

MATERIAL SAFETY DATA SHEET

Product: Graphi-Bond 551-RN
Revision Date: 1/03/2012

1. MATERIAL IDENTIFICATION

Product Name: Graphi-Bond 551-RN

Product Description: Black, Viscous Paste
Product Use: High Temperature Adhesive System

Manufacturer: Aremco Products, Inc.
707-B Executive Blvd.
Valley Cottage, NY 10989

Telephone: 845-268-0039
Emergency Phone: 845-268-0039 or Infotrac (24/7) 800-535-5053

2. COMPOSITION

Ingredient	CAS #	ACGIH TLV (mg/m ³)	OSHA PEL (mg/m ³)
Phenol	108-95-2	5 ppm Skin	5 ppm Skin
Hexamethylenetetramine	100-97-0	N/E	N/E
Carbon Fibers	7440-44-0	2	N/E
Graphite	7782-42-5	2	2
Isopropanol	67-63-0	980	980
Formaldehyde (< 0.5% by formula weight)	50-00-0	0.3 ppm	0.75 ppm

Notes:

- 1) This product is a liquid mixture and all powders are encapsulated.
- 2) Exposure values shown for guidance only. Please follow applicable regulations.

3. HAZARDS IDENTIFICATION

Emergency Overview: Black, viscous paste, alcohol-phenolic odor. Flammable. Keep away from sparks and flames.

Eye Contact: May be corrosive to the eyes. Contact with paste can produce severe or permanent eye injury including blindness. Vapors release from product can cause severe eye irritation. Symptoms may include redness, watering, itching, or a burning sensation in the eyes.

Skin Contact: A prolonged single exposure can produce moderate to severe skin irritation. Symptoms may include itching, scaling, cracking, reddening, or blistering at the site of contact.

Inhalation Acute: This product is not expected to be toxic by inhalation. However, high concentrations or prolonged inhalation of vapors released from room temperature or curing product may be irritating to the nose, throat, and lungs. Symptoms may include coughing or shortness of breath, nausea, headaches, dizziness, weakness, or drowsiness.

Ingestion Acute: May be harmful if swallowed. However, in normal industrial use, ingestion is not considered a probable route of exposure.

Chronic Hazards: Repeated or prolonged exposure may cause skin sensitization, dermatitis, or other allergic reactions. The degree of sensitivity varies with individuals. This product contains ingredients that may affect the following target organs: respiratory system, eyes, skin, nervous system, kidneys, and liver. This product also contains formaldehyde, which may cause cancer.

HMIS:

Health:	3
Flammability:	3
Reactivity:	1
Personal Protection:	H

4. FIRST AID MEASURES

Eye Exposure:

Immediately rinse with water. Remove contact lenses. Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist. If a physician is not immediately available, eye irrigation should be continued for an additional 15 minutes.

Skin Exposure:

Immediately wipe excess material off skin with a dry cloth then wash with plenty of soap and water for at least 5 minutes. See medical attention if irritation develops or persists. Remove contaminated clothing and shoes and clean thoroughly before re-use.

Inhalation:

Remove from immediate source of exposure and assure that victim is breathing. If not breathing, administer cardio-pulmonary resuscitation (CPR). If breathing is difficult, administer oxygen if available. Seek medical attention.

Ingestion:

If swallowed, do not induce vomiting. If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek medical attention immediately. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

Medical Conditions Possibly Aggravated by Exposure:

Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

5. FIRE FIGHTING MEASURES

Flammable Liquid. Keep away from heat (unless curing), sparks, open flame, or other ignition sources.

Flash Point:

Approximately 95 °F [closed cup].

Flammable Limits (% by volume):

Isopropanol Lower: 2.0 Upper: 12.7

Extinguishing Media:

Use alcohol foam, carbon dioxide, or dry chemical.

Special Fire Fighting Procedures:

Firefighters should wear NIOSH/MSHA approved positive pressure breathing apparatus with full face-

Unusual Fire and Explosion Hazards:

Caution: Vapors can travel to a source of ignition and flash back. Hazardous polymerization may take place if exposed to fire conditions. Unvented containers can build up pressure if exposed to heat (fire) and rupture violently. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Protection:

Wear chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots. Use NIOSH approved respirator where mist occurs.

Spill Cleanup:

Turn off all sources of heat or ignition. Ventilate area with explosion-proof equipment. Confine spillage and absorb using earth, sand, or other non-combustible absorbent material. Retain all contaminated water for removal and treatment.

