



Safety Data Sheet

FOR INDUSTRIAL USE ONLY

BLENDED VINYL ESTER RESIN IN MONOMER

Revision Date 11/14/2015

Section 1. Product and company identification

Product Name: BLENDED VINYL ESTER RESIN IN MONOMER

ARMORSTAR VSXH-2210

SDS Number: VSXH2210CHB1

Product Use: Industrial

Manufacturer, Importer, Supplier Polynt Composites USA, Inc.
99 East Cottage Avenue
Carpentersville IL 60110

E-Mail: MSDS@pccrusa.com

Telephone For Emergency Transportation Information
CHEMTREC US Domestic (800) 424-9300
CHEMTREC International (703) 527-3887

For additional health and safety or regulatory information, call 1 847-836-3627.

Section 2. Hazard(s) identification

EMERGENCY OVERVIEW: May cause sensitization by inhalation and skin contact. Risk of serious damage to the lungs (by aspiration).

GHS Classification

Acute Tox. 4 Inhalation, Carc. 2, Eye Irrit. 2, Flam. Liq. 3, Repr. 2, Skin Irrit. 2, STOT RE 1

Symbol(s) of Product



Signal Word

Danger

GHS HAZARD STATEMENTS

Flammable Liquid, category 3	H226	Flammable liquid and vapour.
Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.

Carcinogenicity, category 2	H351	Suspected of causing cancer. Classified as Category 2 based on limited evidence on human and/or animal studies. Mixtures with concentrations of suspected carcinogens ingredients at concentration present between 0.1% and 1.0% labelling the SDS will be optional depending on authorities. If Category 2 carcinogenic present at a concentration of 1% or above labelling the SDS will be expected. Routes of exposure are dependant on ingredient form.
Reproductive Toxicity, category 2	H361	Suspected of damaging fertility or the unborn child. Classified Category 2 suspected human reproductive toxicant irreversible effects such as structural malfunctions, embryo/foetal lethality, post natal functional deficiencies.
STOT, repeated exposure, category 1	H372	Causes damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to in accordance with local/regional/national/international regulations.

GHS SDS PRECAUTIONARY STATEMENTS

P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/.../ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P270	Do not eat, drink or smoke when using this product.

Section 3. Composition/Information on ingredients

<u>Chemical Name</u>	<u>CAS-No.</u>	<u>Wt. %</u>	<u>GHS Symbols</u>	<u>GHS Statements</u>
STYRENE MONOMER	100-42-5	30 - 40	GHS02-GHS07-GHS08	H226-302-315-319-332-351-361-372
ETHYLBENZENE	100-41-4	0.1-1.0	GHS02-GHS07-GHS08	H225-304-332-373

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

Section 4. First-aid measures

FIRST AID - EYE CONTACT: If symptoms persist, call a physician. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

FIRST AID - INGESTION: Aspiration hazard if swallowed - can enter lungs and cause damage. If ingested, consult a physician. Do NOT induce vomiting.

FIRST AID - INHALATION: Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effect, such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Give oxygen or artificial respiration if needed. Move to fresh air in case of accidental inhalation of vapours. Remove person to fresh air. If signs/symptoms continue, get medical attention.

FIRST AID - SKIN CONTACT: Wash contaminated clothing before reuse. Wash skin with soap and water for several minutes. Get

medical attention if irritation develops. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Prolonged skin contact may defat the skin and produce dermatitis.

Section 5. Fire-fighting measures

Extinguishing Media:

Suitable Carbon Dioxide, Dry Chemical, Foam, Water Fog
Not suitable Water Jet

SPECIAL FIREFIGHTING PROCEDURES: Use full protective clothing. Use a properly-fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Water spray. Dry powder. Carbon dioxide (CO₂). Do not use a solid water stream as it may scatter and spread fire. Cool containers / tanks with water spray. Vapors may be ignited by heat, pilot lights, other flames and ignition sources. Self-accelerating decomposition may occur if the specific control temperature is not maintained. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).

UNUSUAL FIRE AND EXPLOSION HAZARDS: No Information

Section 6. Accidental release measures

ENVIRONMENTAL MEASURES: Prevent entry into waterways, sewers, basements or confined areas. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Dike to prevent entering any sewer or waterway. Transfer liquid to a holding container. Avoid breathing vapors or mists. Use non-sparking tools and equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. Do not flush into surface water or sanitary sewer system. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

PRECAUTIONARY MEASURES: No Information

Section 7. Handling and storage



HANDLING: Avoid contact with skin, eyes and clothing. Ground/bond container and equipment. Wear personal protective equipment. Use only in well-ventilated areas. Keep away from heat and sources of ignition. Do not breathe vapors, mist or gas.

STORAGE: Store contents under 100F (37.8C). Store drums with bung in the upright position. Electrical equipment must be grounded; suitable for the classification of the area where it is installed and conform to the National Electric Code (see NFPA 70). Keep container closed when not in use. Store and dispose according to national, state and local regulations.

