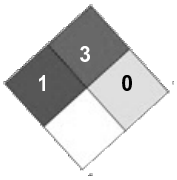
Personal Protective Equipment			WHMIS Pictograms		DOT Pictograms
					
Chemical Splash Goggles	Safety Glasses	Protective Gloves	Flammable	D2B Toxic	Flammable Liquid

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**104**
Product Code:	104
MSDS Manufacturer Number:	104
Product Use/Restriction:	Thinner, Diluent
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:	For emergencies in the US, call CHEMTREC: 800-424-9300 Outside of the U.S. and Canada: (703) 527-3887
Website:	msds@kester.com
MSDS Creation Date:	August 15, 2008
MSDS Revision Date:	June 19, 2011
MSDS Format:	

NFPA



HMIS

Health Hazard	**1**
Fire Hazard	**3**
Reactivity	**0**
Personal Protection	**x**

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
sec-Butanol	78-92-2	60 - 100 by weight	

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:	DANGER! Flammable. Potential Sensitizer Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Eye contact with product or vapors may result in irritation, redness, and blurred vision. . Smoke during soldering can cause eye irritation.
Skin:	May cause irritation. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.
Inhalation:	Inhalation of vapors, fumes or mists of the product may be irritating to the respiratory system. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.
Ingestion:	May be harmful if swallowed. May cause vomiting.
Chronic Health Effects:	Prolonged or repeated contact may cause skin irritation. Repeated or prolonged inhalation may cause toxic effects.
Signs/Symptoms:	Overexposure may cause headaches and dizziness.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	None generally recognized.

SECTION 4 - FIRST AID MEASURES

Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	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

Flash Point:	23 °C (73 °F)
Auto Ignition Temperature:	390.0 °C (734 °F)
Lower Flammable/Explosive Limit:	2.5 % by volume
Upper Flammable/Explosive Limit:	15.0 % by volume
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
Unsuitable Media:	Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
Hazardous Combustion Byproducts:	Oxides of carbon, oxides of nitrogen, aliphatic aldehydes, and other organic substances may be formed during combustion..

NFPA Ratings:

NFPA Health:	1
NFPA Flammability:	3
NFPA Reactivity:	0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Avoid breathing vapor, aerosol or mist. Avoid contact with skin, eyes and clothing.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	Contain spills with an inert absorbent material such as soil, sand or oil dry.
Methods for cleanup:	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

Handling:	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.
Storage:	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.
Special Handling Procedures:	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.
Hygiene Practices:	Wash thoroughly after handling. Avoid inhaling vapors, mists, or fumes.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	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.
Eye/Face Protection:	Tightly fitting safety goggles. Wear a face shield also when splash hazard exist.
Hand Protection Description:	Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.

	or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.



EXPOSURE GUIDELINES

sec-Butanol:

Guideline ACGIH:	TLV-TWA: 100 ppm
Guideline OSHA:	PEL-TWA: 150 ppm

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	Amber.
Odor:	Alcohol-like
Boiling Point:	100 °C (212 °F)
Melting Point:	Not determined.
Density:	0.806 g/cm³ @ 20°C (68°F)
Vapor Pressure:	40 hPa (30 mm Hg) @ 20°C (68°F)
Flash Point:	23 °C (73 °F)
Auto Ignition Temperature:	390.0 °C (734 °F)

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Keep away from heat, ignition sources and incompatible materials.
Incompatible Materials:	Oxidizing agents. Strong acids and alkalis.
Special Decomposition Products:	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

sec-Butanol:

RTECS Number:	EO1750000
Skin:	Administration onto the skin - Rat LD50: >2 gm/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)
Inhalation:	Inhalation - Rat LC50: 48500 mg/m3/4H [Details of toxic effects not reported other than lethal dose value] (RTECS)
Ingestion:	Oral - Rat LD50: 2193 mg/kg [Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Behavioral - Coma] Oral - Rat LD50: 6200 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

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:	Butanols, Mixture
DOT UN Number:	UN1120
DOT Hazard Class:	3
DOT Packing Group:	III
IATA Shipping Name:	Butanols, Mixture
IATA UN Number:	UN1120
IATA Hazard Class:	3
IATA Packing Group:	III
IMDG UN NUmber :	UN1120
IMDG Shipping Name :	Butanols, Mixture
IMDG Hazard Class :	3
IMDG Packing Group :	III
RID UN Number :	UN1120
RID Shipping Name :	Butanols, Mixture
RID Hazard Class :	3
RID Packing Group :	III

SECTION 15 - REGULATORY INFORMATION

Canada Reg. Status:	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.
Canada WHMIS:	Controlled - Class: B2 Flammable Liquid Controlled - Class: D2B Toxic

sec-Butanol :

TSCA Inventory Status:	Listed
Canada DSL:	Listed
GHS Pictograms:	

SECTION 16 - ADDITIONAL INFORMATION

General Use:	Thinner, Diluent
HMIS Health Hazard:	1
HMIS Fire Hazard:	3
HMIS Reactivity:	0
HMIS Personal Protection:	x
MSDS Creation Date:	August 15, 2008
MSDS Revision Date:	June 19, 2011
Disclaimer:	The information contained herein is based on data considered accurate and is offered solely for information, consideration and investigation. Kester extends no warranties, makes no representations and assumes no responsibilty as to the accuracy, completeness or suitability of this data for any purchaser's use. The data on this Material Safety Data Sheet relates only to this product and does not relate to use with any other material or in any process. All chemical products should be used only by, or under the direction of, technically qualified personnel who are aware of the hazards involved and the necessity for reasonable care in handling. Hazard communication regulations require that employees must be trained on how to use a Material Safety Data Sheet as a source for hazard information.