7. HANDLING AND STORAGE

Handling:

Flammable liquid. Avoid contact with eyes, skin, and clothing. Use proper protective equipment. Avoid breathing vapor. Use only in a well ventilated area. Unvented containers may develop pressure. Open with caution. Promptly clean residue from closures with Isopropanol. Promptly clean up spills. Wash thoroughly after handling.

Storage:

Refrigerate below 50 °F (10 °C) to maximize shelf life. Otherwise, store in an area that is cool, dry, well ventilated, away from combustible material, and away from ignition sources. Keep containers closed when not in use. Store in clean plastic or metal containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Use with adequate ventilation. Keep containers closed when not in use. Safety shower and eyewash fountain should be within direct access. Ventilation equipment should be explosion-proof.

Respiratory Protection:

If exposure limits are exceeded and local ventilation is unavailable, a supplied-air respirator or a self-contained NIOSH-approved dust and vapor respirator is required.

Skin Protection:

Wear body-covering protective clothing and rubber or neoprene gloves.

Eye Protection:

Wear chemical goggles or face shield with safety glasses.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical here represent typical properties of this product. Contact Technical Sales for exact specifications.

Appearance:	Viscous paste
Color:	Black
Odor:	Alcohol-Phenolic
pH:	8.0-9.0
Specific Gravity, g/cc	1.56
Water Solubility:	Insoluble
Melting Point Range:	Not available
Boiling Point Range:	Not available
Vapor Pressure:	Not available
Vapor Density (air=1):	Not available
% Volatile:	18.8%

10. STABILITY AND REACTIVITY

Chemical Stability:	This material is stable under the recommended storage conditions.
Conditions to Avoid:	Avoid storage temperatures above 80 °F (26.7 °C).
Incompatibility with Other Materials:	Avoid contact or contamination with strong oxidizers, acids, modified phenols (e.g. resorcinol, cresols) and isocyanates.
Hazardous Decomposition Products:	Irritating fumes and toxic gases.
Hazardous Polymerization:	Unagitated bulk material may slowly exotherm when stored at temperatures above 80 °F (26.7 °C). These conditions may result in hazardous exothermic polymerization at temperatures above 104 °F (40.0 °C), or if mixed with incompatible materials.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity Data:	Not available
Chronic Toxicity Data:	Not available

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Not tested
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13. DISPOSAL CONSIDERATIONS

Disposal Method:	Dispose in accordance with federal, state and local regulations and permits.
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14. TRANSPORTATION INFORMATION

DOT/IATA	
Proper Shipping Name:	Resin Solution
Hazard Class:	3
ID Number:	UN1866
Packing Group:	III
Labels:	Flammable Liquid

15. REGULATORY INFORMATION

U.S. Federal Regulations

CERCLA: No CERCLA reportable quantity has been established for this material.

TSCA: All ingredients of this material are listed on the TSCA inventory.

SARA Title III

Sections 302, 304, 313: This product contains the following chemicals listed as toxic chemicals requiring notification:

Component	CAS#	% by Weight
Phenol	108-95-2	11.0 Max
Formaldehyde	50-00-0	< 0.5

Sections 311, 312:

Hazard Classes	Yes/No
Fire Hazard	Yes
Reactivity Hazard	No
Pressure Hazard	No
Immediate Hazard	No
Delayed Hazard	Yes

International Inventory	Status
Canada (DSL)	Yes
Europe (EINECS/ELINCS)	Yes
Australia (AICS)	Yes
Japan (MITI)	Yes
South Korea (KECL)	Yes

16. OTHER INFORMATION

NFPA:	Health:	3
	Flammability:	3
	Reactivity:	1

Key Legend Information

ACGIH	American Conference of Governmental Industrial Hygienists
ARD	International Agency for Research on Cancer
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
DSL	Domestic Substance List
HMIS	Hazardous Materials Identification System
ND	Not Determined
NE	Not Established
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RTECS	Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments & Reauthorization Act
SARA Title III	Emergency Planning & Community Right to Know Act
SARA Section 302	Extremely Hazardous Substances
SARA Section 304	Emergency Release
SARA Section 311	MSDS/List of Chemicals & Hazardous Inventory
SARA Section 312	Emergency & Hazardous Inventory
SARA Section 313	Toxic Chemicals & Release Reporting
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average

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