



## MATERIAL SAFETY DATA SHEET

### SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BUEHLER EPOTHIN RESIN  
 IDENTIFICATION NUMBER: 20-8140-032, 20-8140-128  
 PRODUCT USE/CLASS: Epoxy resin

SUPPLIER:  
 BUEHLER, a division of Illinois Tool Works Inc.  
 41 WAUKEGAN ROAD  
 LAKE BLUFF, IL 60044

EMERGENCY: 800-424-9300  
 INFORMATION: 847-295-6500  
 PREPARER: Technical Department, 847-295-6500  
 PREPARE DATE: 03/23/09, 23 March 2009

### SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%			
01	Bisphenol-A Epoxy resin	25068-38-6	60.0-100.0			
02	N-Butyl Glycidyl Ether	2426-08-6	10.0-30.0			
03	Acrylic ester	TRADE SECRET	1.0-5.0			
04	Diglycidyl ether	TRADE SECRET	1.0-5.0			
ITEM	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL – CEILING	COMPANY TLV-TWA	SKIN
01	N.E.	N.E.	N.E.	N.E.	N.E.	NO
02	25 ppm	N.E.	50 ppm	N.E.	5ppm-C NIOSH	NO
03	N.E.	N.E.	N.E.	N.E.	N.E.	NO
04	N.E.	N.E.	N.E.	N.E.	N.E.	NO

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

### SECTION 3 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Combustible. Harmful if swallowed. Causes skin irritation. May cause allergic skin reaction. Contact may cause eye injury.

ACUTE EFFECTS – EYE CONTACT: Severely irritating to the eyes.

ACUTE EFFECTS - SKIN CONTACT: Repeated or prolonged contact may cause sensitization. Irritating to skin. Contact may cause redness and dermatitis.

ACUTE EFFECTS – INHALATION: Vapors and/or aerosols formed at elevated temperatures can be irritating.

ACUTE EFFECTS - INGESTION: Irritating to mouth, throat and stomach, with nausea.

CHRONIC OVEREXPOSURE EFFECTS: \*Preexisting pulmonary and dermatological disorders may be aggravated by exposure to hazardous components. \*Butyl glycidyl ether is mutagenic "in-vitro." Mutagenicity tests in mice gave mixed results.

OTHER INFORMATION: No information.

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT, EYE CONTACT, INHALATION

### SECTION 4 – FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

SKIN CONTACT: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

INHALATION: If symptoms occur, remove to fresh air. Medical personnel may administer oxygen if breathing is difficult. Seek medical attention if symptoms persist.

INGESTION: Swallowing less than an ounce will not cause significant harm. For larger amounts, do not induce vomiting, but give one or two glasses of water to drink and get medical attention.

NOTES TO PHYSICIAN: Treat symptomatically.

### SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT: 165 F (PENSKY-MARTENS C.C.)

LOWER EXPLOSIVE LIMIT: N.A.

UPPER EXPLOSIVE LIMIT: N.A.

AUTOIGNITION TEMPERATURE: No data

EXTINGUISHING MEDIA: CO<sub>2</sub>, FOAM, DRY CHEMICAL, WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may rupture or explode (due to pressure build-up) when exposed to extreme heat. Irritating and/or toxic gases or fumes may be generated by thermal decomposition or combustion.

SPECIAL FIREFIGHTING PROCEDURES: Use NIOSH-approved self-contained breathing apparatus and full protective clothing. Use water to cool exposed containers. Water stream directed into fire may cause frothing with subsequent spread of flame.

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Reclaim clean material. Wear appropriate protective equipment during cleanup. Absorb with inert material, such as clay. Sweep or shovel into loosely-covered waste container and remove to appropriate waste area. Dispose of in accordance with federal, state, and local regulations.

## SECTION 7 – HANDLING AND STORAGE

**HANDLING:** Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid contact with eyes, skin, and clothing. **FOR INDUSTRIAL USE ONLY.**

**STORAGE:** Store full and empty containers in a cool dry place away from heat, flames and sparks. Keep container closed when not in use.

## SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Local exhaust as needed to control vapor or dust levels to below lowest component TLV.

**RESPIRATORY PROTECTION:** If TLV/PEL is exceeded, if use is performed in a poorly-ventilated space, or if inhalation effects occur, use NIOSH-approved vapor cartridge respirator in accordance with applicable health and safety regulations and manufacturer's recommendations.

**SKIN PROTECTION:** Butyl rubber gloves. Nitrile gloves. Supported PVA gloves.

**EYE PROTECTION:** Chemical splash goggles.

**OTHER PROTECTIVE EQUIPMENT:** Accessible eye wash and safety shower.

**HYGIENIC PRACTICES:** Follow good general industrial safety practices during use. Do not smoke or eat during use. **DO NOT** reuse empty containers without commercial clean or recondition

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

<b>BOILING RANGE:</b>	327 - 500 F	<b>VAPOR DENSITY:</b>	Is heavier than air
<b>ODOR:</b>	Sweet	<b>ODOR THRESHOLD:</b>	No data
<b>APPEARANCE:</b>	Clear thin yellow	<b>EVAPORATION RATE:</b>	Is slower than Butyl Acetate
<b>SOLUBILITY IN H<sub>2</sub>O:</b>	Negligible		
<b>FREEZE POINT:</b>	No data	<b>SPECIFIC GRAVITY:</b>	1.1299
<b>VAPOR PRESSURE:</b>	<0.1 mm@20 degC	<b>pH @ 0.0%:</b>	N.A.
<b>PHYSICAL STATE:</b>	Liquid	<b>VISCOSITY:</b>	Low
<b>COEFFICIENT OF WATER/OIL DISTRIBUTION:</b>	No data		

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

## SECTION 10 – STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** Prolonged exposure to heat.

**INCOMPATIBILITY:** Strong Lewis or mineral acids. Strong bases or oxidants. Reaction with amines and mercaptans in large amounts or under uncontrolled conditions releases considerable heat and may release acrid fumes. Inert gases. Free radical initiators. Oxygen scavengers.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon. Aldehydes and acids from incomplete combustion. Phenolic compounds.

