



VISURON
TECHNOLOGIES, INC.

MATERIAL SAFETY DATA SHEET

Date Issued: 01/08/2013

MSDS: PolyArmor 2000-80B

1. PRODUCT AND COMPANY IDENTIFICATION

Visuron Technologies, Inc.
900 McFarland 400 Boulevard
Alpharetta, GA 30004
770-815-4548

PRODUCT DESCRIPTION: Aromatic Polyurea

PRODUCT CODE: PolyArmor 2000-80 Part-B Resin

GENERIC NAME: Amine

24 Hour emergency response CHEMTREC 800-424-9300

2. HAZARDS IDENTIFICATION

PHYSICAL APPEARANCE: Amber liquid.

IMMEDIATE CONCERNS: CAUTION: Corrosive to eyes, skin, and respiratory system. Severe irritant to eyes and skin. May cause sensitization to the respiratory system. May cause sensitization to the skin. Components of the product may have effect on the nervous system.

POTENTIAL HEALTH EFFECTS

EYES: This product and its vapors may cause eye irritation, burns, or even blindness.

SKIN: Causes skin burns, irritation and possible allergic reaction.

INGESTION: Severe burns of the mouth and throat are possible if ingested, as well as a danger of perforation of the digestive tract.

INHALATION: Vapors may be irritating to the upper respiratory tract (including the nasal area) and eyes. Can cause severe eye, skin, and respiratory tract burns. May cause nose, throat, and lung irritation. Prolonged or repeated exposure to high concentrations may be harmful and cause adverse effects including labored breathing.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

INHALATION: Repeated and/or prolonged exposure to low concentrations of vapors may cause a "Sore Throat".

ACUTE TOXICITY: Sensitization, irritation and dermatitis.

CHRONIC EFFECTS: This product contains no listed carcinogens according to IARC, ACGIH, NTP, and/or OSHA in concentrations of 0.1 percent or greater (unless identified under section 15 of this MSDS). Repeated or prolonged contact causes sensitization, asthma, and eczema. Prolonged contact may result in chemical burns and permanent damage.

MEDICAL CONDITIONS AGGRAVATED: Eye disease, Skin disorders and Allergies. Adverse skin effects (such as rash, irritation or burns). Adverse eye effects (such as conjunctivitis or corneal damage). Asthma. Adverse respiratory effects (such as cough, tightness of chest or shortness of breath).

TARGET ORGAN STATEMENT: Eyes, Respiratory System, and Skin.

SENSITIZATION: Possible sensitizer skin contact

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Alpha-(2-aminomethylethyl) omega- (2-aminomethylethoxy)-poly(oxy(methyl-1,2 -ethanediyl))	70-80	9046-10-0	N/A
Diethylmethylbenzenediamine	5-20	68479-98-1	270-877-4
Ethanol, 2,2'-oxybis-	1-10	111-46-6	203-872-2

COMMENTS: Criteria for listing components in this MSDS are as follows: Carcinogens are listed at 0.1% or greater; hazardous components according to OSHA 29 CFR 1910.1200 are listed at 1.0% or greater; non-hazardous components are not listed. This is not intended to be the complete compositional disclosure. Refer to section 15 for other regulatory information.

4. FIRST AID MEASURES

EYES: Immediately flush with plenty of water for two minutes. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Have eyes examined and tested by medical personnel.

SKIN: Remove contaminated clothing and immediately wash affected skin area with plenty of soap and water. Seek medical attention. Either discard or wash contaminated clothing and shoes before reuse.

INGESTION: Make sure victim is conscious and alert. If so, give 2-3 glasses of water to dilute. **DO NOT INDUCE VOMITING.** Never give anything by mouth to an unconscious person. Immediate medical attention is required. Do not leave victim unattended as spontaneous vomiting may occur. Lay victim on side with head lower than waist to prevent aspiration of swallowed product. If victim is conscious and vomiting occurs, give water to further dilute the chemical.

INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Seek medical attention if cough or other symptoms develop.

ADDITIONAL INFORMATION: Seek medical advice and/or treatment. If breathing is irregular or stopped, administer artificial respiration and call 911.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: 200°F Pensky-Martens CC

FLAMMABLE CLASS: Not Applicable

GENERAL HAZARD: Evacuate personnel upwind of a fire to avoid inhalation of irritating and/or harmful fumes and smoke.

EXTINGUISHING MEDIA: Dry Chemical, Foam or Carbon Dioxide. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop spill or leak and to disperse vapors.

FIRE FIGHTING PROCEDURES: As in any fire, wear self-contained breathing apparatus pressure-demand, (AS/NZS 1715 and AS/NZS 1716 approved or equivalent) and full protective gear. Toxic vapors may evolve. Fight fires from a safe distance or protected areas. Use of large volumes of water may produce run-off that could be toxic to wildlife and/or pose a hazardous waste disposal issue. Water may not be effective for large fires.

