1. PRODUCT IDENTIFICATION

Trade Name: SP - Series
Chemical Family: Epoxy
Intended Use or Product Type: Epoxy Coating

2. COMPOSITION / INFORMATION ON INGREDIENTS

OSHA Hazardous Ingredients: NA

<table>
<thead>
<tr>
<th>SP-2000 R (Resin)</th>
<th>SP-2000 W (Resin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGEBA – Novolac Epoxy Resin - CAS# 208064-14-4 (10%-50%)</td>
<td>DGEBA – Novolac Epoxy Resin - CAS# 28064-14-4 (10%-50%)</td>
</tr>
<tr>
<td>OSHA / PEL - NE</td>
<td>OSHA / PEL - NE</td>
</tr>
<tr>
<td>ACGIH / TLV – NE</td>
<td>ACGIH / TLV – NE</td>
</tr>
<tr>
<td>DGEBF – Epoxy Resin CAS#25068-38-6 (10%-50%)</td>
<td>DGEBF – Epoxy Resin CAS#25068-38-6 (10%-50%)</td>
</tr>
<tr>
<td>Polybutadiene and Natural Rubber CAS # mixture (5% - 10%)</td>
<td></td>
</tr>
<tr>
<td>OSHA / PEL – NE</td>
<td></td>
</tr>
<tr>
<td>ACGIH / TLV - NE</td>
<td></td>
</tr>
</tbody>
</table>

Hardener for SP Products

<table>
<thead>
<tr>
<th>Modified Polyamidoamine CAS# mixture 20%-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA / PEL NE</td>
</tr>
<tr>
<td>ACGIH / TLV NE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Polyamide CAS# mixture 60%-80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA / PEL NE</td>
</tr>
<tr>
<td>ACGIH / TLV NE</td>
</tr>
</tbody>
</table>
1. PRODUCT IDENTIFICATION

Trade Name: SP-Series
Chemical Family: Epoxy
Intended Use or Product Type: Epoxy Coating

2. COMPOSITION / INFORMATION ON INGREDIENTS

OSHA Hazardous Ingredients: NA

<table>
<thead>
<tr>
<th>SP-2000 R (Resin)</th>
<th>SP-2000 W (Resin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGEBA – Novolac Epoxy Resin - CAS# 208064-14-4 (10%-50%)</td>
<td>DGEBA – Novolac Epoxy Resin - CAS# 28064-14-4 (10%-50%)</td>
</tr>
<tr>
<td>OSHA / PEL - NE</td>
<td>OSHA / PEL - NE</td>
</tr>
<tr>
<td>ACGIH / TLV – NE</td>
<td>ACGIH / TLV – NE</td>
</tr>
<tr>
<td>DGEBF – Epoxy Resin CAS#25068-38-6 (10%-50%)</td>
<td>DGEBF – Epoxy Resin CAS#25068-38-6 (10%-50%)</td>
</tr>
<tr>
<td>Polybutadiene and Natural Rubber CAS # mixture (5% - 10%)</td>
<td></td>
</tr>
<tr>
<td>OSHA / PEL – NE</td>
<td>OSHA / PEL – NE</td>
</tr>
<tr>
<td>ACGIH / TLV – NE</td>
<td>ACGIH / TLV – NE</td>
</tr>
</tbody>
</table>

Hardener for SP Products

Modified Polyamidoamine CAS# mixture 20%-30%
OSHA / PEL NE
ACGIH / TLV NE

Polyamide CAS# mixture 60%-80%
OSHA / PEL NE
ACGIH / TLV NE
3. **HAZARDOUS IDENTIFICATION**
   Emergency Overview: Toxic fumes are released in a fire situation. Harmful if swallowed. May cause allergic skin and eye reactions.

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-imperious clothing, wash before reuse. Destroy contaminated leather and absorbent shoes.

