


1. Identification

Product identifier	PENNCOAT 331 RESIN (All Colors)
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	Flammable liquids	Category 3
Health hazards	Acute toxicity, oral	Category 5
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Germ cell mutagenicity	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	Flammable liquid and vapor. May be harmful if swallowed. Causes skin irritation. Harmful if inhaled. Causes serious eye irritation. Suspected of causing genetic defects. Harmful to aquatic life.
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames and hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.
Response	In case of fire: Use appropriate media for extinction. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If skin irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell.

Storage	Store in a well-ventilated place. Keep cool. Keep container tightly closed. Keep locked-up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
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	%
STYRENE		100-42-5	80 - 95
QUARTZ		14808-60-7	< 2
Other components below reportable levels			5 - <10

4. First-aid measures

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. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. For minor skin contact, avoid spreading material on unaffected skin. Get medical attention if irritation develops and persists.
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.
Ingestion	If swallowed, do NOT induce vomiting. Give a glass of water. Never give liquid to an unconscious person. If ingestion of a large amount does occur, call a poison control center immediately. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Not available.
Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Oxygen, if needed. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	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

Suitable extinguishing media	Water fog. Carbon dioxide (CO2). Foam. Dry chemical.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
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. Structural firefighters protective clothing will only provide limited protection.
Fire-fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and materials for containment and cleaning up	Not available.
Environmental precautions	Contain spillages with sand, earth or any suitable adsorbent material.

7. Handling and storage

Precautions for safe handling

All equipment used when handling the product must be grounded. Avoid contact with eyes, skin, and clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid prolonged exposure. Wear personal protective equipment. Use only with adequate ventilation. Wash thoroughly after handling. Keep away from sources of ignition - No smoking.

Conditions for safe storage, including any incompatibilities

Store in cool place. The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a well-ventilated place. Keep container tightly closed. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
STYRENE (CAS 100-42-5)	Ceiling	200 ppm
	TWA	100 ppm

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

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.3 mg/m ³	Total dust.
		0.1 mg/m ³	Respirable.
		2.4 mppcf	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.
STYRENE (CAS 100-42-5)	STEL	40 ppm	
	TWA	20 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
QUARTZ (CAS 14808-60-7)	TWA	0.05 mg/m ³	Respirable dust.
STYRENE (CAS 100-42-5)	STEL	425 mg/m ³	
		100 ppm	
	TWA	215 mg/m ³	
		50 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
STYRENE (CAS 100-42-5)	400 mg/g	Mandelic acid plus phenylglyoxylic acid	Creatinine in urine	*
	0.2 mg/l	Styrene	Venous blood	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

STYRENE (CAS 100-42-5)

Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

STYRENE (CAS 100-42-5)

Skin designation applies.

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

Goggles/face shield are recommended.

Hand protection

Wear protective gloves.

Skin protection

Other

Wear appropriate clothing to prevent any possibility of skin contact with solutions containing 10% or more of this chemical.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards	Not available.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Viscous liquid
Physical state	Liquid.
Form	Viscous Liquid.
Color	Grey.
Odor	Styrene
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	294 °F (145.56 °C)
Flash point	89.6 - 95.0 °F (32.0 - 35.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.1
Flammability limit - upper (%)	6.1
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	7 hPa
Vapor density	3.6
Relative density	1.07 - 1.08
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	914 °F (490 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
VOC (Weight %)	30 - 40 %

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions. However, this material can undergo hazardous polymerization.
Possibility of hazardous reactions	Hazardous polymerization can occur. Heat will speed polymerization.
Conditions to avoid	Contact with acids. Avoid contact with oxidizing agents. Heat, flames and sparks.
Incompatible materials	Acids. Aluminum chlorides. Halogens. Metal salts. Peroxides. Strong bases. Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Not available.
Inhalation	Not available.
Skin contact	Not available.

Eye contact Not available.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity Harmful if swallowed - may enter lungs if swallowed or vomited.

Product	Species	Test Results
PENNCOAT 331 RESIN (All Colors) (CAS Mixture)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	37335.7109 ppm, 2 Hours estimated
	Rat	20935.207 ppm, 4 Hours estimated
		181.3881 mg/l, 4 Hours estimated

Components	Species	Test Results
STYRENE (CAS 100-42-5)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	4940 ppm, 2 Hours
	Rat	2770 ppm, 4 Hours
		24 mg/l, 4 Hours
<i>Oral</i>		
LD50	Mouse	316 mg/kg
	Rat	1 g/kg
<i>Other</i>		
LD50	Mouse	90 g/kg
	Rat	898 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization Not available.

Germ cell mutagenicity Suspected of causing genetic defects.

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

QUARTZ (CAS 14808-60-7) 1 Carcinogenic to humans.
STYRENE (CAS 100-42-5) 2B Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

QUARTZ (CAS 14808-60-7) Known To Be Human Carcinogen.
STYRENE (CAS 100-42-5) Reasonably Anticipated to be a Human Carcinogen.

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

Not listed.

Reproductive toxicity Not available.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Causes damage to the following organs through prolonged or repeated exposure: Central nervous system. Respiratory system.

Aspiration hazard May be harmful if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life.

Components	Species		Test Results
STYRENE (CAS 100-42-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia)	42 g/ml, 24 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	5.1 - 16 mg/l, 96 hours

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

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

STYRENE 2.95

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Waste from residues / unused products Dispose of in accordance with local regulations. Avoid discharge into water courses or onto the ground.

Contaminated packaging Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1866

UN proper shipping name Resin solution

Transport hazard class(es)

Class 3

Subsidiary risk -

Label(s) 3

Packing group III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions B1, B52, IB3, T2, TP1

Packaging exceptions 150

Packaging non bulk 173

Packaging bulk 242

IATA

UN number UN1866

UN proper shipping name Resin solution

Transport hazard class(es)

Class 3

Subsidiary risk -

Packing group III

Environmental hazards No.

ERG Code 3L

Special precautions for user Not available.

Other information

Passenger and cargo aircraft Allowed.

Cargo aircraft only Allowed.

IMDG

UN number UN1866

UN proper shipping name RESIN SOLUTION

Transport hazard class(es)

Class 3

Subsidiary risk -

Packing group III

Environmental hazards

Marine pollutant No

EmS F-E, S-E*
Special precautions for user Not available.

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

DOT



IATA; IMDG



15. Regulatory information

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

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

STYRENE (CAS 100-42-5) Listed.

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 - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
STYRENE	100-42-5	80 - 95

Other federal regulations

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

STYRENE (CAS 100-42-5)

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

Not regulated.

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.

US. Massachusetts RTK - Substance List

QUARTZ (CAS 14808-60-7)
 STYRENE (CAS 100-42-5)

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

STYRENE (CAS 100-42-5) 500 LBS

US. Pennsylvania RTK - Hazardous Substances

QUARTZ (CAS 14808-60-7)
 STYRENE (CAS 100-42-5)

US. Rhode Island RTK

STYRENE (CAS 100-42-5)

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

QUARTZ (CAS 14808-60-7) Listed: October 1, 1988

International Inventories

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
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	No

*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 03-25-2015

Revision date 01-04-2016

Version # 02

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

References HSDB
 IARC Monographs. Overall Evaluation of Carcinogenicity

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. The information given is based on data available for the material, the components of the material, and similar materials.

Revision Information Product and Company Identification: Product and Company Identification
 Composition / Information on Ingredients: Undisclosed Ingredient Statement
 Physical & Chemical Properties: Multiple Properties
 Toxicological Information: Toxicological Property Data
 Ecological Information: Ecotoxicity
 Regulatory Information: United States