

SAFETY DATA SHEET

1.0 IDENTIFICATION

- 1.1 **GHS product identifier:** ARMOR-FLEX MEMBRANE, Part B Hardener
 1.2 **Other means of identification:** Flexible Epoxy Curing Agent
 1.3 **Recommended use of the chemical and restrictions on use:** N/A
 1.1 **Supplier's details:** VANBERG SPECIALIZED COATINGS
 PO BOX 19414
 LENEXA, KS 66285
 INFORMATION PHONE NUMBER: 800-874-0631
 1.2 **Emergency phone number:** 1-800-255-3924

2.0 HAZARDS IDENTIFICATION

- 2.1 **Classification of the substance or mixture:**
 Acute Toxicity – Dermal 4, Skin Corrosion/Irritant 1B, Eye Damage/Irritation 1, Acute Toxicity – Oral 4
 2.2 **GHS label elements:**



Signal Word: Warning

Hazard Statement: Harmful in contact with skin

Prevention: Wear protective gloves/protective clothing.

Response: If on skin: wash with plenty of soap and water. Call a poison center or doctor/physician if you feel unwell. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician if irritation persists. Wash contaminated clothing before reuse.

Disposal: Dispose of in accordance with federal, state, and local regulations.

Signal Word: Danger

Hazard Statement: Causes severe skin burns and eye damage

Prevention: Do not breathe dusts or mists. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician if irritation persists. Wash contaminated clothing before reuse. If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician. If in eye: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: Store locked up.

Disposal: Dispose of in accordance with federal, state, and local regulations.



Signal Word: Danger

Hazard Statement: Causes serious eye damage

Prevention: Wear eye protection/face protection.

Response: If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

Signal Word: Warning

Hazard Statement: Harmful if swallowed

Prevention: Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

Response: If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth.

Disposal: Dispose of in accordance with federal, state, and local regulations.



- 2.3 **Other hazards which do not result in classification:** N/A
 2.4 **Hazards Material Information System (United States):**

Health	3
Flammability	1
Physical Hazard	1

Hazard Codes: 0=Minimal Hazard, 1=Slight Hazard, 2=Moderate Hazard, 3=Serious Hazard, 4=Severe Hazard

3.0 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

Chemical Identity	CAS No.	Concentration
Polyoxypropylenediamine	9046-10-0	40-50%
Aminoethylpiperazine	000140-31-8	<5%
Nonylphenol	25154-52-3	10-20%
Triethanolamine	102-71-6	<5%

4.0 FIRST-AID MEASURES

4.1 Description of necessary first-aid measures:

Eye Contact: Remove contact lenses at once. Immediately flush eyes with large amounts of water or normal saline for at least 30 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Prompt medical attention is essential.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician if irritation persists. Wash clothing before reuse. Destroy contaminated shoes.

Inhalation: Remove to fresh air if effects occur. If not breathing, give artificial respiration. Get immediate medical attention.

Ingestion: Do not induce vomiting. If patient is conscious and can swallow, give two glasses of water (16 oz). Get immediate medical attention. Never give anything by mouth to an unconscious or convulsing person.

4.2 Most important symptoms/effects, acute and delayed:

Aggravated Medical Conditions: Skin contact may aggravate an existing dermatitis (skin condition). Over exposure to vapor, dust, or mist may aggravate existing respiratory conditions, such as asthma, bronchitis, and inflammatory or fibrotic respiratory disease.

Other health effects: This product contains one or more amines which may produce temporary and reversible hazy or blurred vision. Symptoms disappear when exposure is terminated. May cause liver injury based on animal studies.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Note to physician: May cause tissue destruction leading to stricture. If lavage is performed, suggest endotracheal and/or esophagoscopy control. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient. Contact a poison control center for additional treatment information.

5.0 FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media: Use water spray, dry chemical, foam, or carbon dioxide. Water or foam may cause frothing. Use water to cool fire-exposed containers. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for persons attempting to stop the leak.

5.2 Specific hazards arising from the chemical: Flash point is 210 °F. Toxic vapors (hydrogen cyanide) may be formed. Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide, carbon dioxide, and hydrocarbon fragments.

5.3 Special protective actions for fire-fighters: Use a positive pressure self-contained breathing apparatus.

6.0 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Ventilate the area. Avoid breathing vapor. Use self-contained breathing apparatus or supplied air for large spills or confined areas.

6.2 Methods and materials for containment and clean up: Contain spill if possible. Wipe up or absorb on suitable material and pick up with shovels. Do not use sawdust, wood chips, or other cellulosic materials to absorb the spill. Prevent entry into sewers and waterways. Dispose of in accordance with federal, state, and local regulations.

7.0 HANDLING AND STORAGE

7.1 Precautions for safe handling: Ground all transfer equipment. Take precautionary measures against static discharge. Handle as an industrial chemical.

7.2 Conditions for safe storage, including any incompatibilities: Keep container tightly closed when not in use. Practice good caution and personal cleanliness to avoid skin and eye contact. Hold bulk storage under nitrogen blanket. Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures. Copper and alloys of copper should not be used as they are quickly corroded by the product.

8.0 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters: N/A

8.2 Appropriate engineering controls: N/A

8.3 Individual protection measures, such as personal protective equipment:

Respiratory Protection: Airborne concentrations should be kept to lowest levels possible. Use an approved respirator. Selection of air-purifying or positive-pressure supplied air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Protective Clothing: Protective clothing such as uniforms, coveralls, or lab coats must be worn. Launder or dry-clean when soiled. Gloves and goggles resistant to chemicals and petroleum distillates required. When handling large quantities, impervious suits, gloves, and rubber boots must be worn.