FIRE FIGHTING EQUIPMENT: Fire fighting personnel are required to use respiratory and eye protection. Full fire protective equipment (Bunker Gear) and self contained breathing apparatus (SCBA) is recommended to be used for all indoor fires and any significant outdoor fires. SCBA may not be required for small outdoor fires that may easily be extinguished with a portable fire extinguisher.

HAZARDOUS DECOMPOSITION PRODUCTS: Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel absorbed material into closed containers for disposal. After all visible traces, including ignitable vapors, have been removed thoroughly wash the contaminated area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Wear the appropriate personal protective equipment designated in Section 8, remove the leaking container to a containment area and place into an appropriate container to prevent any further spill.

LARGE SPILL: Construct temporary dikes of dirt or sand to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel adsorbed material into closed containers for disposal. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Wear the appropriate personal protective equipment designated in Section 8, close or cap leaking valves and/or block or plug hole in leaking container. Remove the leaking containers to a containment area and place into an appropriate container to prevent any further spill.

Contain material as described above and call the local fire, police or appropriate emergency response provider for immediate emergency assistance.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of material into sources of water.

GENERAL PROCEDURES: Absorb spill with an emergency spill kit, diatomaceous earth, saw dust or equivalent inert material. Shovel up and dispose of at an appropriate waste disposal facility following applicable laws and regulations.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Store product in original containers. Store container in a secure cool, dry, well-ventilated area.

HANDLING: Use with sufficient ventilation to keep employee exposure below recommended limits. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Avoid breathing in vapors, mists, and aerosols. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

STORAGE: Store and warehouse product in an appropriate area or facility. Segregate like materials together to avoid negative chemical reactions. Protect materials from excessive exposure to heat. Observe proper storage conditions and temperatures.

STORAGE TEMPERATURE: (50°F) Minimum to (75°F) Maximum

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINE

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

EXPOSURE LIMITS

Chemical Name

OSHA PEL / ACGIH TLV / Supplier OEL

Alpha-(2-aminomethylethyl)omega-TWA
(2-aminomethylethoxy)-
poly(oxy(methyl-1,2 -ethanediyl)) **STEL**

Ppm	Mg/m3	Ppm	Mg/m3	Ppm	Mg/m3
[1]	[1]	[1]	[1]	[1]	[1]
[1]	[1]	[1]	[1]	[1]	[1]

OSHA TABLE COMMENTS:

1. Not Established

ENGINEERING CONTROLS: Proper industrial hygiene practices are required for workers and should be achieved through engineering controls including ventilation with a high turnover rate whenever feasible. When such controls are not available or not feasible to achieve full protection, respirators for workers (and others in the area) and other personal protective equipment is mandated. Exhaust air may need to be scrubbed (cleaned) or filtered to reduce environmental contamination and odors.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety goggles or safety glasses with side shields when handling and mixing this material.

SKIN: Wear impervious compatible chemical resistant protective clothing such as neoprene or butyl rubber gloves, aprons, boots or Tyvek coveralls, as appropriate to prevent contact with skin.

RESPIRATORY: For respirator selection and training, seek professional advice. Whenever workplace conditions require a use of a respirator, follow a respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements. Wear an OSHA/NIOSH approved respirator selected on its suitability to provide adequate worker protection for the chemicals used and given working conditions including the level of airborne contamination and presence of sufficient oxygen.

WORK HYGIENIC PRACTICES: Always follow "Good personal hygiene practices" when working with this material.

COMMENTS: Always practice "good personal hygiene" during and after use of this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. DO NOT eat, drink, or smoke in work areas that contain hazardous chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Ammonia Smell

COLOR: Amber

pH: Alkaline

VAPOR PRESSURE: < 1 mbar

BOILING POINT: > 250°C

FLASHPOINT AND METHOD: 200°F Pensky-Martens CC

SOLUBILITY IN WATER: Slightly

SPECIFIC GRAVITY: 1.014 g/cm³ at 25°C (74°F)

(VOC): < 0.001 g/l Estimated

Notes: VOC listed on the MSDS is for this component only. Mixed VOC for the combined product may have a different value. Consult the manufacturer or product data sheet for final mixed product VOC value.

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

STABILITY: This material (product) is stable under normal ambient conditions of temperature and pressure. Follow recommendations for proper storage and use.

HAZARDOUS DECOMPOSITION PRODUCTS: Nitric Acid, Ammonia, Nitrogen oxides, Nitrogen oxide can react with water vapors to form corrosive nitric acid, Carbon monoxide, Carbon dioxide, Aldehydes.

INCOMPATIBLE MATERIALS: Reactive metals (e.g. sodium, calcium, zinc, etc.), Materials reactive with hydroxyl compounds, Organic acids (e.g. acetic acid, citric acid, etc.), Mineral acids, Sodium hypochlorite, Oxidizing agents, Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion, Product slowly corrodes copper, aluminum and zinc.

