SAFETY DATA SHEET

1. Identification

Product identifier **ACROCAST 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	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term 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. Causes serious eye irritation. Harmful if inhaled. Suspected of causing genetic defects. Suspected of causing cancer. Causes damage to organs (Central nervous system) through prolonged or repeated exposure. 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/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. 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. 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 victim 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 exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.
Storage	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	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
STYRENE		100-42-5	35-45
N,N-DIETHYLANILINE		91-66-7	0.2
COBALT NEODECANOATE		27253-31-2	<0.15%

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. Do not store in direct sunlight. 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. ACGIH Threshold Limit Values

Components	Type	Value
COBALT NEODECANOATE (CAS 27253-31-2)	TWA	0.02 mg/m3
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/m3 100 ppm
	TWA	215 mg/m3 50 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
COBALT NEODECANOATE (CAS 27253-31-2)	15 µg/l	Cobalt	Urine	*
	1 µg/l	Cobalt	Blood	*
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 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	Grey. Viscous liquid
Physical state	Liquid.
Form	Liquid. Viscous
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) 212 °F (100 °C) estimated
Flash point	93.9 °F (34.4 °C) estimated 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 1.1 %
Flammability limit - upper (%)	6.1 % estimated 6.1 %
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	8.53 hPa estimated 7 mm Hg @ 20 deg C
Vapor density	3.6
Relative density	1.04 - 1.06 g/cm3
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	250 - 550 cP @ 25 C
Other information	
Percent volatile	42.75 % estimated
VOC (Weight %)	99 % estimated 35 - 45 %

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	Harmful by inhalation. Irritating to respiratory system.
Skin contact	Not available.
Eye contact	Causes serious eye irritation.
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
ACROCAST VINYL ESTER RESIN (All Colors) (CAS Mixture)		
Acute		
Inhalation		
LC50	Mouse	11555.5557 ppm, 2 Hours estimated
	Rat	6479.5322 ppm, 4 Hours estimated
		56.1404 mg/l, 4 Hours estimated

Components	Species	Test Results
N,N-DIETHYLANILINE (CAS 91-66-7)		
Acute		
Oral		
LD50	Rat	782 mg/kg
Other		
LD50	Rat	420 mg/kg
STYRENE (CAS 100-42-5)		
Acute		
Inhalation		
LC50	Mouse	4940 ppm, 2 Hours
	Rat	2770 ppm, 4 Hours
		24 mg/l, 4 Hours
Oral		
LD50	Mouse	316 mg/kg
	Rat	1 g/kg
Other		
LD50	Mouse	90 g/kg
	Rat	898 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	Not available.

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	Not available.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Hazardous by OSHA criteria. Cancer Hazard. Contains a substance which may be potentially carcinogenic.

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 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.

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 The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Components		Species	Test Results
N,N-DIETHYLANILINE (CAS 91-66-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1 - 1.6 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	16.4 mg/l, 96 hours
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)

N,N-DIETHYLANILINE	3.31
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 -
Packing group III
Special precautions for user Not available.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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

DOT

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)

COBALT NEODECANOATE (CAS 27253-31-2)	Listed.
N,N-DIETHYLANILINE (CAS 91-66-7)	Listed.
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	35-45

Other federal regulations

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

COBALT NEODECANOATE (CAS 27253-31-2)
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

N,N-DIETHYLANILINE (CAS 91-66-7)
STYRENE (CAS 100-42-5)

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

COBALT NEODECANOATE (CAS 27253-31-2)	500 LBS
STYRENE (CAS 100-42-5)	500 LBS

US. Pennsylvania RTK - Hazardous Substances

N,N-DIETHYLANILINE (CAS 91-66-7)
STYRENE (CAS 100-42-5)

US. Rhode Island RTK

COBALT NEODECANOATE (CAS 27253-31-2)
N,N-DIETHYLANILINE (CAS 91-66-7)
STYRENE (CAS 100-42-5)

US. California Proposition 65

Not Listed.

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)	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)	Yes
New Zealand	New Zealand Inventory	Yes
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 03-30-2015

Revision date 01-04-2016

Version # 02

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

References IARC Monographs. Overall Evaluation of Carcinogenicity

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. Information for this material safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the mandatory requirements of OSHA. 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
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Ecological Information: Ecotoxicity