


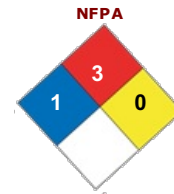


<b>Personal Protective Equipment</b> 	<b>WHMIS Pictograms</b> 	<b>DOT Pictograms</b> 
Safety Glasses    Protective Gloves	Flammable Liquid    D2B Toxic Liquid	Flammable Liquid

## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** #186  
**Product Code:** #186  
**MSDS Manufacturer Number:** #186  
**Product Use/Restriction:** Soldering flux  
**Manufacturer Name:** Kester  
**Address:** 800 W. Thorndale Avenue  
 Itasca, IL 60143  
**General Phone Number:** (630)-616-4000  
**Customer Service Phone Number:** (800)-2KESTER (253-7837)  
**CHEMTREC:** CHEMTREC 24-Hour Emergency Telephone Number:  
 (800)424-9300  
 CHEMTREC 24-Hour Emergency Telephone Number:  
 ((Outside of the U.S. and Canada):): (703)527-3887  
**Website:** msds@kester.com  
**MSDS Creation Date:** July 23, 2008  
**MSDS Revision Date:** September 30, 2012



HMIS	
Health Hazard	1
Fire Hazard	3
Reactivity	0
Personal Protection	B

## SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Isopropyl Alcohol	67-63-0	60 - 100 by weight	
Benzyl Alcohol	100-51-6	1 - 5 by weight	
Hydrogenated Rosin	65997-06-0	10 - 30 by weight	
Modified rosin acid	Proprietary	10 - 30 by weight	

## SECTION 3 - HAZARDS IDENTIFICATION

**Emergency Overview:** Flammable. Irritant.  
**Route of Exposure:** Eyes. Skin. Inhalation. Ingestion.  
**Potential Health Effects:**  
**Eye:** Eye exposure from airborne vapors, gases, and mists or by direct contact with solutions may result in irritation with a burning sensation, discomfort, tearing and blurred vision.  
**Skin:** May cause skin irritation.  
**Inhalation:** Inhalation of vapors, fumes or mists of the product may be irritating to the respiratory system.  
**Ingestion:** Harmful if swallowed. Ingestion can cause nausea, vomiting, diarrhea and gastrointestinal irritation.  
**Chronic Health Effects:** Prolonged or repeated skin contact may result in irritation and dermatitis marked by rough, dry cracking skin.  
**Target Organs:** Eyes. Skin. Respiratory system. Digestive system. Central nervous system.  
**Aggravation of Pre-Existing Conditions:** None generally recognized.

## SECTION 4 - FIRST AID MEASURES

**Eye Contact:** Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.

<b>Skin Contact:</b>	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
<b>Inhalation:</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
<b>Ingestion:</b>	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

## SECTION 5 - FIRE FIGHTING MEASURES

<b>Flash Point:</b>	18°C (64°F)
<b>Lower Flammable/Explosive Limit:</b>	2.0 Vol %
<b>Upper Flammable/Explosive Limit:</b>	12.0 Vol %
<b>Fire Fighting Instructions:</b>	Flammable. Cool fire-exposed containers using water spray.
<b>Extinguishing Media:</b>	Use carbon dioxide (CO <sub>2</sub> ) or dry chemical when fighting fires involving this material.
<b>Unsuitable Media:</b>	Do not use water.
<b>Protective Equipment:</b>	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
<b>Hazardous Combustion Byproducts:</b>	Oxides of carbon, oxides of nitrogen, aliphatic aldehydes, and other organic substances may be formed during combustion..
<b>NFPA Ratings:</b>	
<b>NFPA Health:</b>	1
<b>NFPA Flammability:</b>	3
<b>NFPA Reactivity:</b>	0
<b>NFPA Other:</b>	

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

<b>Personnel Precautions:</b>	Avoid contact with eyes and skin. Use proper personal protective equipment as listed in section 8.
<b>Environmental Precautions:</b>	Avoid runoff into storm sewers, ditches, and waterways.
<b>Methods for containment:</b>	Contain spills with an inert absorbent material such as soil, sand or oil dry. Prevent from spreading by covering, diking or other means.
<b>Methods for cleanup:</b>	Remove all sources of ignition. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Collect spill with a non-sparking tool. Place into a suitable container for disposal.

