

Material Safety Data Sheet

SECTION 1 - PRODUCT IDENTIFICATION AND USE

186 ROSIN SOLDERING FLUX, TYPE RMA

Product Identifier As Used On Label

MSDS Number: 186

Date Prepared: 15-Oct-96

Product Use: Soldering flux for electrical or electronic applications.

Manufacturer's Name and Address

Supplier's Name and Address (if different from manufacturer)

**KESTER SOLDER
DIVISION OF LITTON SYSTEMS, INC.
515 E. TOUHY AVENUE
DES PLAINES, IL 60018 USA**

Telephone Number For Information: (847) 297-1600

CHEMTREC 24-Hour Emergency Telephone Number: (800) 424-9300

NFPA Rating:	Health: 1	Flammability: 3	Reactivity: 0	Special:
HMSI Rating:	Health: 1	Flammability: 3	Reactivity: 0	Personal Protection: X

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

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS 1 % or greater CARCINOGENS 0.1 % or greater	C.A.S. Number	Weight Percent	OSHA PEL ppm	ACGIH TLV STEL ppm	LD 50 injected g / Kg	LC 50 inhaled g / m ³
2-Propanol	67-63-0	61	400	500	5.8 Rabbit	NE
Rosin	8050-09-7	36	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.

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SECTION 3 - PHYSICAL DATA

Physical State at 20 °C: Liquid

Specific Gravity (water = 1 at 25 °C): 0.879

Boiling Point (760 mm Hg): 180 °F 82 °C

Melting Point: NA °F NA °C

Vapor Pressure (mm Hg at 20 °C): 33

Evaporation Rate (butyl acetate = 1): 1.7

Vapor Density (air = 1): 2.1

Percent Volatile (by volume): 64 %

Solubility in Water (% by weight): 55

Volatile Organic Compound (VOC): 562 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 liquid with alcohol odor.

SECTION 4 - FIRE AND EXPLOSION HAZARDS

Flammability: No 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 No

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 - 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

Conditions to avoid: NE

 Will Not Occur

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SECTION 6 - HEALTH HAZARD DATA / TOXICOLOGICAL PROPERTIES**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 and respiratory system.**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:**

Prolonged or repeated skin contact can result in a rash. Breathing vapors can result in headache, dizziness, narcosis and irritation of the mucous membranes. Smoke during soldering will contain rosin which is an allergen and can cause respiratory system irritation and damage.

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.

CARCINOGENICITY NTP OSHA IARC Not Listed**TERATOGENICITY / MUTAGENICITY:** See Section 9 for additional information.**SECTION 7 - 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.

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SECTION 8 - PREVENTIVE MEASURES**PROCEDURES FOR MATERIAL CONTROL:****Steps to be Taken if Material is Spilled or Released:**

Remove all ignition sources. Provide adequate ventilation. Absorbants, such as vermiculite, can be used to soak up the spilled liquid. Clean up residual with alkaline detergent.

Precautions to be taken in Handling and Storage:

Store away from sources of ignition. Storage at temperatures below 40 °F (4 °C) may result in precipitation of some rosin. Open containers cautiously to allow venting of any internal pressure.

Waste Disposal Methods:

According to local regulations, usually by incineration.
EPA Hazardous Waste Number is D001. Hazard Class is Ignitable Waste.

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

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.

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

SECTION 9 - ADDITIONAL INFORMATION**SECTION 10 - PREPARATION INFORMATION**

Prepared By: D. Bernier

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Telephone Number: (847) 297-1600

Supersedes: 18-May-93

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