5. **FIRE FIGHTING MEASURES**
   
   **Resin (Both R & W)**  
   **Flash Point:** >300°F (149°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**
   
   **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 sparks. 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

<table>
<thead>
<tr>
<th></th>
<th>Resin (SP-2000 R)</th>
<th>Resin (SP-2000W)</th>
<th>Hardener (for Both)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark Gray, Light Gray</td>
<td>Gray, Brown</td>
<td>Off-White, Reddish Amber</td>
</tr>
<tr>
<td>Odor</td>
<td>Red, Blue</td>
<td>Olive Brown</td>
<td>Slight sweet odor</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Negligible</td>
<td>Negligible</td>
<td>Negligible</td>
</tr>
<tr>
<td>Melting Point</td>
<td>&lt;0° F (-18° C)</td>
<td>&lt;0° F (-18° C)</td>
<td>&lt;0° F (-18° C)</td>
</tr>
<tr>
<td>Density</td>
<td>1.45</td>
<td>1.48</td>
<td>0.97</td>
</tr>
<tr>
<td>pH</td>
<td>ca 5</td>
<td>ca 10</td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability: Stable
Incompatibility: strong oxidizers, strong acids and bases
Hazardous Decomposition Products:
- Resin: Carbon Monoxide, Carbon Dioxide, and 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: LD_{50} (rabbits): 4000 mg/kg
- Hardener: LD_{50} (rabbits): 3000 mg/kg

Sensitization: Can cause skin and respiratory sensitization
Skin Irritation: Corrosive
Eye Irritation: Corrosive

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.
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 to be a hazardous chemical under that standard.


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.
1. Product and Company Identification


1. Version #
   01

2. Revision date
   01-20-2011

3. CAS #
   Mixture

4. Manufacturer
   Ergon Armor

5. Division
   Memphis

6. Address
   PO Box 1639
   Jackson, MS 39215-1639

7. Contact Name
   Mary Ellen Snow

8. E-Mail
   mary.snow@ergon.com

9. Hours of Operation
   8:00AM - 5:00PM

10. ERGON General Assistance
    1 (800) 222 7122

11. CHEMTREC
    North America 1 (800) 424 9300 International 1 (703) 527 3887

2. Hazards Identification

Emergency overview
Harmful in contact with eyes. Irritating to skin. Prolonged exposure may cause chronic effects.

OSHA regulatory status
This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure

- Inhalation: Ingestion. Skin contact. Eye contact.

- Eyes
  Contact may irritate or burn eyes. Eye contact may result in corneal injury. Do not get this material in contact with eyes.

- Skin
  Irritating to skin. Avoid contact with the skin.

- Inhalation
  May cause cancer by inhalation. Prolonged inhalation may be harmful. Avoid breathing dust/fume/gas/mist/vapors/spray.

- Ingestion
  Components of the product may be absorbed into the body by ingestion. Do not ingest.

Target organs
Cardiac. Eyes. RESPIRATORY SYSTEM. Stomach.

Chronic effects
Conjunctiva.

Signs and symptoms
Corneal damage. Conjunctivitis. Irritation of eyes and mucous membranes.

Potential environmental effects
May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Hazardous components

- CARBON BLACK
  CAS #: 1333-86-4
  Percent: < 1%

Non-hazardous components

- PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER
  CAS #: 28064-14-4
  Percent: 1 - 5%

- 2,3-EPoxypropyl N-oDEcANOATE
  CAS #: 26761-45-5
  Percent: 0 - 10%

- PROPRIETARY INGREDIENTS
  N/A
  Percent: 0 - 10%

- BISPHENOL A-(EPICHLORHYDRIN) EPOXY RESIN
  CAS #: 25068-38-6
  Percent: 40 - 60%

- MINERAL FILLER
  Mixture
  Percent: 40 - 60%
4. First Aid Measures

**First aid procedures**

- **Eye contact**: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

- **Skin contact**: Get medical attention if irritation develops and persists. For minor skin contact, avoid spreading material on unaffected skin.

- **Inhalation**: Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention if symptoms occur.

- **Ingestion**: Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If ingestion of a large amount does occur, call a poison control center immediately.

**Notes to physician**

In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

**General advice**

IF exposed or concerned: Get medical advice/attention. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

**Flammable properties**

Containers or vessels exposed to sustained heat, such as in a fire situation, may have a sudden boil-over/explosion resulting from vaporization of water in the bottom of the vessel, known as a BLEVE (Boiling Liquid Expanding Vapor Explosion).