HYGIENIC PRACTICES: When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing. General industrial hygiene practice. Wash hands before eating, drinking, or smoking.

WORK PRACTICES: Put on appropriate personal protective equipment. Wash hands after handling chemicals and before eating, drinking, or smoking. Read and understand entire SDS before handling chemical.

SPECIAL HANDLING PROCEDURES: Put on appropriate personal protective equipment. Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.

Section 8. Exposure controls/personal protection

Ingredients with Occupational Exposure Limits

<u>Chemical Name</u>	<u>ACGIH TLV-TWA</u>	<u>ACGIH-TLV STEL</u>	<u>OSHA PEL-TWA</u>	<u>OSHA CEILING</u>
STYRENE MONOMER	20 ppm	40 ppm	100 ppm	200 ppm
ETHYLBENZENE	20 ppm	N.E.	100 ppm	N.E.

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation
 Sk = Skin Sensitizer N.E. = Not Established

Personal Protection

RESPIRATORY PROTECTION: When concentrations exceed the exposure limits specified, use of a NIOSH-approved dust, mist and fume respirator is recommended. Where the protection factor of the respirator may be exceeded, use of a full facepiece, supplied air, or Self Contained Breathing Apparatus (SCBA) may be necessary. Use a properly-fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.



SKIN PROTECTION: Wear suitable protective equipment. Wear chemical resistant footwear and clothing such as gloves, an apron or a whole body suit as appropriate.



EYE PROTECTION: Ensure that eyewash stations and safety showers are close to the workstation location. Safety glasses with side-shields. Wear chemical-resistant glasses and/or goggles and a face shield when eye and face contact is possible due to splashing or spraying of material.



OTHER PROTECTIVE EQUIPMENT: Use good hygiene practices. Wash face and hands before eating, drinking, and smoking. Eye wash and safety showers should be readily available.



HYGIENIC PRACTICES: When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing. General industrial hygiene practice. Wash hands before eating, drinking, or smoking.

Section 9. Physical and chemical properties

Color:	Blue	Physical State:	Liquid
Odor:	Styrene	Odor Threshold:	Not Available
Density, g/cm³:	1.096	pH:	Not Available
Freeze Point, °C:	Not Available	Viscosity:	Not Available
Solubility in Water:	Insoluble	Partition Coefficient, n-octanol/water:	Not Available
Decomposition Temp., °C:	Not Available	Flash Point, °C / F°	31 / 88
Boiling Range, °C:	145	Explosive Limits, vol%:	Not Available
Vapor Pressure:	Not Available	Auto-ignition Temp., °C:	Not Available

(See "Other information" Section for abbreviation legend)

Section 10. Stability and reactivity

STABILITY: The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is noticeably exceeded, the product may polymerise with heat evolution. Stable under normal conditions.

CONDITIONS TO AVOID: Avoid improper addition of promotor and/or catalyst. Avoid direct contact of MEKP catalyst with accelerator. If adding accelerator like cobalt drier, mix accelerator with base material before adding catalyst. Burning may produce obnoxious and toxic fumes. Hazardous polymerization may occur. Keep product away from heat, sparks, pilot lights, static electricity, and open flame.

INCOMPATIBILITY: Aluminium. Free radical initiators. Bases. Copper. Strong acids. Strong acids, strong bases, strong oxidizing agents. Strong oxidizing and reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: None under normal use.

Section 11. Toxicological information**Practical Experiences**

EFFECT OF OVEREXPOSURE - EYE CONTACT: Presumed to be moderately irritating to the eyes. Exposure may cause mild irritation. Symptoms may include stinging, tearing, and redness.

EFFECT OF OVEREXPOSURE - INGESTION: May cause severe gastrointestinal disturbance with headache, nausea, vomiting and

diarrhea.

EFFECT OF OVEREXPOSURE - INHALATION: Inhalation may cause irritation to the respiratory tract (nose, mouth, mucous membranes). Prolonged, repeated or high exposures may cause central nervous system depression leading to headaches, nausea, drowsiness, dizziness, and possibly narcosis. In extreme cases, may cause loss of consciousness. Ingestion of large doses may cause headaches, dizziness, nausea, vomiting, and drowsiness. Irritating to skin.

EFFECT OF OVEREXPOSURE - SKIN CONTACT: No Information

EFFECT OF OVEREXPOSURE - CHRONIC HAZARDS: Repeated or prolonged exposure may cause central nervous system damage. Prolonged skin contact may defat the skin and produce dermatitis. Prolonged or repeated exposure may cause liver and kidney effects.

CARCINOGENICITY: * This product contains the following chemicals classified by the International Agency for Research on Cancer (IARC) as 1, 2A, or 2B carcinogens:

*This product may contain a chemical which is listed in the NTP report on carcinogens.

