

**GC/Waldom Electronics**  
1801 Morgan Street  
Rockford, IL 61102  
Product Information: (815) 968-9661

**Product Name: Liquid Solder Flux**  
MSDS Number: 112  
Revision Date: 07/17/00  
Supersedes Date: 10/15/96

## MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: Solder Flux  
Product Name: **Liquid Solder Flux**  
Part Number(s): 10-4202  
10-4216

Emergency Contact: **Chemtrec**  
Phone: **(800) 424-9300**

### Section 1 – Identification of Product

HMIS RATINGS		NFPA RATINGS			
Health	1	Health	1	Least	0
Flammability	3	Flammability	3	Slight	1
Reactivity	0	Reactivity	0	Moderate	2
Personal Protection	✓			High	3
				Extreme	4
				Gloves, Safety Glasses	B

### Section 2 – Hazardous Ingredients/SARA III Information

Hazardous Ingredients 1% or greater Carcinogens 0.1% or greater	C.A.S. Number	Weight Percent	OSHA PEL ppm	ACGIH TLV STEL pppm	LD50 injected g/Kg	LC50 inhaled g/m <sup>3</sup>
2-Propanol	67-63-0	59	400	500	5.8 Rabbit	NE
Rosin	8050-09-7	41	NE	NE	NE	NE

Non-Hazardous Ingredients

Notes: \*This chemical is subject to the reporting requirements of Section 313 of Title III of the U.S.A. Superfund Amendment and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

### Section 3 – Physical Data

Physical State at 20°C:	Liquid
Specific Gravity (water=1 at 25°C):	0.880
Boiling Point (760 mm Hg):	170°F 76°C
Melting Point:	NA°F NA
Vapor Pressure (mm Hg at 20°C):	40
Evaporation Rate (butyl acetate=1):	1.8
Vapor Density (air=1):	1.8
Percent Volatile (by volume):	66%

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Solubility in Water (% by weight): 59  
Volatile Organic Compound (VOC): 522 g/Liter  
pH: NA  
Odor Threshold: 200 ppm for 2-propanol  
Freezing Point (760 mm Hg): NE°F NE°C  
Coefficient of Water/Oil Distribution: NE  
Appearance and Odor: Amber, sticky liquid with alcohol odor.

#### Section 4 – Fire and Explosion Hazards

Flammability: Yes  
Conditions to Avoid: NE  
Flash Point (T.O.C.): 65°F 18°C  
Auto-Ignition Temperature: 750°F 399°C  
Flammability Limits Percent by Volume in Air: LEL: 2.0  
UEL: 12.0  
Extinguishing Means: \_\_\_ Water ✓ Carbon Dioxide ✓ Alcohol Foam ✓ Dry Chemical  
Hazardous Combustion Products: Carbon monoxide, carbon dioxide, aliphatic aldehydes and acids.  
Explosion Sensitivity: Impact – None Identified Static Discharge Sensitivity – Yes  
Special Firefighting Procedures: Use water spray to cool fire exposed containers and control vapors.  
Unusual Fire and Explosion Hazards: A moderate explosion hazard exists when exposed to heat or flames.

#### Section 5– Health Hazard Data

Exposure Limits: Not determined for the product. See Section 2 for ingredients.  
Primary exposure during soldering is to evaporated alcohol solvent which contain droplets of rosin and/or organic decomposition products.  
Primary Routes of Entry: \_\_\_ Skin ✓ Eyes ✓ Inhalation ✓ Ingestion  
Target Organs: Eyes, skin, mucous membranes  
Effects of Acute (severe short-term) Exposure  
Inhalation: Fumes during soldering may irritate mucous membranes and respiratory system. High concentrations can cause headache, dizziness, narcosis and nausea.  
Skin Contact: Local irritation.  
Skin Absorption: None  
Eye Contact: Irritation from contact with liquid and smoke from soldering.  
Ingestion: Burning sensation in the digestive tract.  
Effects of Chronic (prolonged) Exposure  
Inhalation: Breathing vapors can result in headache, dizziness, narcosis and irritation of the mucous membranes. Smoke during soldering can cause respiratory system irritation and damage.  
Skin Contact: Prolonged or repeated skin contact can result in a rash.  
Medical Conditions Generally Aggravated by Exposure: Chemical hypersensitivity, asthma and other respiratory conditions. Continued breathing of high concentrations of alcohol vapors will contain rosin which is an allergen and can affect the liver and central nervous system.

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#### First Aid Measures

Seek medical assistance for further treatment, observation and support if needed.

**Eye Contact:** Flush eyes with plenty of water and get medical attention. Remove rosin from around eyes with a dilute ethanol solution.  
**Skin Contact:** Wash thoroughly with soap and water.  
**Inhalation:** Remove victim to fresh air.  
**Ingestion:** Induce vomiting and get prompt medical attention.

#### Section 6- Reactivity Data

**Chemical Stability:**  Stable  Unstable  
**Conditions to Avoid:** NE  
**Incompatibility (materials to avoid):** Strong oxidizing materials.  
**Hazardous Decomposition Products:** When heated to soldering temperatures, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes, acids and terpenes.  
**Hazardous Polymerization:**  May Occur  Will Not Occur  
**Conditions to Avoid:** NE

#### Section 7- Spill or Leak Procedures

##### Procedures for Material Control

**Steps to be Taken if Material is Spilled or Released:** Remove all ignition sources. Provide adequate ventilation. Absorbents, such as vermiculite, can be used to soak up the spilled liquid. Clean up residual with alkaline detergent.  
**Waste Disposal Methods:** According to local regulations, usually by incineration. DPA Hazardous Waste Number is D0001. Hazard Class is Ignitable Waste.  
**Caution:** Empty containers may contain product residue. Observe all label precautions

#### Section 8 - Special Protection Information

##### Personal Protective Equipment

**Ventilation to be used:** Provide adequate exhaust ventilation (general and/or local) if necessary to meet exposure requirements. Local exhaust ventilation is preferred to minimize dispersion of smoke and fumes into the work area.  
**Respiratory Protection:** When ventilation is not sufficient to remove fumes from the breathing zone, a NIOSH approved respirator should be worn.  
**Protective Gloves:** Plastic or rubber gloves where necessary to avoid skin contact.  
**Eye Protection:** Safety glasses or goggles when splashing is likely to occur.  
**Other Protective Clothing and Equipment:** Impermeable apron when splashing is likely to occur.

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Hygienic Work Practices: Wash hands thoroughly before eating or smoking.

### Section 9 – Special Precautions

Waste Disposal Methods: According to local regulations, usually by incineration. DPA Hazardous Waste Number is D0001. Hazard Class is Ignitable Waste.

Caution: Empty containers may contain product residue. Observe all label precautions

Precautions to be taken in handling and storage: Store away from sources of ignition. Storage at temperatures below 40 deg. F (4deg.C) may result in precipitation of some rosin. Open containers cautiously to allow venting of any internal pressure.

### Section 10 – Regulatory Information

DOT: Isopropanol, UN 1219 Flammable Liquid  
WHMIS: Class B, Division 2; Class D, Division 2, Subdivision B  
TDG: Packaging Group II, Class 3.2

NA = Not Applicable

NE = Not Established

UN = Unknown

Carcinogenicity:  NTP  OSHA  IARC  Not Listed

Hazard communication regulations, U.S.A. Occupational Safety and Health Act (OSHA) and Canada Workplace Hazardous Materials Information Systems (WHMIS), require that employees must be trained how to use a Material Safety Data Sheet as a source for Hazard information.

### Disclaimer

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