The Sigma-Aldrich Library of Regulatory and Safety Data
- Chemical Guide and OSHA Hazard Communication Standard
- Various Federal, State & Local Regulations

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