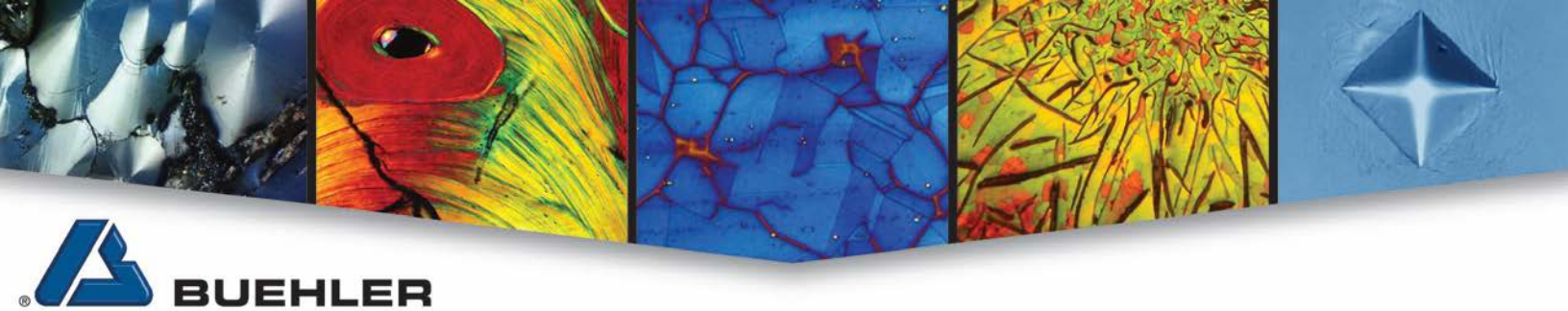

BUEHLER
An ITW Company

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: 6/08/2012, 08 June 2012

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%
01	Epoxy resin	25068-38-6	50 - 100
02	N-butyl glycidyl ether	2426-08-6	10 - 20
03	Trimethylolpropane triacrylate	15625-89-5	1 – 5
04	Neopentyl Glycol Diglycidyl	17557-23-2	1 - 5

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

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	3 ppm	N.E.	25 ppm	N.E.	N.E.	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: Causes skin and eye irritation. At elevated temperatures, vapors are irritating to the eyes and respiratory tract. May cause allergic skin reaction. Potential respiratory sensitizer.

ACUTE EFFECTS – EYE CONTACT: Severely irritating to the eyes. If not removed promptly, will injure eye tissue, which may result in permanent damage..

ACUTE EFFECTS - SKIN CONTACT: Contact causes skin irritation with redness, swelling and scaling. Strong skin sensitizer.

ACUTE EFFECTS – INHALATION: Vapors from heated material can be irritating. Prolonged overexposure may be harmful.

ACUTE EFFECTS - INGESTION: Harmful if ingested. May be fatal if aspirated into lungs. Irritating to mouth, throat and stomach with nausea and abdominal pain.

CHRONIC OVEREXPOSURE EFFECTS: *n-butyl Glycidyl Ether has been found to be mutagenic in “in-vitro” assays. Mutagenicity tests in mice did not support genotoxic categorization at non-lethal doses.

OTHER INFORMATION: No Information

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

SECTION 4 – FIRST AID MEASURES

EYE CONTACT: Flush eye with water for 15 minutes. Get medical attention.

SKIN CONTACT: For hot product, immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention. FOR contact with ambient temperature material: 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: If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

NOTES TO PHYSICIAN: Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT: No Data

LOWER EXPLOSIVE LIMIT: No Data

UPPER EXPLOSIVE LIMIT: No Data

AUTOIGNITION TEMPERATURE: No Data

EXTINGUISHING MEDIA: ALCOHOL FOAM, CO2, DRY CHEMICAL, FOAM, 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:

PERSONAL PRECAUTIONS: SMALL SPILL – If product is hot, allow to cool before attempting cleanup. Wear gloves and goggles. See Section 8 for type. LARGE SPILL – If product is hot, allow to cool before cleanup. Wear gloves, boot covers, synthetic apron, and goggles. See Section 8 for type.

ENVIRONMENTAL PRECAUTIONS: Prevent entry into drains and/or waterways. Keep off of soil.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Mark area and keep unnecessary personal away from spill area. Reclaim clean material. 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. Wash spill area with detergent solution or wipe with alcohol-soaked rags. Dispose of all washings and contaminated items in accordance with waste regulations. Contact manufacturer for further instruction if needed.