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Contact

Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Name according to EEC</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
100-42-5	STYRENE MONOMER	1000 mg/kg Rat	N.I.	11.7 mg/L Rat
100-41-4	ETHYLBENZENE	3500 mg/kg Rat	15400 mg/kg Rabbit	17.2 mg/L Rat

N.I. - No Information

Section 12. Ecological information

ECOLOGICAL INFORMATION: Ecological evaluation of this material has not been performed; however, do not allow the product to be released to the environment without governmental approval/permits. Discharge into the environment must be avoided.

Section 13. Disposal considerations



DISPOSAL METHOD: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should always comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Section 14. Transport information

SPECIAL TRANSPORT PRECAUTIONS: No Information

International transport regulations

Regulatory Information:	UN/NA Number	Proper Shipping Name	Classes/ *PG	Reportable Quantity (RQ)
CFR	UN1866	RESIN SOLUTION	Class 3 PGIII	
IMO/IMDG	UN1866	RESIN SOLUTION	Class 3 PGIII	
IATA	UN1866	RESIN SOLUTION	Class 3 PGIII	

Section 15. Regulatory information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

<u>Chemical Name</u>	<u>CAS-No.</u>
STYRENE MONOMER	100-42-5
ETHYLBENZENE	100-41-4

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>
STYRENE MONOMER	100-42-5
ETHYLBENZENE	100-41-4

TOXIC SUBSTANCES CONTROL ACT:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.

U.S. State Regulations:

NEW JERSEY RIGHT-TO-KNOW:

The following hazardous materials are listed.

<u>Chemical Name</u>	<u>CAS-No.</u>
STYRENE MONOMER	100-42-5
ETHYLBENZENE	100-41-4
MINERAL SPIRITS(PETROLEUM NAPHTHA)	64742-88-7
HYDROQUINONE	123-31-9
ISOPROPYL ALCOHOL	67-63-0
MINERAL SPIRITS (STODDARD TYPE)	8052-41-3
ACETONE	67-64-1
METHYL ALCOHOL	67-56-1
P-BENZOQUINONE	106-51-4
MINERAL SPIRITS	8032-32-4

PENNSYLVANIA RIGHT-TO-KNOW

The following hazardous ingredients are present:

<u>Chemical Name</u>	<u>CAS-No.</u>
STYRENE MONOMER	100-42-5
ETHYLBENZENE	100-41-4
DIETHYLENE GLYCOL	111-46-6
HYDROQUINONE	123-31-9
ISOPROPYL ALCOHOL	67-63-0
MINERAL SPIRITS (STODDARD TYPE)	8052-41-3
ACETONE	67-64-1
METHYL ALCOHOL	67-56-1
P-BENZOQUINONE	106-51-4
MINERAL SPIRITS	8032-32-4

U.S. State Regulations:

MASSACHUSETTS RIGHT-TO-KNOW:

The following hazardous materials are listed.

<u>Chemical Name</u>	<u>CAS-No.</u>
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STYRENE MONOMER	100-42-5
ETHYLBENZENE	100-41-4
HYDROQUINONE	123-31-9
ISOPROPYL ALCOHOL	67-63-0
MINERAL SPIRITS (STODDARD TYPE)	8052-41-3
ACETONE	67-64-1
METHYL ALCOHOL	67-56-1
P-BENZOQUINONE	106-51-4

CALIFORNIA PROPOSITION 65 CARCINOGENS

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

<u>Chemical Name</u>	<u>CAS-No.</u>
ETHYLBENZENE	100-41-4

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

<u>Chemical Name</u>	<u>CAS-No.</u>
METHYL ALCOHOL	67-56-1

International Regulations

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class: B2,D2A

Chemical Inventories		
Australia inventory (AICS)		Not Determined
Canada inventory (DSL)		Not Determined
Japan Inventory (ENCSC)		Not Determined
China Inventory (IECSC)		Not Determined
Korea Inventory (KECI)		Not Determined
New Zealand (NZIoC)		Not Determined
Philippines (PICCS)		Not Determined
United States Inventory (TSCA 8b)		All components are listed or exempted

Section 16. Other information, including date of preparation of the last revision

Revision Date:	11/14/2015	Supersedes Date:	11/2/2015
Reason for revision:	Updated SDS Information		
Datasheet produced by:	Regulatory Department		

HMIS Ratings:

Health:	2*	Flammability:	3	Reactivity:	1	Personal Protection:	N.I.	Chronic Rating:	*
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Volatile Organic Compounds, gr/ltr: Not Determined

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H351	Suspected of causing cancer. Classified as Category 2 based on limited evidence on human and/or animal studies. Routes of exposure are dependant on ingredient form.

- H361 Suspected of damaging fertility or the unborn child. Classified Category 2 suspected human reproductive toxicant.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H373 May cause damage to organs through prolonged or repeated exposure.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02



GHS07



GHS08



Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined, N.I. - No Information

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