SAFETY DATA SHEET

1. Identification

Product identifier **PENNCOAT 210 Resin**

Other means of identification Not available.

Recommended use Not available.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name ErgonArmor, a division of Ergon Asphalt & Emulsions, Inc.

Address 2829 Lakeland Drive
Jackson, MS 39232
USA

After hours telephone number 1-800-222-7122

Normal work hours telephone number 1-877-982-7667

Website www.ergonarmor.com

E-mail sds@ergon.com

Emergency 24-hour telephone number CHEMTREC: North America 1-800-424-9300 International 1-800-527-3887

Information on operation hours 8:00 a.m. to 5:00 p.m.

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word Warning

Hazard statement May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects. Causes skin irritation. Causes serious eye irritation.

Prevention Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves and eye/face protection.

Response IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
BISPHENOL A-(EPICHLORHYDRIN) EPOXY RESIN		25068-38-6	60 - 80
QUARTZ		14808-60-7	20 - 30
CASHEW, NUTSHELL LIQ., GLYCIDYL ETHERS		171263-25-5	10 - 30
BUTYL GLYCIDYL ETHER		2426-08-6	5 - 15
TITANIUM DIOXIDE		13463-67-7	1 - 10
EPICHLOROHYDRIN		106-89-8	0.1528733845

4. First-aid measures

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Call a physician or poison control center immediately. Call a POISON CENTER or doctor/physician if you feel unwell. Call a physician if symptoms develop or persist.

Skin contact

Take off immediately all contaminated clothing. Remove and isolate contaminated clothing and shoes. Immediately flush skin with plenty of water. Wash off with soap and plenty of water. For minor skin contact, avoid spreading material on unaffected skin. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.

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. If eye irritation persists: Get medical advice/attention.

Ingestion

Rinse mouth. Do not induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed

Mild skin irritation. Irritation of eyes and mucous membranes. Prolonged exposure may cause chronic effects. Irritant effects.

Indication of immediate medical attention and special treatment needed

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

General information

IF exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Water spray. Water fog. Foam. Carbon dioxide (CO2). Powder.

Unsuitable extinguishing media

Not available.

Specific hazards arising from the chemical

No unusual fire or explosion hazards noted.

Special protective equipment and precautions for firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire-fighting equipment/instructions

Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.

Specific methods

In the event of fire, cool tanks with water spray. Move container from fire area if it can be done without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Avoid inhalation of vapors or mists. Avoid skin contact and inhalation of vapors during disposal of spills.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth or absorbent material then place into containers. Prevent product from entering drains.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid breathing vapor. Do not get this material on clothing. Use personal protective equipment as required. Do not use in areas without adequate ventilation. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities Keep away from heat, sparks and open flame. Store in a well-ventilated place. Store in original tightly closed container. Store in a closed container away from incompatible materials. Keep away from food, drink and animal feedingstuffs.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
BUTYL GLYCIDYL ETHER (CAS 2426-08-6)	PEL	270 mg/m3	
		50 ppm	
EPICHLOROHYDRIN (CAS 106-89-8)	PEL	19 mg/m3	
		5 ppm	
TITANIUM DIOXIDE (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.3 mg/m3	Total dust.
		0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
BUTYL GLYCIDYL ETHER (CAS 2426-08-6)	TWA	3 ppm	
EPICHLOROHYDRIN (CAS 106-89-8)	TWA	0.5 ppm	
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
TITANIUM DIOXIDE (CAS 13463-67-7)	TWA	10 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
BUTYL GLYCIDYL ETHER (CAS 2426-08-6)	Ceiling	30 mg/m3	
		5.6 ppm	
QUARTZ (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

EPICHLOROHYDRIN (CAS 106-89-8) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

EPICHLOROHYDRIN (CAS 106-89-8) Skin designation applies.

US - Tennesse OELs: Skin designation

EPICHLOROHYDRIN (CAS 106-89-8) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

BUTYL GLYCIDYL ETHER (CAS 2426-08-6) Can be absorbed through the skin.
EPICHLOROHYDRIN (CAS 106-89-8) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

EPICHLOROHYDRIN (CAS 106-89-8) Can be absorbed through the skin.

Appropriate engineering controls Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear approved safety goggles.

Hand protection	Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.
Other	Avoid contact with the skin. Wear appropriate chemical resistant clothing. Chemical resistant gloves.
Skin protection	
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards	Not available.
General hygiene considerations	Do not get in eyes. Avoid contact with eyes. Avoid contact with skin. Avoid contact with clothing. Wash hands before breaks and immediately after handling the product. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Color	Varies
Odor	Mild. Sweet.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	3110 °F (1710 °C) estimated
Initial boiling point and boiling range	Not available.
Flash point	> 230.0 °F (> 110.0 °C) Pensky-Martens Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Nil
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Specific gravity	1.11 @25C

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	This product will autopolymerize at very high temperatures. (>200 deg C)
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong acids, alkalies and oxidizing agents. Amines.
Hazardous decomposition products	Toxic gas. Irritants.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Causes digestive tract burns. However, ingestion is not likely to be a primary route of occupational exposure.
Inhalation	Inhalation of vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or difficulty breathing.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Upper respiratory tract irritation. Irritation of nose and throat. Irritant effects.

Information on toxicological effects

Acute toxicity Not applicable.

