MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 3 Flammability = 1 Reactivity = 1
HMIS RATING: Health = 3 Flammability = 1 Reactivity = 1

SECTION I – IDENTITY AND MANUFACTURER'S INFORMATION (569N-129D)

Manufacturer's Name: HILLYARD INDUSTRIES
Address: 302 North Fourth Street
St. Joseph, MO 64501
Product Name: PRO 200 Crosslinker
Date Prepared: December 20, 2012 (new)
Prepared by: Regulatory Affairs Department
Emergency Telephone No.: (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)
Other information calls: (816) 233-1321 (Ext. 8285)

SECTION II – INGREDIENTS/IDENTITY INFORMATION

Components

(Specific Chemical Identity: Common Name(s))	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	%
Polyfunctional aziridine	64265-57-2	N/A	N/A	N/A	99.7%
2-dimethylaminoethanol	108-01-0	N/A	N/A	N/A	0.30%

N/A= Not Available N/E= Not Established

SECTION III – PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: No data
Specific Gravity (H_2O = 1): 25ºC = 1.07
***Density** = 8.91 lbs/gl
Vapor Pressure (mm Hg.): negligible
Percent Volatile by Volume (%): No data
Vapor Density (AIR = 1): >1
Evaporation Rate (ethyl ether = 1): slower than 1
Solubility in Water: complete
Appearance and Odor: Pale Yellow Liquid, mild amine odor

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash point: >212 ^{0}F (Seta Flash) **Flammable Limits:** LEL = N/A UEL = N/A
Extinguishing Media: Carbon dioxide, dry chemical, halogenated agents. Water may be used to cool closed containers to prevent pressure buildup.
Special Fire Fighting Procedures: Wear self-contained breathing apparatus with full facepiece and full protective clothing. If contact occurs with material or its solutions, immediately flush with water and remove contaminated clothing.
Unusual Fire and Explosion Hazards: Heat/impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries.

SECTION V – PHYSICAL HAZARDS

Stability: unstable **Conditions to Avoid:** Avoid elevated temperatures and pressures or may react with water or acids with some release of energy, but not violently.
Incompatibility (Materials to Avoid): Avoid contamination with acidic materials, heat, direct sunlight, ultraviolet radiation, strong oxidizing conditions and freezing conditions.
Hazardous Decomposition Products or Byproducts: Thermal decomposition may produce many various hydrocarbons and irritating, vapors.
Hazardous Polymerization: May occur if mixed with acidic materials **Conditions to Avoid:** Freezing temperatures <32ºC

SECTION VI – HEALTH HAZARD DATA

Routes of entry: Inhalation? Yes Skin? Yes Ingestion? no
HEALTH HAZARDS (1. Acute and 2. Chronic)
1.This product is an eye corrosive based on animal studies. This product is a moderate skin irritant based on animal studies. This product induced skin sensitization in an animal study. This product may induce skin sensitization in humans. The acute oral toxicity of this material is between 500 and 50000 mg./kg. Relative to other materials this material is classified as slightly toxic by ingestion. In humans, irritation of the mouth, pharynx, esophagus, and stomach can develop following ingestion of this material. Vapors and/or aerosols of this material will probably irritate mucous membranes, eyes, nose, and respiratory passages. This material may induce respiratory allergy/sensitization. Symptoms include: cough, tightness in chest, and/or asthmatic wheezing. 2. None known to manufacturer on reacted product (after part A and B are mixed). Unreacted Part B should be treated as a potential carcinogen. Aziridine based crosslinkers caused mutations and chromosomal aberrations in several in vitro and in vivo genotoxicity studies. Based on these studies and animal carcinogenicity data on similar substances, this material should be treated as a potential carcinogen.
Chemical listed as Carcinogen or Potential Carcinogen:
National Toxicology Program = No **I.A.R.C. Monographs =** No **OSHA =** No
Signs and Symptoms of Exposure: Product is a skin irritant and eye corrosive. Skin sensitizer. Ingestion will cause gastrointestinal irritation. It is a respiratory sensitizer and irritant. Symptoms are cough, tightness in chest, and/or asthmatic wheezing.
Medical Conditions Generally Aggravated by Exposure: Medical personnel should evaluate persons with chronic pulmonary disease before those workers handle this product.

SECTION VI – HEALTH HAZARD DATA cont.

