

1. Identification
Product identifier **PENNTROWEL VINYL ESTER 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 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements

Signal word Warning

Hazard statement Flammable liquid and vapor. Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects. Causes serious eye irritation. May cause respiratory irritation. Causes skin irritation. Suspected of causing cancer. Toxic to aquatic life.

Prevention Observe good industrial hygiene practices. Do not breathe mist or vapor. Take precautionary measures against static discharge. Use only non-sparking tools. Do not eat, drink or smoke when using this product. Use explosion-proof electrical/ventilating/lighting equipment. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid release to the environment. Wear protective gloves/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Ground/bond container and receiving equipment. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Keep container tightly closed.

Response	Wash hands after handling. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Take off contaminated clothing and wash before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of fire: Use appropriate media for extinction. Specific treatment (see this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Collect spillage.
Storage	Store away from incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Store 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	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Vinyl Ester Resin		68002-44-8	45 - 55
STYRENE		100-42-5	35 - 45

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
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	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
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	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

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 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 discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid prolonged exposure. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

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. ACGIH Threshold Limit Values

Components	Type	Value
STYRENE (CAS 100-42-5)	STEL	40 ppm
	TWA	20 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
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

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear protective gloves.

Skin protection

Other Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

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.

9. Physical and chemical properties

Appearance	Viscous liquid
Physical state	Liquid.
Form	Liquid.
Color	Light purple
Odor	Sharp, styrene
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-23.8 °F (-31 °C) estimated
Initial boiling point and boiling range	294 °F (145.56 °C)
Flash point	90.0 - 95.0 °F (32.2 - 35.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
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	Not available.
Vapor density	Not available.
Relative density	1.04 - 1.06
Relative density temperature	77 °F (25 °C)
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	914 °F (490 °C) estimated
Decomposition temperature	Not available.
Viscosity	250 - 550 cP
Viscosity temperature	77 °F (25 °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	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids. Aluminum. Peroxides.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
PENNTROWEL VINYL ESTER RESIN (All Colors) (CAS Mixture)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	12350 ppm, 2 Hours estimated
	Rat	6925 ppm, 4 Hours estimated 60 mg/l, 4 Hours estimated
<i>Oral</i>		
LD50	Mouse	790 mg/kg estimated
	Rat	2.5 g/kg estimated
<i>Other</i>		
LD50	Mouse	225 g/kg estimated
	Rat	2245 mg/kg 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

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

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

STYRENE (CAS 100-42-5) 2B Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

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 Possible reproductive hazard.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

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

12. Ecological information

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
PENNTROWEL VINYL ESTER RESIN (All Colors) (CAS Mixture)		
Fish	LC50	Fish
		76.195 mg/l, 96 hours estimated
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 No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

STYRENE 2.95

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

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 Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1866
UN proper shipping name	Resin solution, flammable, MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	I
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B52, T11, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1866
UN proper shipping name	Resin solution flammable
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	I
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.

Cargo aircraft only Allowed.

IMDG

UN number UN1866

UN proper shipping name RESIN SOLUTION flammable

Transport hazard class(es)

Class 3

Subsidiary risk -

Packing group I

Environmental hazards

Marine pollutant Yes

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 available.

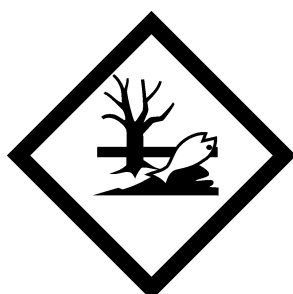
DOT



IATA; IMDG



Marine pollutant



15. Regulatory information

US federal regulations 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)

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 No
Hazardous chemical

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
STYRENE	100-42-5	35 - 45

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

US. Massachusetts RTK - Substance List

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

STYRENE (CAS 100-42-5)

US. Rhode Island RTK

STYRENE (CAS 100-42-5)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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)	No
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)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	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 04-24-2015

Revision date 01-19-2016

Version # 02

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available.

Revision Information

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Disclosure Overrides
Physical & Chemical Properties: Multiple Properties
GHS: Classification