



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BUEHLER EPOHEAT HARDENER 20-8122
 IDENTIFICATION NUMBER: 20-8122 -016, 20-8123
 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: 03/23/09, 23 March 2009

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%			
01	4,4'-Methylene-bis-cyclohexanamine	1761-71-3	60.0-100.0			
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

(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. Can cause eye burns and permanent tissue damage.

ACUTE EFFECTS - SKIN CONTACT: Prolonged contact may cause severe skin irritation and possible burns. May cause allergic skin reaction. CORROSIVE. Contact may cause chemical burns and blistering.

ACUTE EFFECTS – INHALATION: Harmful if inhaled. Liquid aspirated into lungs may cause serious injury or death. Can cause severe respiratory irritation.

ACUTE EFFECTS - INGESTION: Can burn mouth, throat and stomach, with nausea, severe pain, and vomiting.

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

OTHER INFORMATION: No information.

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

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 flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing separately before reuse.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

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. If swallowed, gastric lavage is indicated.

SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT: 234 F (PENSKY-MARTENS C.C.)

LOWER EXPLOSIVE LIMIT: N.A.

UPPER EXPLOSIVE LIMIT: N.A.

AUTOIGNITION TEMPERATURE: No Data

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

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 only in a well ventilated area. Avoid breathing dust, vapor, mist or gas. Avoid contact with skin and eyes. **FOR INDUSTRIAL USE ONLY.** Empty containers may retain product residue and can be dangerous. Observe all labeled precautions even after container is emptied.

STORAGE: 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: None normally required under general ventilation. 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: Clean clothing to cover skin. Neoprene gloves. Nitrile gloves. Supported PVA gloves.

EYE PROTECTION: Chemical splash goggles. Face shield.

OTHER PROTECTIVE EQUIPMENT: Accessible 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:	Ammoniacal	ODOR THRESHOLD:	No data
APPEARANCE:	Clear	EVAPORATION RATE:	Is slower than Butyl Acetate
SOLUBILITY IN H₂O:	Est 1%		
FREEZE POINT:	No data	SPECIFIC GRAVITY:	0.9594
VAPOR PRESSURE:	<0.1mmHg@21degC	pH @ 0.0%:	N.A.
PHYSICAL STATE:	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. Exposure to moisture.

INCOMPATIBILITY: Reaction with epoxy resins and isocyanates in large amounts or under uncontrolled conditions releases considerable heat and may release acrid fumes.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon. Oxides of nitrogen, ammonia. Various hydrocarbons.

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 -----
4,4'-Methylene-bis-cyclohexanamine	Oral-rat=625mg/kg	No data

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. Product disposed of in "as sold" condition is not considered a hazardous waste per Federal RCRA regulations. When cured, product is non-hazardous, and may be placed in industrial or municipal landfill if local regulations permit. DO NOT landfill free liquid. Fuels blending recommended for free liquid if permitted.

SECTION 14 – TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Polyamines, Liquid, Corrosive, nos	
DOT TECHNICAL NAME: (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 (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.

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: D2A, 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: 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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