SAFETY DATA SHEET

1. Identification

Product identifier	**PENNCOAT 350 RESIN**
Other means of identification	None.
Recommended use	Coating material
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

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	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, respiratory	Category 1
	Germ cell mutagenicity	Category 2
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 2
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing genetic defects. Suspected of causing cancer. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility or the unborn child. Toxic to aquatic life.

Precautionary statement

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/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. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.
Response	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF exposed or concerned: Call a POISON CENTER/doctor. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish. Specific treatment see Section 4 of this SDS. Wash hands after handling.
Storage	Store in a well-ventilated place. Keep cool. Store locked up. Store away from incompatible materials.
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, PHENYLETHENE		100-42-5	20 - 30
POTASSIUM ALUMINUM SILICATE (MICA)		12001-26-2	15 - 20
TITANIUM DIOXIDE		13463-67-7	1 - 5
CRYSTALLINE SILICA, QUARTZ		14808-60-7	1 - 2
Other components below reportable levels			52

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Wash off with soap and plenty of water. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Take along these instructions. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Skin irritation. Causes eye irritation. May cause allergic respiratory reaction. Nausea, vomiting. Diarrhea. May cause respiratory tract irritation, headache, dizziness, fatigue, confusion, visual disturbance, drowsiness, and weakness. Dizziness.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical powder. Carbon dioxide (CO2). Water fog. Alcohol resistant foam.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Avoid inhalation of vapor, fumes, dust and/or mist from the spilled material. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. For personal protection, see section 8 of the SDS.
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. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Keep away from sources of ignition - No smoking. Avoid contact with eyes. Avoid contact with skin. Provide adequate ventilation. Wash thoroughly after handling. Wear personal protective equipment. Observe good industrial hygiene practices. Ground/bond container and receiving equipment. Avoid release to the environment. Avoid prolonged exposure. Do not eat, drink or smoke when using the product.
Conditions for safe storage, including any incompatibilities	Store in a well-ventilated place. Keep cool. Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in a dry place. Keep away from food, drink and animal feeding stuffs.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit At this time, the other constituents have no known exposure limits.

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

Components	Type	Value	Form
CRYSTALLINE SILICA, QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.
TITANIUM DIOXIDE (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.

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

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

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

Components	Type	Value	Form
CRYSTALLINE SILICA, QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.
POTASSIUM ALUMINUM SILICATE (MICA) (CAS 12001-26-2)	TWA	20 mppcf	
TITANIUM DIOXIDE (CAS 13463-67-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
CRYSTALLINE SILICA, QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
POTASSIUM ALUMINUM SILICATE (MICA) (CAS 12001-26-2)	TWA	3 mg/m3	Respirable fraction.
STYRENE, PHENYLETHENE (CAS 100-42-5)	STEL	40 ppm	
	TWA	20 ppm	
TITANIUM DIOXIDE (CAS 13463-67-7)	TWA	10 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
CRYSTALLINE SILICA, QUARTZ (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.
POTASSIUM ALUMINUM SILICATE (MICA) (CAS 12001-26-2)	TWA	3 mg/m3	Respirable.
STYRENE, PHENYLETHENE (CAS 100-42-5)	STEL	425 mg/m3	
		100 ppm	
	TWA	215 mg/m3	
		50 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
STYRENE, PHENYLETHENE (CAS 100-42-5)	40 µg/l	Styrene	Urine	*
	400 mg/g	Mandelic acid plus phenylglyoxylic acid	Creatinine in urine	*

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

Exposure guidelines

US - California OELs: Skin designation

STYRENE, PHENYLETHENE (CAS 100-42-5) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

STYRENE, PHENYLETHENE (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	Chemical goggles are recommended. Eye wash fountain is recommended.
Skin protection	
Hand protection	Chemical resistant gloves. Polyvinyl alcohol gloves are recommended.
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
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. Do not get in eyes, on skin, on clothing.

