

ERGON ARMOR

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MSDS No.: NI005

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Material Safety Data Sheet

HFS

1. PRODUCT IDENTIFICATION

Trade Name: HFS
Chemical Family: Epoxy
Intended Use or Product Type: Epoxy Coating

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA Hazardous Ingredients: NA

Resin: DGEBA-Epoxy Resin: CAS# 25068-38-6 80%-90%
Trade Secret: 10%-20%

OSHA (PEL/STEL) NE
ACGIH (TWA/STEL) NE

Hardener: Accelerated amine adduct: CAS# Mixture >90%
Trade Secret <10%

OSHA (PEL/STEL) NE
ACGIH (TWA/STEL) NE

3. HAZARDS IDENTIFICATION

Emergency Overview: Toxic fumes are released in fire situation. Harmful if swallowed. May cause allergic skin and eye reaction.

HMIS

Resin: Health - 2; Flammability - 1; Reactivity - 0

Hardener: Health - 3; Flammability - 1; Reactivity - 0

4. FIRST AID MEASURES

Ingestion: Resin - If large amounts are ingested, induce vomiting if conscious.
Hardener - Call physician immediately. Give generous amounts of water if conscious.
Do not induce vomiting.

Skin: Resin - Promptly wash with mild soap and water.
Hardener - Promptly wash with mild soap and water.

Inhalation: Resin - Remove to fresh air. Give oxygen if breathing is difficult.
Hardener - Remove to fresh air. Give oxygen if breathing is difficult.

Eyes: Resin - Immediately flush eyes with water for 15 minutes. Call physician.
Hardener - Immediately flush eyes with water for 15 minutes. Call physician.

Overexposure Effects: Overexposure to this material can cause chemical burns to the skin and eyes and inhalation of vapors can cause severe respiratory irritation. Can cause allergic skin and respiratory reactions. Can have effects on the nervous system evidenced by central nervous system depression, tremors, paralysis, diarrhea and vasodilation. May also cause headache, nausea and dizziness.

Medical Conditions Aggravated by Exposure: Allergy, eczema or skin conditions.

Additional Information: Promptly remove wet contaminated non-impervious clothing, wash before reuse. Destroy contaminated leather and absorbent shoes.

5. FIRE FIGHTING MEASURES

Flash Point:	<u>Resin</u> >300°F (149°C)	<u>Hardener</u> >200°F (93°C)
Flash Point Method Used:	Closed cup	
Fire Fighting Extinguishing Media:	Carbon Dioxide, foam, dry chemical	
Fire Fighting Equipment:	Use a self-contained breathing apparatus	
Fire and Explosion Hazards:	Decomposition and combustion products may be toxic.	

NOTE: decomposition and combustion products may be toxic

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Steps to be taken if material is spilled:

Resin - Shovel into closeable container for disposal.

Hardener - Absorb into sand or other absorbent material. Shovel into closeable container and dispose of in professional manner.

7. HANDLING AND STORAGE

Precautions: Do not get in eyes, on skin, on clothing. Do not breathe vapor, mist or spray. Use only with adequate ventilation. Individuals should wash thoroughly after handling. For industrial use only.

Storage Information: Keep away from heat, sparks and open flame. Ground and bond metal containers for liquid transfer to avoid static spark. Store at temperatures between 2°C and 40°C in tightly closed containers in dry area to prevent moisture and carbon dioxide contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protective Equipment:	Wear protective equipment to prevent exposure and personal contact.
Skin Protection:	Impervious gloves
Respiratory Protection:	Organic chemical cartridge respirator if needed in non-vented area
Eye Protection:	Splash-proof chemical goggles
Engineering Controls:	Good general mechanical ventilation and local exhaust

9. PHYSICAL AND CHEMICAL PROPERTIES

	<u>Resin</u>	<u>Hardener</u>
Appearance:	Clear	Light Amber
Odor:	None	slight ammonia odor
Physical State:	Liquid	Liquid
Solubility in Water (% by weight):	Negligible	Negligible
Melting Point:	<0° F (-18° C)	<0° F (-18° C)
Density:	1.14	1.02
PH:	ca 5	ca 8

10. STABILITY AND REACTIVITY

Stability: Stable
Incompatibility: Strong oxidizers, strong acids and bases

Hazardous Decomposition Products:

Resin - Carbon Monoxide, Carbon Dioxide, Phenolics

Hardener - Carbon Monoxide, Carbon Dioxide, Phenolic Nitrogen Oxides and Compounds

Hazardous Polymerization:

Resin - will not occur

Hardener - Do not heat in bulk as dangerous decomposition may occur, liberating toxic fumes.

11. TOXICOLOGICAL INFORMATION**Acute Oral Effects (Ingestion):**

Resin - LD₅₀ (rabbits): 4000 mg/kg

Hardener - LD₅₀ (rabbits): 3000 mg/kg

Sensitization: Can cause skin and respiratory sensitization

Skin Irritation: Irritant

Eye Irritation: Irritant

12. ECOLOGICAL INFORMATION

Additional Information: Amines, in general, may be toxic to aquatic organisms. Epoxies are only slightly soluble in water.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION**DOT:****Resin:** Not Regulated**Hardener:** Corrosive liquid, basic, organic, n.o.s. (m-Xylylenediamine, Nonylphenol), 8, UN3267, PG III (Marine Pollutant)**15. REGULATORY INFORMATION****US Federal Regulations:**

Occupational Safety and Health Act (OSHA): This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered not to be a hazardous chemical under that standard.

Resource Conservation and Recovery Act (RCRA): Not a hazardous waste under RCRA (40 CFR 261).

SARA Title III: Section 304 - CERCLA: Not listed.

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Sec. 313 (40 CFR 372). This information must be included in all MSDS's that are copied and distributed for this material.

16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific features and shall not establish a legally valid contractual relationship.

Contact: ErgonArmor 1-800-99-ERGON