## SECTION 7 - HANDLING and STORAGE

<b>Handling:</b>	Use with adequate ventilation. Avoid breathing vapor and fumes. Use only in accordance with directions. To reduce potential for static discharge, bond and ground containers when transferring material.
<b>Storage:</b>	Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, direct sunlight, and incompatible substances. Keep container tightly closed when not in use.
<b>Special Handling Procedures:</b>	DANGER! Rags, steel wool and waste soaked with this product may spontaneously catch fire if improperly discarded or stored. To avoid a spontaneous combustion fire, immediately after use, place rags, steel wool or waste in a sealed, water-filled, metal container.
<b>Hygiene Practices:</b>	Wash thoroughly after handling. Avoid inhaling vapors, mists, or fumes.

## SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

<b>Engineering Controls:</b>	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
<b>Eye/Face Protection:</b>	Safety glasses with side-shields.
<b>Skin Protection Description:</b>	Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data. Nitrile rubber or natural rubber gloves are recommended.
<b>Respiratory Protection:</b>	The need for respiratory protection will vary according to the airborne

concentration of the decomposition products released and accumulated in the area.

In case of insufficient ventilation, wear suitable respiratory equipment. Wear the appropriate respiratory protection according to the conditions and exposure levels in the area.

**Other Protective:**

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**PPE Pictograms:**



**EXPOSURE GUIDELINES**

**Isopropyl Alcohol:**

Guideline ACGIH: TLV-TWA: 200 ppm  
TLV-STEL: 400 ppm

Guideline OSHA: PEL-TWA: 400 ppm

**SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES**

<b>Physical State Appearance:</b>	Liquid.
<b>Color:</b>	Amber.
<b>Boiling Point:</b>	82°C (180°F)
<b>Melting Point:</b>	Not determined.
<b>Density:</b>	0.879 g/cm <sup>3</sup> at 20°C (68°F)
<b>Solubility:</b>	Partly soluble
<b>Vapor Pressure:</b>	33 hPa (25 mm Hg) at 20°C (68°F)
<b>Flash Point:</b>	18°C (64°F)
<b>Explosive Properties:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

**SECTION 10 - STABILITY and REACTIVITY**

<b>Chemical Stability:</b>	Stable under normal temperatures and pressures.
<b>Hazardous Polymerization:</b>	Not reported.
<b>Conditions to Avoid:</b>	Keep away from heat, ignition sources and incompatible materials.
<b>Incompatible Materials:</b>	Oxidizing agents. Strong acids and alkalis.
<b>Special Decomposition Products:</b>	When heated to soldering temperatures, the solvents are evaporated and rosin may be thermally degraded to liberate aliphatic aldehydes and acids.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

**Isopropyl Alcohol:**

<b>RTECS Number:</b>	NT8050000
<b>Eye:</b>	Eye - Rabbit Standard Draize test.: 100 mg Eye - Rabbit Standard Draize test.: 10 mg Eye - Rabbit Standard Draize test.: 100 mg/24H
<b>Skin:</b>	Administration onto the skin - Rabbit LD50: 12800 mg/kg [Details of toxic effects not reported other than lethal dose value]
<b>Inhalation:</b>	Inhalation - Rat LC50: 16000 ppm/8H [Details of toxic effects not reported other than lethal dose value] Inhalation - Mouse LC50: 53000 mg/m <sup>3</sup> [Behavioral - General anesthetic Lungs, Thorax, or Respiration - Other changes] Inhalation - Rat LC50: 72600 mg/m <sup>3</sup> [Behavioral - General anesthetic Lungs, Thorax, or Respiration - Other changes]
<b>Ingestion:</b>	Oral - Rat LD50: 5045 mg/kg [Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Somnolence (general depressed activity)] Oral - Mouse LD50: 3600 mg/kg [Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Somnolence (general depressed activity)] Oral - Mouse LD50: 3600 mg/kg [Behavioral - General anesthetic] Oral - Rat LD50: 5000 mg/kg [Behavioral - General anesthetic]
<b>Carcinogenicity:</b>	IARC: Group 3: Unclassifiable as to carcinogenicity to humans.