**HAZARDOUS POLYMERIZATION:** Will not occur under normal conditions.

**STABILITY:** This product is stable under normal storage conditions.

## SECTION 11 – TOXICOLOGICAL PROPERTIES

### COMPONENT TOXICOLOGICAL INFORMATION:

----- CHEMICAL NAME -----

----- LD50 -----

----- LC50 -----

Bisphenol-A Epoxy resin

Oral-rat=>11 g/kg

No deaths/satd air

N-Butyl Glycidyl Ether

Oral-rat=1660mg/kg

Inh-rat=1030ppm/8H

Acrylate ester

No information

No information

Diglycidyl ether

No information

No information

## SECTION 12 – ECOLOGICAL INFORMATION

ECOLOGICAL TEST DATA: No information.

## SECTION 13 – DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Review all current federal, state, and local regulations regarding health and disposal for appropriate disposal procedures. FOR SMALL AMOUNTS: If both resin and hardener are available, mix and cure in accordance with product directions. When cured, product is non-hazardous, and may be placed in industrial or municipal landfill if local regulations permit. Product disposed of in "as sold" condition is not considered a hazardous waste under Federal RCRA regulations. Landfill of free liquid NOT recommended. Fuels blending or incineration preferred for free liquid if regulations permit.

## SECTION 14 – TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Not regulated in containers < 110 gal

DOT TECHNICAL NAME: N.A.

DOT HAZARD CLASS: N.A.

HAZARD SUBCLASS: N.A.

DOT UN/NA CLASS: N.A.

PACKAGING GROUP: N.A.

RESP. GUIDE PAGE:

INTERNATIONAL SHIPPING NAME: Not regulated as a dangerous good for transport

INTERNATIONAL ID NUMBER: N.A.

IMDG CLASS (1°, 2°): N.A.

IMDG PAGE NUMBER: N.A.

IMDG EMS: N.A.

IATA CLASS (1°, 2°): N.A

## SECTION 15 – REGULATORY INFORMATION

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

CERCLA – SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED, AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES: IMMEDIATE HEALTH HAZARD  
CHRONIC HEALTH HAZARD

SARA SECTION 313: THIS PRODUCT CONTAINS THE FOLLOWING SUBSTANCES SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 AND 40 CFR PART 372:

----- CHEMICAL NAME ----- CAS NUMBER WT/WT % IS LESS THAN

No SARA Section 313 components exist in this product.

TOXIC SUBSTANCE CONTROL ACT: THE CHEMICAL SUBSTANCES IN THIS PRODUCT ARE ON THE TSCA SECTION 8 INVENTORY. THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL SUBSTANCES SUBJECT TO THE REPORTING REQUIREMENTS OF TSCA 12(B) IF EXPORTED FROM THE UNITED STATES: none

NEW JERSEY RIGHT-TO-KNOW: THE FOLLOWING MATERIALS ARE NON-HAZARDOUS, BUT ARE AMONG THE TOP 5 COMPONENTS IN THIS PRODUCT:

----- CHEMICAL NAME ----- CAS NUMBER

No non-hazardous materials are among the top five ingredients.

PENNSYLVANIA RIGHT-TO-KNOW: THE FOLLOWING NON-HAZARDOUS INGREDIENTS ARE PRESENT IN THE PRODUCT AT GREATER THAN 3%:

----- CHEMICAL NAME ----- CAS NUMBER

No non-hazardous ingredients are present at greater than 3%.

CALIFORNIA PROPOSTION 65: No Proposition 65 chemicals known to exist in this product.

CANADIAN WHMIS: THIS MSDS HAS BEEN PREPARED IN COMPLIANCE WITH CONTROLLED PRODUCT REGULATIONS EXCEPT FOR USE OF THE 16 HEADINGS.

CANADIAN WHMIS CLASS: D2B, B3

COMPONENT RCRA CLASSIFICATIONS: NONE

COMPONENT RCRA CODES: N.A.

CERCLA RQ VALUE (MINIMUM): N.A.

## SECTION 16 – OTHER INFORMATION

### HMIS RATINGS

HEALTH: 2

FLAMMABILITY: 2

REACTIVITY: 0

PREVIOUS MSDS REVISION DATE: 1/24/08; 24 Jan 08

REASON FOR REVISION: Administrative change for new format.

VOLATILE ORGANIC COMPOUNDS: 0 grams/ltr

### LEGEND:

N.A. – NO INFORMATION

N.E. – NOT ESTABLISHED

N.D. – NOT DETERMINED

ABBREVIATIONS: ACGIH = AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS; OSHA = OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION; TLV-TWA = THRESHOLD LIMIT VALUE – TIME WEIGHTED AVERAGE (8 HOURS); STEL = SHORT-TERM EXPOSURE LIMIT (15 MINUTES); C = CEILING VALUE; PEL = PERMISSIBLE EXPOSURE LIMIT

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