

SAFETY DATA SHEET

Industrial / Professional Use Only



THE HANSON GROUP, LLC
GOOD PEOPLE, GREAT SCIENCE

Date Prepared : 03/14/2018

MSDS No : PA200080A

1. PRODUCT AND COMPANY IDENTIFICATION**RECOMMENDED USE:** Isocyanate-terminated Prepolymer**PRODUCT CODE:** PolyArmor 2000-80 Part A**MANUFACTURER**

The Hanson Group, LLC

3044 Adriatic Court

Peachtree Corners, GA 30071

Emergency Contact: 8:00AM - 5:00PM EST**Emergency Phone:** 770-495-9554**E-Mail/Website:** sales@hansonco.net / www.hansonco.net**24 HR. EMERGENCY TELEPHONE NUMBERS****CHEMTREC (US Transportation) :** (800) 424 - 9300**CHEMTREC (Outside USA) :** (703) 527 - 3887

EMERGENCY TELEPHONE NUMBER: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the USA, Canada, or US Virgin Islands, call CHEMTREC at 1-800-424-9300, 24 hours a day. Or, outside these areas, call (703) 527-3887. Collect calls are accepted.

2. HAZARDS IDENTIFICATION**GHS CLASSIFICATIONS**

Acute Toxicity (Inhalation), Category 4

Target Organ Toxicity (Single exposure), Category 3

Target Organ Toxicity (Repeated exposure), Category 1

Respiratory Sensitization, Category 1

Skin Irritation, Category 2

Skin Sensitization, Category 2

Eye Irritation, Category 2

GHS LABEL**According to Regulation 2012 OSHA Hazard Communications Standard: 29 CFR Part 1910.1200**Exclamation
markHealth
hazard**SIGNAL WORD:** DANGER**HAZARD STATEMENTS**

H315: Causes skin irritation.

H372:: Causes damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

H320: Causes eye irritation.

H332: Harmful if inhaled.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317: May cause an allergic skin reaction.

H335: May cause respiratory irritation.

H372:: Causes damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

PRECAUTIONARY STATEMENTS

Prevention:

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

P264: Wash skin and face thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P285: In case of inadequate ventilation wear respiratory protection.

Response:

P314: Get medical advice/attention if you feel unwell.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P302+P350: IF ON SKIN: Gently wash with plenty of soap and water.

P342: If experiencing respiratory symptoms:.

P337+P313: If eye irritation persists: Get medical advice/attention.

P332+P313: If skin irritation occurs: Get medical advice/attention.

P363: Wash contaminated clothing before reuse.

Storage:

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

Disposal:

P501: Dispose of contents/container to ...

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Clear straw color liquid.

IMMEDIATE CONCERNS: CAUTION: Contains DIPHENYLMETHANE DIISOCYANATE (CAS no. 101-68-8). Inhalation of MDI mists or vapors may cause respiratory irritation, breathlessness, chest discomfort and reduced pulmonary function.

Overexposure well above the PEL may result in bronchitis, bronchial spasms and pulmonary edema. Long-term exposure to isocyanates has been reported to cause lung damage, including reduced lung function which may be permanent. Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic respiratory reactions including wheezing, shortness of breath and difficulty breathing.

POTENTIAL HEALTH EFFECTS

EYES: May cause significant irritation to the eyes.

SKIN: Allergic reaction and significant irritation to the skin is possible.

INGESTION: May cause significant irritation to the digestive tract.

INHALATION: Irritating to the nose, throat and respiratory tract.

MEDICAL CONDITIONS AGGRAVATED: Individuals who are sensitized to isocyanates and those with asthma, respiratory disorder, skin allergies, and eczema.

SENSITIZATION: Possible sensitizer by inhalation and skin contact.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS
Polyurethane Prepolymer	45 - 55	Trade Secret

Methylenediphenyl Diisocyanate	25 - 35	26447-40-5
Methylene Bisphenyl Isocyanate	15 - 25	101-68-8

COMMENTS: Criteria for listing components in this SDS are as follows: Carcinogens are listed at 0.1% or greater; hazardous components according to regulation 2012 OSHA Hazard Communication Standard: 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. If a "Trade Secret" "(TS)" is claimed in accordance to paragraph (i) of 1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

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.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

ACUTE EFFECTS: Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed. Gastrointestinal symptoms include nausea, vomiting and abdominal pain.

CHRONIC EFFECTS: Results from a lifetime study in rats indicate that MDI aerosol was carcinogenic at 6 mg/m³, the highest dose tested. This is well above the recommended TLV of 5 ppb (0.05 mg/m³). Only irritation was noted at the lower concentration of 0.2 and 1 mg/m³. No birth defects or teratogenic effects were reported in a teratology study with rats exposed to 1, 4, and 12 mg/m³ polymeric MDI or 6 hr/day on days 6-15 of gestation. Embryotoxicity and fetotoxicity was reported at the top dose in the presence of maternal toxicity.

As a result of the previous repeated overexposures or single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to later exposure to isocyanate at levels well below the PEL/TLV. These symptoms, which include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. This increased lung sensitivity can persist for weeks and in severe cases for several years.

5. FIRE FIGHTING MEASURES

FLAMMABLE CLASS: Not Applicable

EXTINGUISHING MEDIA: Dry Chemical, Foam, or Carbon Dioxide. Water is not recommended due to reaction.