**Benzyl Alcohol:**

<b>RTECS Number:</b>	DN3150000
<b>Skin:</b>	Administration onto the skin - Rat LD50: 100 pph/90M [Details of toxic effects not reported other than lethal dose value] Administration onto the skin - Rabbit LD50: 2000 mg/kg [Details of toxic effects not reported other than lethal dose value]
<b>Inhalation:</b>	Inhalation - Mouse LC50: >500 mg/m <sup>3</sup> [Behavioral - Somnolence]

(general depressed activity) Behavioral - Ataxia Lungs, Thorax, or Respiration - Respiratory depression]  
Inhalation - Rat LC50: >500 mg/m<sup>3</sup> [Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Lungs, Thorax, or Respiration - Respiratory depression]

**Ingestion:** Oral - Rat LD50: 1230 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Excitement Behavioral - Coma]  
Oral - Mouse LD50: 1360 mg/kg [Details of toxic effects not reported other than lethal dose value]  
Oral - Mouse LD50: 1360 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Lungs, Thorax, or Respiration - Respiratory depression]  
Oral - Rat LD50: 1660 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Lungs, Thorax, or Respiration - Respiratory depression]  
Oral - Rat LD50: 1.5 mL/kg [Details of toxic effects not reported other than lethal dose value]

## SECTION 12 - ECOLOGICAL INFORMATION

**Ecotoxicity:** Do not allow product to reach ground water, water course or sewage system.

**Effect of Material On Aquatic Life:** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## SECTION 13 - DISPOSAL CONSIDERATIONS

**Waste Disposal:** Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

## SECTION 14 - TRANSPORT INFORMATION

**DOT Shipping Name:** ISOPROPANOL, MIXTURE  
**DOT UN Number:** UN1219  
**DOT Hazard Class:** 3  
**DOT Packing Group:** II  
**IATA Shipping Name:** ISOPROPANOL, MIXTURE  
**IATA UN Number:** UN1219  
**IATA Hazard Class:** 3  
**IATA Packing Group:** II  
**DOT Pictograms:**



**IMDG UN Number :** UN1219  
**IMDG Shipping Name :** ISOPROPANOL, MIXTURE  
**IMDG Hazard Class :** 3  
**IMDG Packing Group :** II  
**ADR UN Number:** UN1219  
**ADR Shipping Name :** ISOPROPANOL, MIXTURE  
**ADR Hazard Class:** 3  
**ADR Packing Group :** II  
**RID UN Number :** UN1219  
**RID Shipping Name :** ISOPROPANOL, MIXTURE  
**RID Hazard Class :** 3  
**RID Packing Group :** II  
**ICAO UN Number :** UN1219  
**ICAO Shipping Name:** ISOPROPANOL, MIXTURE  
**ICAO Hazard Class :** 3  
**ICAO Packing Group :** II

## SECTION 15 - REGULATORY INFORMATION

**SARA:** This product does not contain any chemicals which are listed in the SARA Title III Extremely Hazardous Substances (EHS)

**Canada WHMIS:** Controlled - Class: B2 Flammable Liquid  
Controlled - Class: D2B Toxic

**Isopropyl Alcohol:**

TSCA Inventory Status: Listed  
Section 313: Listed  
New Jersey: Listed: NJ Hazardous List; Substance Number: 1076  
Massachusetts: Listed  
Pennsylvania: Listed  
Canada DSL: Listed  
Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.904(1050)

**Benzyl Alcohol:**

TSCA Inventory Status: Listed  
Massachusetts: Listed  
Pennsylvania: Listed  
Canada DSL: Listed  
Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.169(170)

GHS Pictograms:



**SECTION 16 - ADDITIONAL INFORMATION**

HMIS Health Hazard: 1  
HMIS Fire Hazard: 3  
HMIS Reactivity: 0  
HMIS Personal Protection: B  
MSDS Creation Date: July 23, 2008  
MSDS Revision Date: September 30, 2012  
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