9. Physical and chemical properties

Appearance	Various colored liquid
Physical state	Liquid.
Form	Liquid.
Color	Varies
Odor	Pungent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	293 °F (145 °C)
Flash point	84.9 °F (29.4 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.1 % estimated
Flammability limit - upper (%)	6.1 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	6.0 hPa @68°F(20°C)
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	914 °F (490 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.28 g/cm3 (10.7 lb/gal) @68°F(20°C)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid exposure to high temperatures or direct sunlight. Contact with incompatible materials.
Incompatible materials	Acids. Aluminum. Aluminum chlorides. Peroxides. Bases. Copper and copper alloys. Halogens. Iron chloride. Metal salts. Strong oxidizing agents. UV light.
Hazardous decomposition products	Carbon monoxide. Carbon dioxide. Phenols. Hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be harmful if swallowed and enters airways. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Headache. Dizziness. Diarrhea. Irritating to mouth, throat, and stomach. Irritation of nose and throat. Nausea, vomiting. Metallic taste. Fatigue. Confusion. Lack of coordination.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
STYRENE, PHENYLETHENE (CAS 100-42-5)		
Acute		
Inhalation		
LC50	Rat	24 mg/l, 4 Hours
Oral		
LD50	Rat	1 g/kg

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Irritating to eyes.

Respiratory or skin sensitization

Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	Suspected of causing genetic defects.
Carcinogenicity	Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

CRYSTALLINE SILICA, QUARTZ (CAS 14808-60-7)	1 Carcinogenic to humans.
STYRENE, PHENYLETHENE (CAS 100-42-5)	2A Probably carcinogenic to humans.
TITANIUM DIOXIDE (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

CRYSTALLINE SILICA, QUARTZ (CAS 14808-60-7)	Cancer

US. National Toxicology Program (NTP) Report on Carcinogens

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

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	May cause damage to organs. Central nervous system. Skin. Ingestion. Inhalation.
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure. Central nervous system. Inhalation. Skin. Ingestion.
Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects

12. Ecological information

Ecotoxicity	Toxic to aquatic life.

Product		Species	Test Results
PENNCOAT 350 RESIN			
Aquatic			
Crustacea	EC50	Daphnia	33333.332 mg/l, 48 hours estimated
Fish	LC50	Fish	121.4678 mg/l, 96 hours estimated

Components		Species	Test Results
STYRENE, PHENYLETHENE (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

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

STYRENE, PHENYLETHENE	2.95

Mobility in soil No data available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not discharge into drains, water courses or onto the ground.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. DO NOT pressurize, cut, heat, or weld containers; they may explode and cause injury or death. Empty product containers may contain product residue. DO NOT reuse empty containers without commercial cleaning or reconditioning. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

14. Transport information

DOT

UN number UN1866
UN proper shipping name Resin solution, flammable
Transport hazard class(es)
Class 3
Subsidiary risk -
Label(s) 3
Packing group III
Environmental hazards
Marine pollutant NO
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 flammable
Transport hazard class(es)
Class 3

Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1866
UN proper shipping name	RESIN SOLUTION flammable
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	Read safety instructions, SDS and emergency procedures before handling.

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

DOT

IATA; IMDG

15. Regulatory information

US federal regulations 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, PHENYLETHENE (CAS 100-42-5) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

CRYSTALLINE SILICA, QUARTZ (CAS 14808-60-7) Cancer
lung effects

immune system effects
kidney effects

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
STYRENE, PHENYLETHENE	100-42-5	20 - 30

Other federal regulations

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

STYRENE, PHENYLETHENE (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.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

STYRENE, PHENYLETHENE (CAS 100-42-5) Other Flavoring Substances with OSHA PEL's

US state regulations

California Proposition 65

WARNING: This product can expose you to chemicals including STYRENE, PHENYLETHENE, which is known tc the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

CRYSTALLINE SILICA, QUARTZ (CAS 14808-60-7) Listed: October 1, 1988
STYRENE, PHENYLETHENE (CAS 100-42-5) Listed: April 22, 2016
TITANIUM DIOXIDE (CAS 13463-67-7) Listed: September 2, 2011

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

CRYSTALLINE SILICA, QUARTZ (CAS 14808-60-7)
STYRENE, PHENYLETHENE (CAS 100-42-5)
TITANIUM DIOXIDE (CAS 13463-67-7)

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)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
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 08-24-2021

Version # 01

NFPA ratings Health: 3
Flammability: 3
Instability: 0

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.