



MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BUEHLER EPOHEAT HARDENER 20-8122

IDENTIFICATION NUMBER: 20-8122-016

PRODUCT USE/CLASS: Epoxy Hardener

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: 07/23/2012, 23 July 2012

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%			
01	4,4'-Methylene-bis-cyclohexanamine	1761-71-3	50 - 100			
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

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

SECTION 3 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: harmful if swallowed. Causes eye burns. Causes skin burns. Vapors irritating to eyes and respiratory tract. May cause allergic skin reaction.

ACUTE EFFECTS – EYE CONTACT: CORROSIVE to the eyes and may cause severe damage including blindness.

ACUTE EFFECTS - SKIN CONTACT: CORROSIVE. Contact may cause chemical burns and blistering. Repeated or prolonged contact may cause sensitization

ACUTE EFFECTS – INHALATION: Can cause severe respiratory irritation.

ACUTE EFFECTS - INGESTION: May cause irritation or burns of mouth, throat, and stomach, with nausea, abdominal pain, and possible collapse. Harmful if swallowed.

CHRONIC OVEREXPOSURE EFFECTS: *Preexisting pulmonary and dermatological disorders may be aggravated by exposure to hazardous components.

OTHER INFORMATION: *Preexisting pulmonary and dermatological conditions may be aggravated by exposure to hazardous components.

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

SECTION 4 – FIRST AID MEASURES

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

SKIN CONTACT: Immediately flush skin with plenty of water. Remove contaminated clothing. Get medical attention. Dispose of contaminated clothing and leather articles in accordance with regulations.

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: 100 (DEG C)

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:

Mark area and keep unnecessary personnel 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.

SMALL SPILL –Wear gloves and goggles. See Section 8 for type. Wipe up with rags or wipes. Dispose of in separate closed bags. LARGE SPILL- 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.

SECTION 7 – HANDLING AND STORAGE

HANDLING: Prevent contact with eyes, skin, and clothing. Contaminated clothing and 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: None normally required under general ventilation. If exposure levels are unknown, if levels exceed TLV/PEL, or if effects occur, use NIOSH-approved dust/mist 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: Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use.

OTHER PROTECTIVE EQUIPMENT: Clean clothing to cover skin. Eye wash and safety shower.

HYGIENIC PRACTICES: Follow good general industrial safety practices during use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE:	N.A.	VAPOR DENSITY:	Is heavier than air
ODOR:	Strong acrid ammoniacal	ODOR THRESHOLD:	No Data
APPEARANCE:	Clear	EVAPORATION RATE:	Is slower than Butyl Acetate
SOLUBILITY IN H ₂ O:	Appreciable		
FREEZE POINT:	No Data	SPECIFIC GRAVITY:	0.959
VAPOR PRESSURE:	No Data	pH @ 0.0%:	N.A.
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: Strong bases or oxidants. Strong Lewis or mineral acids.

INCOMPATIBILITY: Strong bases or oxidants. Strong Lewis or mineral acids. N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.

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

4,4'-Methylene-bis-cyclohexana----- Oral LD50 RAT = 635 mg/kg

Dermal LD50 RABBIT = 2110 mg/kg

SECTION 12 – ECOLOGICAL INFORMATION

COMPONENT ECOLOGICAL INFORMATION:

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

4,4'-Methylene-bis-cyclohexana----- LC50 96 h GOLDEN ORFE = 46-100 mg/l

EC50 (48 h) : 6.84 mg/l Species : Daphnia magna.

EC50 (72 h) : 140 - 200 mg/l Species : Algae.

SUMMARY OF ECOLOGICAL INFORMATION:

BIOACCUMULATION POTENTIAL: No information indicating bioaccumulation

PERSISTENCE AND DEGRADABILITY: No information indicating persistence or degradability

AQUATIC TOXICITY: H411 Toxic to aquatic life with long lasting effects

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, mix resin and hardener according to product directions and allow to harden. When cured, product is non-hazardous, and may be placed in industrial or municipal landfill if local regulations permit. Material "as sold" is not regulated as a hazardous waste under federal RCRA regulations. DO NOT landfill free liquid. Fuels blending or incineration of free liquid recommended if permitted.

SECTION 14 – TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Polyamines, Liquid, Corrosive, nos (4,4'-Methylenebiscyclohexanamine)

DOT TECHNICAL NAME: 4,4'-Methylenebiscyclohexanamine

DOT HAZARD CLASS: 8

HAZARD SUBCLASS: None

DOT UN/NA CLASS: UN2735

PACKAGING GROUP: II

RESP. GUIDE PAGE: 153

INTERNATIONAL SHIPPING NAME: Polyamines, Liquid, Corrosive, nos (4,4'-Methylenebiscyclohexanamine)

INTERNATIONAL ID NUMBER: UN2735

IMDG CLASS (1°, 2°): 8, none

IMDG PAGE NUMBER: II

IMDG EMS: 805

IATA CLASS (1°, 2°): 8, none

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

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:

CHEMICAL NAME -----CAS NUMBER

No components found

SECTION 15 – REGULATORY INFORMATION

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

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

CALIFORNIA PROPOSTION 65:

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

CANADIAN WHMIS CLASS: D2B-E

COMPONENT RCRA CLASSIFICATIONS: Not regulated

COMPONENT RCRA CODES: No information.

CERCLA RQ VALUE (MINIMUM): None known

SECTION 16 – OTHER INFORMATION

HMIS RATINGS

HEALTH: 3

FLAMMABILITY: 1

REACTIVITY: 0

PREVIOUS MSDS REVISION DATE: 3/23/2009, 03 march 2009

REASON FOR REVISION: Revised sections: 1, 9, 10, 11, 12

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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