

## 1 PRODUCT AND COMPANY IDENTIFICATION

**ERGON ARMOR**

Ergon Armor  
P.O. Box 1639  
Jackson, MS 39215-1639

EMERGENCY PHONE NUMBER:  
Chemtrec: (800) 424-9300 (24hrs)

Information Telephone Numbers	Phone Number	Available Hrs
	(601) 933-3540	
Product Name	PENNTROWL L/F FILLER CARBON	
Product Synonym(s)		
Chemical Family	Carbon powder/ Barium sulfate	
Chemical Formula	N/A-mixture	
Chemical Name		
EPA Reg Num		
Product Use	Carbon based filler component of an epoxy system	

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Carbon	7440-44-0	70-80%	Y
Barium sulfate	7727-43-7	25-30%	Y
Quartz	14808-60-7	0.1%	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA inventory list.

## 3 HAZARDS IDENTIFICATION

**Emergency Overview**

Gary- black- odorless.

**DANGER!**

CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION.

MAY CAUSE RESPIRATORY TRACT IRRITATION.

CANCER HAZARD. CONTAINS CRYSTALLINE SILICA WHICH CAN CAUSE CANCER.

Repeated and prolonged inhalation of respirable particles can cause lung cancer and delayed lung damage (silicosis).

**Potential Health Effects**

Barium sulfate

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, this material is considered to be practically non-toxic if swallowed. Dust may be irritating to the eyes, skin and respiratory tract. Repeated or prolonged exposure may cause an allergic skin reaction. Long-term inhalation exposure may cause baritosis (pneumoconiosis), a benign lung change.e

# PENNTROWL L/F FILLER CARBON

## MATERIAL SAFETY DATA SHEET

### Carbon

Inhalation and skin contact are expected to be the primary routes of occupational exposure to activated carbon. Based on its similarity to graphite, contact with skin and eyes to excessive dust levels may cause irritation from mechanical abrasion. Short-term overexposure to dusts may cause upper respiratory tract irritation. Chronic overexposure to graphite dusts in mining, milling, and electrode production operations has caused pneumoconiosis, characterized by increased lung fibrosis, shortness of breath, cough, and abnormal breathing.

### Silica

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be practically non-toxic if swallowed, no more than slightly toxic if absorbed through skin and moderately toxic if inhaled. Contact with skin may remove moisture and cause irritation. Repeated or prolonged inhalation of high concentrations may cause cough, shortness of breath, wheezing and impairment of lung function. Medical conditions which may be aggravated by exposure to this material include lung disease or limited respiratory.

### Quartz

Skin contact and inhalation are expected to be the primary routes of occupational exposure to this material. Repeated and prolonged inhalation of this material may cause a form of disabling lung disease (commonly known as silicosis). Clinical signs and symptoms of silicosis include cough, shortness of breath, wheezing and impairment of lung function. Impairment of lung function may be progressive. In the usual case of silicosis, there is a slow deterioration of capacity for physical effort, decreased chest expansion, and an increased susceptibility to tuberculosis and other respiratory infections. This material inhaled in the form of quartz is classified as "carcinogenic to humans" by the International Agency for Research on Cancer (IARC) and respirable forms of this material are listed as substances that "may reasonably be anticipated to be carcinogens" by the National Toxicology Program.

Short term, extremely heavy exposures to dust of this material (particularly small-sized particles) can result in acute silicosis. This disease is rapidly progressive with diffuse pulmonary involvement, which may develop within months of initial exposure. Individuals with acute silicosis may suffer an abrupt onset of violent coughing, labored breathing, and weight loss; death has been known to occur within one to two years.

## 4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water. Get medical attention if irritation persists.

IF ON SKIN, immediately wash with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Thoroughly clean shoes before reuse.