FIRE FIGHTING PROCEDURES: Do not release runoff from fire control methods to sewers or waterways.

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: Oxides of Nitrogen, Oxides of Carbon.

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 at 55-85 deg. F. Opened containers should be blanketed with nitrogen gas at atmospheric pressure to avoid reaction with moisture. Contamination with moisture or "basic" compounds can cause dangerous pressure buildup in closed containers.

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: (55°F) Minimum to (85°F) Maximum

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)				
Chemical Name	EXPOSURE LIMITS			
	Type		ppm	mg/m ³
Methylene Bisphenyl Isocyanate	OSHA PEL	TWA	.02	.2
		STEL	.02	
	ACGIH TLV	TWA	.005	
		Supplier OEL	TWA	[1]
	STEL		[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 turn over 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 glasses with side shields (or goggles) and a face shield.

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 (29CFR 1910.134), MSHA (30 CFR Parts 56 & 57) and ANSI (Z88.2) requirements. Wear an OSHA/NIOSH approved respirator selected on its suitability to provide adequate worker protection for respirable particulates based on airborne workplace concentrations and duration of exposure arising from intended end use.

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 materials, 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: Faint aromatic odor.

ODOR THRESHOLD: No data available

COLOR: Clear to pale yellow

pH: No data available

FLASHPOINT AND METHOD: > (200°F) Pensky-Martens CC

FLAMMABLE LIMITS: No data available

VAPOR PRESSURE: < 0.001 mmHg at 25°C

VAPOR DENSITY: No data available

BOILING POINT: 208°C (406.4°F)

FREEZING POINT: < 0°C (32°F)

SOLUBILITY IN WATER: Insoluble in water, reacts with evolution of CO₂

EVAPORATION RATE: No data available

SPECIFIC GRAVITY: 1.12 g/cm³ at 25°C (77°F)

VISCOSITY: No data available

(VOC): 0 g/l

Notes: VOC listed on the SDS 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

HAZARDOUS POLYMERIZATION: May occur is material is in contact with moisture.

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

CONDITIONS TO AVOID: Avoid high temperatures, sources of ignition, and moisture.

INCOMPATIBLE MATERIALS: Water, strong bases, strong acids, strong oxidizing agents, alcohols, and amines.

11. TOXICOLOGICAL INFORMATION**ACUTE TOXICITY**

Chemical Name	ORAL LD ₅₀ (rat)	DERMAL LD ₅₀ (rabbit)	INHALATION LC ₅₀ (rat)
Methylene Bisphenyl Isocyanate	31600 mg/kg	> 5000 mg/kg	10 to 20 mg/l

DERMAL LD₅₀: > 9400 mg/kg (rabbit)

ORAL LD₅₀: > 2000 mg/kg (rabbit)

INHALATION LC₅₀: > .49 mg/l , 490, (4 HR rat)

SKIN CORROSION/IRRITATION: Slightly irritating

SERIOUS EYE DAMAGE/IRRITATION: Slightly Irritating

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

CARCINOGENICITY

IARC: Not Listed by IARC.

NTP: Not listed by NTP.

OSHA: Not listed by OSHA.

GENERAL COMMENTS: This product does contain substances considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens [Ethylbenzene (100-41-4)].

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: Other regulated substances, liquid, n.o.s. (contains Diphenylmethane Diisocyanate (MDI))

PRIMARY HAZARD CLASS/DIVISION: 9

UN/NA NUMBER: 3082

PACKING GROUP: III

REPORTABLE QUANTITY (RQ) UNDER CERCLA: 10549 kg

OTHER SHIPPING INFORMATION: When in individual containers of less than the Product RQ, this material ships as non-regulated.

AIR (ICAO/IATA)

SHIPPING NAME: Not Regulated

VESSEL (IMO/IMDG)

SHIPPING NAME: Not Regulated

CANADA TRANSPORT OF DANGEROUS GOODS

SHIPPING NAME: Not Regulated

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Miscellaneous

313 REPORTABLE INGREDIENTS: 101-68-8 Diisocyanates

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: 101-68-8 Diisocyanates

TSCA (TOXIC SUBSTANCE CONTROL ACT)

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

REGULATIONS

STATE REGULATIONS: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

Methylene bis(phenylisocyanate) (MDI) CAS# 101-68-8

New Jersey Environmental Hazardous Substances, New Jersey Workplace Hazardous Substances

Pennsylvania Environmental Hazardous Substances, Pennsylvania Hazardous Substances

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):



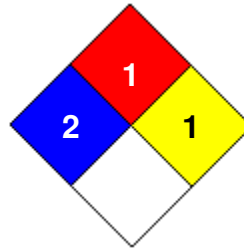
Poison

16. OTHER INFORMATION

Date Prepared: 03/14/2018

HMIS RATING

HEALTH	<input type="checkbox"/>	2
FLAMMABILITY	<input type="checkbox"/>	1
PHYSICAL HAZARD	<input type="checkbox"/>	1
PERSONAL PROTECTION	<input type="checkbox"/>	G

NFPA CODES

MANUFACTURER DISCLAIMER: This SDS to the best of our knowledge conforms to the requirements of 2012 OSHA Hazard Communication Standard 29 CFR 1910.1200, 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 SDS 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 GUARANTY, 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.