Product	Species	Test Results
PENNCOAT 210 Resin (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	10.2834 g/kg estimated
Inhalation		
LC50	Mouse	45675.2109 mg/l, 4 Hours estimated
	Rat	8743.54 mg/l, 8 Hours estimated
Oral		
LD50	Mouse	19.9666 g/kg estimated
	Rat	26160.8887 mg/kg estimated
Other		
LD50	Guinea pig	77174.625 mg/kg estimated
	Mouse	9.135 g/kg estimated
	Rabbit	64.3368 g/kg estimated
	Rat	14.8771 g/kg estimated

Components	Species	Test Results
BUTYL GLYCIDYL ETHER (CAS 2426-08-6)		
Acute		
Dermal		
LD50	Rabbit	0.788 g/kg
Inhalation		
LC50	Mouse	> 3500 mg/l, 4 Hours
	Rat	> 670 mg/l, 8 Hours
Oral		
LD50	Mouse	1.53 g/kg
	Rat	2.05 g/kg
Other		
LD50	Mouse	0.7 g/kg
	Rabbit	4.93 g/kg
	Rat	1.14 g/kg
EPICHLOROHYDRIN (CAS 106-89-8)		
Acute		
Dermal		
LD50	Mouse	250 mg/kg
	Rabbit	300 mg/kg
Inhalation		
LC50	Rabbit	445 ppm, 4 Hours
	Rat	500 ppm, 4 Hours

Components	Species	Test Results
		250 ppm, 8 Hours
Oral		
LD50	Guinea pig	178 mg/kg
	Mouse	195 mg/kg
	Rabbit	345 mg/kg
	Rat	40 mg/kg
Other		
LD50	Guinea pig	118 mg/kg
	Rabbit	118 mg/kg
	Rat	133 mg/kg

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

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation May be irritating to eyes.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization May cause sensitization by skin contact. May cause an allergic skin reaction.

Germ cell mutagenicity Not classified.

Carcinogenicity This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

IARC Monographs. Overall Evaluation of Carcinogenicity

EPICHLOROHYDRIN (CAS 106-89-8)	2A Probably carcinogenic to humans.
QUARTZ (CAS 14808-60-7)	1 Carcinogenic to humans.
TITANIUM DIOXIDE (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

EPICHLOROHYDRIN (CAS 106-89-8)	Reasonably Anticipated to be a Human Carcinogen.
QUARTZ (CAS 14808-60-7)	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Not available. Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not applicable.

Aspiration hazard Not classified.

Chronic effects Skin contact may aggravate an existing dermatitis.

Further information Symptoms may be delayed.

12. Ecological information

Ecotoxicity The product contains a substance which is harmful to aquatic organisms.

Product		Species	Test Results
PENNCOAT 210 Resin (CAS Mixture)			
Crustacea	EC50	Daphnia	5.0325 mg/l, 48 hours estimated
Fish	LC50	Fish	2.7955 mg/l, 96 hours estimated

Components		Species	Test Results
EPICHLOROHYDRIN (CAS 106-89-8)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	9.1 - 12.3 mg/l, 96 hours
TITANIUM DIOXIDE (CAS 13463-67-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours

Components		Species	Test Results
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours

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

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

BUTYL GLYCIDYL ETHER	0.63
EPICHLOROHYDRIN	0.45

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations. Do not discharge into drains, water courses or onto the ground. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Hazardous waste code Not applicable.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

UN number UN3082

UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Transport hazard class(es)

Class 9

Subsidiary risk -

Packing group III

Environmental hazards

Marine pollutant Yes

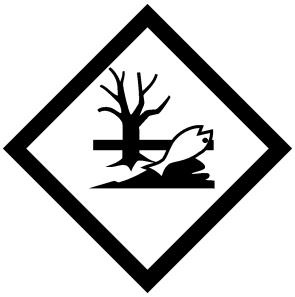
EmS F-A, S-F

Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

IMDG

Marine pollutant



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

EPICHLOROHYDRIN (CAS 106-89-8) Listed.

US EPCRA Section 304 Extremely Haz. Subs. & CERCLA Haz. Subs.: Section 304 EHS reportable quantity

EPICHLOROHYDRIN (CAS 106-89-8) 100 LBS

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
EPICHLOROHYDRIN	106-89-8	100	1000 lbs		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
EPICHLOROHYDRIN	106-89-8	0.1528733845

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

EPICHLOROHYDRIN (CAS 106-89-8)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

EPICHLOROHYDRIN (CAS 106-89-8)

Safe Drinking Water Act (SDWA) Not regulated.

US 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. Massachusetts RTK - Substance List

BUTYL GLYCIDYL ETHER (CAS 2426-08-6)
EPICHLOROHYDRIN (CAS 106-89-8)
QUARTZ (CAS 14808-60-7)
TITANIUM DIOXIDE (CAS 13463-67-7)

US. New Jersey Worker and Community Right-to-Know Act

EPICHLOROHYDRIN (CAS 106-89-8) 500 LBS

US. Pennsylvania RTK - Hazardous Substances

BUTYL GLYCIDYL ETHER (CAS 2426-08-6)
EPICHLOROHYDRIN (CAS 106-89-8)
QUARTZ (CAS 14808-60-7)
TITANIUM DIOXIDE (CAS 13463-67-7)

US. Rhode Island RTK

EPICHLOROHYDRIN (CAS 106-89-8)

US. California Proposition 65

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

EPICHLOROHYDRIN (CAS 106-89-8)	Listed: October 1, 1987
QUARTZ (CAS 14808-60-7)	Listed: October 1, 1988
TITANIUM DIOXIDE (CAS 13463-67-7)	Listed: September 2, 2011

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

BUTYL GLYCIDYL ETHER (CAS 2426-08-6)	Listed: August 7, 2009
EPICHLOROHYDRIN (CAS 106-89-8)	Listed: September 1, 1996

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 10-22-2014

Revision date 01-18-2016

Version # 03

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

References

ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information Product and Company Identification: Product and Company Identification