11. TOXICOLOGICAL INFORMATION

ACUTE

Chemical Name	ORAL LD50 (rat)	Dermal LD50 (rabbit)
Alpha-(2-aminomethylethyl) omega- (2-aminomethylethoxy)-poly(oxy(methyl-1,2 -ethanediyl))	480 mg/ kg	2090 mg/ kg

DERMAL LD50: > 5000 mg/kg (rat)

EYE EFFECTS: Moderately Irritating

SKIN EFFECTS: Possible sensitizer to the skin. Corrosive to skin.

CARCINOGENICITY

IARC: Not Listed by IARC.

NTP: Not listed by NTP.

OSHA: Not listed by OSHA.

MUTAGENICITY: Product is a blend of material that has been shown to be Ames Negative (non mutogenic)

GENERAL COMMENTS: This product does not contain substances considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

COMMENTS: The chemical, physical, and toxicological properties have not been thoroughly investigated or tested to the best of our knowledge.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No environmental data has been established or is available for this product.

GENERAL COMMENTS: Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: See the manufacturers instructions to mix together with the proper components of multi-component materials, and allow to harden. Dispose solids at an appropriate waste disposal facility according to current applicable laws and regulations.

COMMENTS: Refer to Section 6. Accidental Release Measures for additional information.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Paint

PRIMARY HAZARD CLASS/DIVISION: 8

UN/NA NUMBER: 3066

PACKING GROUP: III

NAERG: 153

LABEL: Corrosive

OTHER SHIPPING INFORMATION: Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail. This material is hazardous according to criteria of NOHSC.

AIR (ICAO/IATA)

SHIPPING NAME: Paint

UN/NA NUMBER: 3066

PRIMARY HAZARD CLASS/DIVISION: 8

PACKING GROUP: III

LABEL: Corrosive

VESSEL (IMO/IMDG)

SHIPPING NAME: Paint

UN/NA NUMBER: 3066

PRIMARY HAZARD CLASS/DIVISION: 8

PACKING GROUP: III

LABEL: Corrosive

CANADA TRANSPORT OF DANGEROUS GOODS

SHIPPING NAME: Paint

UN/NA NUMBER: 3066

PRIMARY HAZARD CLASS/DIVISION: 8

PACKING GROUP: III

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No

ACUTE: Yes **CHRONIC:** Yes

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Ethanol, 2,2'-oxybis-	111-46-6

TSCA STATUS: All ingredients in this mixture are listed with the TSCA Chemical Substance Inventory.

CANADA

WHMIS HAZARD SYMBOL AND CLASSIFICATION

Toxic

DOMESTIC SUBSTANCE LIST (INVENTORY): The components in this product are listed or exempt from the Canadian Domestic Substance List (DSL).

INTERNATIONAL REGULATIONS: EINECS Inventory Status: The components in this product are listed on or exempt from the European Inventory of Existing Chemical Substances (EINECS) or the European List of Notified Chemical Substance (ELINCS).

Australian Inventory Status: The components in this product are listed on or exempt from the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Revision Summary: New MSDS

HMIS RATING

HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	G

MANUFACTURER DISCLAIMER: This MSDS to the best of our knowledge conforms to the requirements of OSHA 29 CFR 1910.1200, 91/155/EEC and summarizes the health and safety hazard information and general guidance on how to safely handle the material at the date of issue. Each user must review the MSDS in the context of how the product will be handled and used in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Responsibility for the product sold is subject to our standard terms and conditions, a copy of which is available upon request. This company warrants only that its products meet the specifications stated in the sales contract. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications. While all the information presented in this document is believed to be reliable and to represent the best available data on these products, **NO GUARANTEE, WARRANTY, OR REPRESENTATION IS MADE, INTENDED, OR IMPLIED AS TO THE CORRECTNESS, OR SUFFICIENCY OF ANY INFORMATION, OR AS TO THE MERCHANTABILITY OR SUITABILITY OR FITNESS OF ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS FOR ANY PARTICULAR USE OR PURPOSE, OR THAT ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS OR THE USE THEREOF ARE NOT SUBJECT TO A CLAIM BY A THIRD PARTY FOR INFRINGEMENT OF ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT.** Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. Liability by this company for all claims, whether arising out of breach of warranty, negligence, strict liability, or otherwise, is limited to the purchase price of the material. Products may be toxic and require special precautions in handling. For all products listed, the user should obtain detailed information on toxicity, together with the proper shipping, handling and storage procedures, and comply with all applicable safety and environmental standards. Toxicity and risk characteristics of chemical compounds and other products may differ when used with other materials or in a manufacturing or other process. Those risk characteristics should be determined by the user and made known to handlers, processors, and end users.