**Extinguishing media**

- Suitable extinguishing media: Dry chemical powder. Carbon dioxide (CO2). Alcohol foam.

6. Accidental Release Measures

**Personal precautions**

Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

**Methods for containment**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.

**Methods for cleaning up**

Should not be released into the environment.

- Large Spills: Do not get water on spilled substance or inside containers. Dike far ahead of spill for later disposal. Cover with DRY earth, DRY sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

- Small Spills: Clean surface thoroughly to remove residual contamination. Absorb spill with vermiculite or other inert material.

Never return spills in original containers for re-use.

7. Handling and Storage

**Handling**

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not allow water to get into container because of violent reaction and possible flash fire. Do not get this material in contact with eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Avoid release to the environment.

**Storage**

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>ACGIH Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBON BLACK (1333-86-4)</td>
<td>TWA</td>
<td>3.5000 mg/m3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. - OSHA Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBON BLACK (1333-86-4)</td>
<td>PEL</td>
<td>3.5000 mg/m3</td>
</tr>
</tbody>
</table>

Personal protective equipment

Eye / face protection
Do not get in eyes. Chemical goggles are recommended.

Skin protection
Avoid contact with the skin. Wear suitable protective clothing.

General hygiene considerations
Do not get in eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance Not available.
Color Not available.
Odor Not available.
Odor threshold Not available.
Physical state Liquid.
Form Liquid.
pH Not available.
Melting point Not available.
Freezing point Not available.
Boiling point Not available.
Flash point Not available.
Evaporation rate Not available.
Flammability limits in air, upper, % by volume Not available.
Flammability limits in air, lower, % by volume Not available.
Vapor pressure Not available.
Vapor density Not available.
Specific gravity Not available.
Relative density Not available.
Solubility (water) Not available.
Partition coefficient (n-octanol/water) Not available.
Auto-ignition temperature Not available.
Decomposition temperature Not available.
VOC Not available.

10. Chemical Stability & Reactivity Information

Chemical stability Stable at normal conditions.
Conditions to avoid Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials Peroxides. Fluorine. Chlorine. Incompatible with oxidizing agents. This product may react with strong acids. This product may react with strong alkalies.
Hazardous decomposition products Toxic gas. If product is burned hazardous gases such as oxides of carbon and nitrogen and various hydrocarbons may be produced.
11. Toxicological Information

Toxicological data

Components
CARBON BLACK (1333-86-4)

Test Results
Acute Oral LD50 Rat: > 8000 mg/kg

* Estimates for product may be based on additional component data not shown.

Local effects
Irritating to skin. Contact may irritate or burn eyes.

Chronic effects
Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

Carcinogenicity
Hazardous by OSHA criteria.

ACGIH Carcinogens
CARBON BLACK (CAS 1333-86-4) A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity
CARBON BLACK (CAS 1333-86-4) 2B Possibly carcinogenic to humans.

12. Ecological Information

Ecotoxicity
Contains a substance which causes risk of hazardous effects to the environment.

Environmental effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability
Not available.

13. Disposal Considerations

Disposal instructions
Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

14. Transport Information

DOT
Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA (Superfund) reportable quantity
None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - Yes

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical
No

Inventory status

Country(s) or region
Inventory name
On inventory (yes/no)*

Australia
Australian Inventory of Chemical Substances (AICS)
No

Canada
Domestic Substances List (DSL)
No

Canada
Non-Domestic Substances List (NDSL)
No

China
Inventory of Existing Chemical Substances in China (IECSC)
No

Europe
European Inventory of Existing Commercial Chemical Substances (EINECS)
No
<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)*

**State regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

CARBON BLACK (CAS 1333-86-4) Listed.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**


**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

CARBON BLACK (CAS 1333-86-4) Listed.

### 16. Other Information

**Further information**

HMIS® is a registered trade and service mark of the NPCA.

**HMIS® ratings**

Health: 1*
Flammability: 0
Physical hazard: 2

**NFPA ratings**

Health: 1
Flammability: 0
Instability: 0
Special hazards: W

**Issue date**

01-20-2011