SECTION 7 – HANDLING AND STORAGE

HANDLING: Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Contaminated leather articles should be disposed of. If product is heated, process with local ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. DO NOT reuse empty container without commercial clean or recondition. FOR INDUSTRIAL USE ONLY

STORAGE: Store indoors in a cool dry place under ambient conditions. 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 safe exposure limit.

RESPIRATORY PROTECTION: If TLV/PEL is exceeded, if use is performed in a poorly-ventilated space, or if inhalation effects occur, use 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. Thermal barrier if material is handled while hot.

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

BOILING RANGE:	No Data	VAPOR DENSITY:	Heavier than Air
ODOR:	Mild sweet	ODOR THRESHOLD:	No Data
APPEARANCE:	Clear pale yellow	EVAPORATION RATE:	Is slower than n-Butyl Acetate
SOLUBILITY IN H2O:	Insoluble		
FREEZE POINT:	No Data	SPECIFIC GRAVITY:	1.126
VAPOR PRESSURE:	No Data	pH @ 0.0%:	No Data
PHYSICAL STATE:	Thin liquid	VISCOSITY:	Low
COEFFICIENT OF WATER/OIL DISTRIBUTION:		No Data	

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

SECTION 10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Prolonged exposure to heat may cause solidification.

INCOMPATIBILITY: Strong bases or oxidants. Strong Lewis or mineral acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon.

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 ---------- TEST DATA ----------

Trimethylolpropane triacrylate..... No Information

N-butyl glycidyl ether..... Inhalation LC50 (rat)-8Hr > 670 ppm;

..... Dermal LD50 (rabbit) = 788 mg/mg

..... Oral LD50 (mouse) = 2.0 g/kg

Neopentyl Glycol Diglycidyl Et ..... No Information

Epoxy resin ..... Oral LD50 (rat) = 13.6 g/kg.

..... Inh LC50 (rat) = No deaths in saturated air (4 hrs)

ACUTE EFFECTS – EYE:

Severely irritating to the eyes. If not removed promptly, will injure eye tissue, which may result in permanent damage.

ACUTE EFFECTS – SKIN:

Contact causes skin irritation with redness, swelling and scaling. Strong skin sensitizer.

ACUTE EFFECTS – INHALATION:

Vapors from heated material can be irritating. Prolonged overexposure may be harmful.

ACUTE EFFECTS – INGESTION: Harmful if ingested. May be fatal if aspirated into lungs. Irritating to mouth, throat and stomach with nausea and abdominal pain.

CHRONIC HEALTH EFFECTS INFORMATION:

*n-butyl Glycidyl Ether has been found to be mutagenic in “in-vitro” assays. Mutagenicity tests in mice did not support genotoxic categorization at non-lethal doses.

SECTION 12 – ECOLOGICAL INFORMATION

COMPONENT ECOLOGICAL INFORMATION:

CHEMICAL NAME ---------- TEST DATA ----------

Trimethylolpropane triacrylate..... No Information

N-butyl glycidyl ether..... No Information

Neopentyl Glycol Diglycidyl Et ..... No Information

Epoxy resin ..... No Information

SUMMARY OF ECOLOGICAL INFORMATION:

BIOACCUMULATION POTENTIAL: No information indicating bioaccumulation

PERSISTENCE AND DEGRADABILITY: No information indicating persistence or degradability)

AQUATIC TOXICITY: H401 Toxic to aquatic life

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 for transport.	
DOT TECHNICAL NAME: N.A.	HAZARD SUBCLASS: N.A.
DOT HAZARD CLASS: N.A.	PACKAGING GROUP: N.A.
DOT UN/NA CLASS: N.A.	RESP. GUIDE PAGE:
INTERNATIONAL SHIPPING NAME: Not considered a dangerous good for transport	
INTERNATIONAL ID NUMBER: N.A.	
IMDG CLASS (1°, 2°): N.A.	PACKING GROUP: 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: Acute health hazard. Delayed health hazard. Fire

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

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

None

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 ---------

None

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

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

None

CALIFORNIA PROPOSTION 65: NONE

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: 1 REACTIVITY: 0

PREVIOUS MSDS REVISION DATE: 1/16/2012, 16 January 2012

REASON FOR REVISION: New Product. Revised sections: 2, 3, 5, 9, 10, 11, 12, 14 & 16

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

DISCLAIMER: TO THE BEST OF OUR KNOWLEDGE, THE INFORMATION CONTAINED IN THIS MSDS IS ACCURATE OR IS OBTAINED FROM SOURCES BELIEVED TO BE ACCURATE. HOWEVER, NO LIABILITY, EXPRESSED OR IMPLIED, IS ASSUMED FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION CONTAINED HEREIN. BUYER ASSUMES LIABILITY IN ITS USE OF THE MATERIAL.