IF SWALLOWED, induce vomiting as directed by medical personnel. Get medical attention. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**PENNTROWL L/F FILLER CARBON**  
MATERIAL SAFETY DATA SHEET

**5 FIRE FIGHTING MEASURES**

**Fire and Explosive Properties**

Auto-Ignition Temperature	NE	
Flash Point	N/A	Flash Point Method
Flammable Limits- Upper	NE	
Lower	NE	

**Extinguishing Media**

Use water spray, water fog, carbon dioxide or dry chemical

**Fire Fighting Instructions**

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

**Fire and Explosion Hazards**

Avoid breathing fumes from fire exposed material. Carbon fillers may intensify fire.

**6 ACCIDENTAL RELEASE MEASURES**

**In Case of Spill or Leak**

Stop the leak, if possible. Ventilate the space involved. Absorb, sweep up, place in container for disposal. Reduce dust spreading with a water spray. Shut off or remove all ignition sources. Prevent waterway contamination. Construct a dike to prevent spreading. Protect workers with water spray. Collect run-off water and transfer to drums or tanks for later disposal. Avoid creating a dusty atmosphere. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Clean up procedures: Transfer to containers, preparatory for later disposal. Avoid generation of dusts. Place in non-sparking containers for recovery or disposal. Remove from spill location. Flush area with water spray, collect rinsate.

**7 HANDLING AND STORAGE**

**Handling**

Do not get in eyes, on skin or clothing. Avoid breathing dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Empty container may contain hazardous residues. Keep away from heat, sparks and flame.

**Storage**

Store in a cool, dry place. Avoid excessive heat. Store out of direct sunlight in a cool, well-ventilated place.

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**PENNTROWL L/F FILLER CARBON**  
MATERIAL SAFETY DATA SHEET

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Controls**

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

**Eye / Face Protection**

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment available.

**Skin Protection**

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

**Respiratory Protection**

Avoid breathing dust. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

**Airborne Exposure Guidelines for Ingredients**

Exposure Limit	Value
<b>Quartz</b>	
ACGIH TWA	Respirable particle 0.05 mg/m3
<b>Barium sulfate</b>	
ACGIH TWA	- 10 mg/m3
OSHA TWA PEL	- 5 mg/m3

-Only those components with exposure limits are printed in this section.

-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.

-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.

# PENNTROWL L/F FILLER CARBON

## MATERIAL SAFETY DATA SHEET

### 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Gary- black- odorless.
pH	N/A
Specific Gravity	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Melting Point	NE
Freezing Point	N/A
Boiling Point	N/A
Solubility In Water	Insoluble
Percent Volatile	Nil

### 10 STABILITY AND REACTIVITY

#### Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

#### Hazardous Polymerization

Hazardous polymerization is not known to occur.

#### Incompatibility

Avoid strong oxidizers. Contact with strong oxidizers may result in the formation of heat. Avoid heat, sparks, and flames. Carbon dust can form explosive mixtures in air.

#### Hazardous Decomposition Products

Oxides of carbon and sulfur.

### 11 TOXICOLOGICAL INFORMATION

#### Toxicological Information

Data on this material and/or its components are summarized below.

##### Barium Sulfate

The toxicity of barium is related to its absorption with insoluble barium compounds being considered relatively inert or non-toxic because they are poorly absorbed. This material has been used as a contrast media for radiological examinations without apparent side effects from ingestion; however, several incidences of allergic reactions have been reported. These allergic reactions can be very severe and included urticaria, pruritus, breathing difficulties and anaphylactic shock. Long-term exposure of barite containing insoluble barium compounds such as this material, oxide and carbonate has been reported to cause baritosis or a benign pneumoconiosis without fibrotic changes or decreases in pulmonary function in mining workers. Single exposure (acute) studies indicate that this material is practically non-toxic to rats if swallowed (LD50 36,400 mg/kg). Inhalation exposure of rats to dust of this material showed mild irritation of the bronchial epithelium and other lung changes similar to baritosis without fibrosis.