9.0 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance (physical state, color, etc.): Clear, colorless liquid

9.2 Odor: Ammonia-like odor.

9.3 Odor threshold: N/A

9.4 pH: N/A

9.5 Melting point/freezing point: N/A

9.6 Initial boiling point and boiling range: Not determined

9.7 Flash Point: 210 °F (PMCC)

9.8 Evaporation rate: Not established

9.9 Flammability (solid, gas): N/A

9.10 Upper/lower flammability or explosive limits: Not established

9.11 Vapor pressure: Not established

9.12 Vapor Density: > 1

9.13 Relative density (specific gravity): 0.983

9.14 Solubility(ies): Partially soluble (in water)

9.15 Partition coefficient; n-octanol/water: N/A

9.16 Auto-ignition temperature: N/A

9.17 Decomposition temperature: N/A

9.18 Viscosity: N/A

10.0 STABILITY AND REACTIVITY

10.1 Reactivity: N/A

10.2 Chemical stability: Stable under normal conditions of handling.

10.3 Possibility of hazardous reactions: Will not occur.

10.4 Conditions to avoid: Reacts violently with acids. Avoid acid, oxidizing material, halogenated organic compounds, aldehydes, ketones, and acrylates. Results in temperature and/or pressure increase. Avoid exposure to heat, light flame or other sources of ignition.

10.5 Incompatible materials: N/A

10.6 Hazardous decomposition products: Toxic levels of ammonia, combustion products of nitrogen, carbon monoxide, carbon dioxide, irritating aldehydes, and ketones may be formed on burning in a limited air supply.

11.0 TOXICOLOGICAL INFORMATION

11.1 Likely routes of exposure: N/A

11.2 Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

Skin contact: May cause severe irritation with pain, chemical burns, blister formation, and possible tissue destruction.

Inhalation: May cause respiratory sensitization in susceptible individuals. Severe overexposure may result in difficulty breathing, headache, nausea, vomiting, and drowsiness.

Ingestion: Acutely toxic. Causes burning of mouth, throat, and stomach with abdominal and chest pain, nausea, vomiting, diarrhea, thirst, weakness, and collapse. Aspiration may occur during swallowing or vomiting, resulting in lung damage.

11.3 Delayed and immediate effects and also chronic effects from short and long term exposure: N/A

11.4 Numerical measures of toxicity:

Ingredient Name	CAS No.	%	Acute Oral LD50	Acute Dermal LD50	Acute Inhalation LC50
Polyoxypropylenediamine	9046-10-0	40-50%	2.885 g/kg (rat)	2.980 g/kg (rabbit)	0/6 deaths (rabbit); 7 hrs
Aminoethylpiperazine	000140-31-8	<5%	Not available	900 mg/kg (rabbit)	Not available
Nonylphenol	25154-52-3	10-20%	1.600 g/kg (rat)	>200 mg/kg (rabbit)	Not available
Triethanolamine	102-71-6	<5%	Not available	Not available	Not available

12.0 ECOLOGICAL INFORMATION

- 12.1 **Ecotoxicity:** N/A
 12.2 **Persistence and degradability:** N/A
 12.3 **Bioaccumulative potential:** N/A
 12.4 **Mobility in soil:** N/A
 12.5 **Other adverse effects:** N/A

13.0 DISPOSAL CONSIDERATIONS

Disposal methods: Dispose of in accordance with federal, state, and local regulations.

14.0 TRANSPORT INFORMATION

- 14.1 **UN number:** UN 1760
 14.2 **UN proper shipping name:** Corrosive liquid, N.O.S., (Polyoxypropylenediamine and Nonylphenol), Marine Pollutant, 8, PG III, UN 1760
 14.3 **Transport hazard class(es):** 8
 14.4 **Packing group, if applicable:** III
 14.5 **Environmental hazards:** Marine Pollutant
 14.6 **Transport in bulk:** N/A
 14.7 **Special precautions for user:** N/A

15.0 REGULATORY INFORMATION**15.1 Safety, health and environmental regulations:**

Not meant to be all-inclusive. Selected regulations presented.

A. Sara Title III Section 311/312: immediate health hazard.

B. WHMIS Classification: Classes D1B, D2, D2B, E

C. TSCA status: listed on TSCA Inventory

D. OSHA Hazard Comm. Std.: See Section 2

Nonylphenol: CA, FL, MA, PA

Triethanolamine: FL, MA, PA, RI

CA = California Haz. Subst. List; CA65 = California Safe Drinking Water and Toxics Enforcement Act List; CT = Connecticut Tox. Subst. List; FL = Florida Subst. List; IL = Illinois Tox. Subst. List; LA = Louisiana Haz. Subst. List; MA = Massachusetts Subst. List; ME = Maine Haz. Subst. List; MN = Minnesota Haz. Subst. List; NJ = New Jersey Haz. Subst. List; PA = Pennsylvania Haz. Subst. List; RI = Rhode Island Haz. Subst. List.

16.0 OTHER INFORMATION**16.1 Date of Preparation:** 12/31/2012

To the best of our knowledge, the information contained herein is accurate. Final determination of the suitability of any material is the sole responsibility of the users. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.