Emergency and First Aid Procedures: Eyes: Immediately flush the eyes with large quantities of running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids with water. Do not attempt to neutralize with chemical agents. Obtain medical attention as soon as possible. Oils or ointments should not be used at this time. Continue the flushing for an additional 15 minutes if a physician is not immediately available. **Skin:** Wash off skin with plenty of soap and water. If redness, itching or burning sensation develops, get medical attention. Wash contaminated clothing and decontaminate footwear before reuse. **Inhalation:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Consult medical personnel. If breathing is labored, give oxygen. **Ingestion**: DO NOT INDUCE VOMITING. Give one or two glasses of water to drink and refer to medical personnel or take direction from either a physician or poison control center. Never give anything by mouth to an unconscious person.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Wear skin, eye, and respiratory protection during cleanup. Contain spill. Soak up material with absorbent and shovel into a chemical waste container. Decontaminate with 1% acetic acid solution or one part white vinegar to four parts water. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.

Waste Disposal Method: Spills should be picked up with wet vac or absorbent material. Dispose of liquid per federal, state and local regulations. Waste from normal product use may be sewered to a public-owned treatment works (POTW) in compliance with applicable federal, state and local requirements. This product does not contain any chemicals subject to the reporting requirements of SARA Section 313. Discarded product is not a hazardous waste under EPA RCRA, but may be regulated by other jurisdictions.

Precautions To Be Taken In Handling And Storing: Freezing of product may rupture container. Product shelf life is best retained by storage at 45-100°F temperatures. Protect from freezing. Untreated material should not be released to the environment. Container disposal: Empty container retains potentially hazardous residue. Observe all hazard precautions. May contain corrosive material. Do not distribute, make available, furnish or reuse empty container except for storage and shipment of original product. Remove all product residue from container and puncture or otherwise destroy empty container before disposal.

Other Precautions: Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. USE ONLY WITH ADEQUATE VENTILATION. Do not breathe vapors or spray mist. **Ensure fresh air entry during application and drying.** If you experience eye watering, headache, or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application. Follow respirator manufacturer's directions for respirator use. Close container after each use. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Do not take internally. A sensitized individual should not be exposed to the product which caused the sensitization. Keep container tightly sealed. Store in a cool, well ventilated area away from heat, sources of ignition, direct sunlight, and acidic materials, anhydrides and strong oxidizers. Avoid contamination with acidic materials, heat, direct sunlight, ultraviolet radiation, strong oxidizing conditions and freezing conditions.

SECTION VIII – CONTROL MEASURES

Respiratory Protection (Specify Type): Good general ventilation should be sufficient to control airborne levels of irritating vapors. Spray application is not recommended by Hillyard. Engineering measures: while Part B has a very low vapor pressure, precluding significant inhalation exposure under normal conditions, uses which may generate aerosol mist , such as spray application, need to be well controlled to prevent significant inhalation exposure, which presents serious health risks such as respiratory sensitization. Where aerosol mist may be generated, the operation should be enclosed as much as possible, with extraction ventilation provided at any required openings. A properly engineered spray booth, equipped with downdraft or lateral flow ventilation, is a possible engineering control measure. Air exhausted from the enclosure should be filtered and discharged to a safe location, preferably outdoors.

Ventilation:

Local Exhaust = N/A **Mechanical (General) =** Adequate ventilation required **Special =** N/A **Other =** N/A

Protective Gloves: Rubber, nitrile or neoprene gloves to prevent skin contact. **Eye Protection:** Wear chemical tight goggles and full faceshield where splashing is a concern.

Other Protective Clothing or Equipment: Eyewash station and safety shower in work area. Use gloves, arm covers, and apron that has been determined to be impervious und the conditions of use.

Work / Hygienic Practices: Wash hands before eating or using washroom.

SECTION IX – TRANSPORTATION INFORMATION

Applicable regulations: 49 CFR = no; **IMCO =** no; **IATA =** no

Proper shipping name: Not DOT regulated **UN No.:** not applicable; **Limited Qty.:** not applicable; **Hazard Class:** not applicable

Labels required: not required **DOT Exception:** not applicable **EPA Hazardous waste number / code:** not listed

Hazardous waste characteristics:

Ignitability = not applicable; **Corrosivity =** not applicable; **Reactivity =** not applicable

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