##### Quartz

# PENNTROWL L/F FILLER CARBON

## MATERIAL SAFETY DATA SHEET

### 11 TOXICOLOGICAL INFORMATION

Chronic inhalation of crystalline silica may cause a progressive pneumoconiosis (silicosis), a form of disabling lung disease (pulmonary fibrosis). Data from animal studies on crystalline forms of silica confirm the capacity of free crystalline silica to induce a fibrinogenic response in lungs. Studies on a variety of laboratory animals (rats, guinea pigs, rabbits, and monkeys) using inhalation as well as intratracheal routes of exposure indicate the ability of crystalline silica to produce silicosis similar to that seen in man. In addition, experiments in animals have confirmed human experience that the presence of crystalline silica in the lung increased susceptibility to tuberculosis and other lung infections. Crystalline silica inhaled in the form of quartz is classified as "carcinogenic to humans" by the International Agency for Research on Cancer (IARC), and respirable forms of crystalline silica are listed as substances that "may reasonably be anticipated to be carcinogens" by the National Toxicology Program. The IARC listing is based on the determination that there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica in the form of quartz from occupational exposures. Epidemiology studies cited by IARC give indications of increased risk for lung cancer from inhaled crystalline silica (quartz) resulting from occupational exposure. Studies involving heavy industrial exposure to silica in granite and foundry workers, brick factories and sandblasting produced increased levels of protein and enzymes in urine, which is indicative of kidney damage.

### 12 ECOLOGICAL INFORMATION

#### Ecotoxicological Information

Data on this material and/or its components are summarized below.

#### Barium Sulfate

This material is slightly toxic to *Daphnia magna* (48-hr EC50 32 mg/l) and freshwater worms (96-hr EC50 33.65 mg/l). It is practically non-toxic to mollies (96-hr LC0 100,000 ppm). At concentrations of >1,000 mg/l, this material caused significant mortality in yellow crab embryos.

#### Chemical Fate Information

No data are available.

### 13 DISPOSAL CONSIDERATIONS

#### Waste Disposal

Recover, reclaim or recycle when practical. Dispose of in accordance with federal, state and local regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

**PENNTROWL L/F FILLER CARBON**  
MATERIAL SAFETY DATA SHEET

**14 TRANSPORT INFORMATION**

DOT Name Not Regulated by DOT  
DOT Technical Name  
DOT Hazard Class  
UN Number  
DOT Packing Group PG  
RQ

**15 REGULATORY INFORMATION**

**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)**

Immediate (Acute) Health	Y	Fire	N
Delayed (Chronic) Health	Y	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA inventory list.

**Ingredient Related Regulatory Information:**

**SARA Reportable Quantities**

	CERCLA RQ	SARA TPQ
Quartz	NE	
Barium sulfate	1000 LBS	
Carbon	NE	

**SARA Title III, Section 313**

This product does contain chemical(s) which are defined as toxic chemicals under and subject to the reporting requirements of, Section 313 of Title III of the Superfund Ammendments and Reauthorization Act of 986 and 40 CFR Part 372. See Section 2

Barium sulfate

**California Prop 65 - Carcinogen**

This product does contain the following chemical(s), as indicated below, currently on the California list of Known Carcinogens.

Quartz

**Massachusetts Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Barium sulfate

Quartz

**New Jersey Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Barium sulfate

Quartz

**Pennsylvania Environmental Hazard**

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.

Barium sulfate

**Pennsylvania Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

**PENNTROWL L/F FILLER CARBON**  
MATERIAL SAFETY DATA SHEET

**Pennsylvania Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.  
Quartz

<b>16 OTHER INFORMATION</b>
-----------------------------

**Revision Information**

Revision Date                      15 JUN 2001                      Revision Number 2  
Supercedes Revision Dated    04-JUN-2001

**Revision Summary**

Corrected Contact Number.

**Key**

NE= Not Established    NA= Not Applicable    (R) = Registered Trademark

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty of representation for which Ergon Armor bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.