PROTECTIVE FLOORINGS & LININGS
A DIVISION OF MILAMAR COATINGS, L.L.C.

Material Safety Data Sheet

Revision Date: 05/12 Print Date: 08/30/12
Version 3.0 MSDS Identification: 6650CS - Part A Epoxy Vinyl Ester Resin System

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : 6650CS - Part A

Product Use Description : Epoxy Vinyl Ester Resin System

Company : Protective Floorings and Linings
A Division of Milamar Coatings, LLC
311 N.W. 122nd St, Suite 100
Oklahoma City, OK 73114

Telephone : 405-755-8448

Emergency Telephone Number: ChemTel 800-255-3924 or 813-248-0585 (International)

2. COMPOSITION / INFORMATION ON INGREDIENTS	% Wt.	**Symbol**	CAS No.	EC No.	R-phrases
Hazardous Ingredients 1	15-35	Xn	100-42-5	202-851-5	10-20-36/38
Styrene	0-5	-	1309-37-1	215-168-2	-
Iron Oxide	5-10	-	13463-67-7	236-675-2	-
Titanium Oxide	5-15	-	14807-96-6	238-877-9	-
Talc	0.1-1	Xi	27253-31-2	248-373-0	43
Neodecanoic Acid, Cobalt Salt					

See section 15 for labeling risk phrases and section 16 for others

3. HAZARDS INFORMATION

Emergency Overview

Yellow Liquid.
Pungent Styrene Odor.
Flammable Liquid And Vapor.
Vapors May Travel A Long Distance; Ignition And / Or Flash Back May Occur.
Harmful Or Fatal If Swallowed.
May Cause Eye Irritation.
May Cause Skin Irritation.
May Be Harmful If Inhaled.
May Cause Anesthetic Effects.
Highly Toxic To Fish And / Or Other Aquatic Organisms.
Isolate Area.
Keep Upwind Of Spill
Stay Out Of Low Areas.

Potential Health Effects (See Section 11 for toxicological data.)

Eye : May cause moderate eye irritation. May cause slight corneal injury. Vapor may cause eye irritation experienced as mild discomfort and redness. Vapor may cause lacrimation (tears).

Skin	:	Prolonged contact may cause slight skin irritation with local redness. Material may stick to skin causing irritation upon removal. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.
Ingestion	:	Low toxicity if swallowed. Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems.
Inhalation	:	Vapor concentrations are attainable which could be hazardous on single exposure Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
Systemic Effects	:	Contains styrene, which, in animals has been reported to cause effects on the following organs: central nervous system, kidney, liver and respiratory tract. Lung effects have been observed in mice following repeated exposure to styrene. Styrene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations (>800 ppm); however, the relevance of this to humans is unknown. Some studies in humans allege that repeated exposure to styrene may result in minor, sub clinical decreases in the ability to discriminate between colors.
Cancer Information	:	This mixture contains component(s) which are listed as potential carcinogens for hazard communication purposed under OSHA Standard 29 CFR Part 1910.1200 Components listed by IARC: Styrene. An increased incidence of lung tumors are observed in mice from a recent inhalation study on styrene. The relevance of this finding to humans is uncertain since data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic.
Teratology (Birth Defects)	:	In laboratory animals, styrene did not produce birth defects, but was toxic to the fetus at exposure concentrations having an adverse effect on the mother.
Reproductive Effects	:	Contains conponent(s) which did not interfere with reproduction in animal studies. The component(s) is / are styrene.

4. FIRST AID MEASURES

Eye Contact	:	Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Skin Contact	:	Wash skin with plenty of water.
Ingestion	:	Do not induce vomiting. Call a physician and / or transport to emergency facility immediately.
Inhalation	:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Note To Physician : Because rapid absorption may occur through the lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal an / or esophageal control Danger from lung aspiration must be weighted against toxicity when considering emptying the stomach. Maintain adequate ventilation and oxygenations of the patient. Consider additional thorough skin wash with mild non-abrasive soap and plenty of warm water for at least 15 minutes. If burn is present, treat as a thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flash Point	:	74-84F
Method Used	:	ASTM-D93, PMCC
Auto Ignition Temperature	:	914F (490C) based on styrene

Flammability Limits

LFL	:	0.9% (based on styrene)
UFL	:	6.8% (bases on styrene)

Hazardous Combustion Products : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and / or irritating. Combustion products may include and are not limited to phenolic compounds, carbon monoxide, carbon dioxide.

Other Flammability Information : Container may rupture from polymerization. Violent steam generation or eruption may occur upon application of direct water steam to hot liquids. Electrically bond and ground all equipment. Flammable mixtures of this product are readily ignited, even by static discharge. Vapors are heavier than air and by travel a long distance and accumulate in low lying areas. Ignition and / or flash back may occur. Flammable mixtures may exist within the vapor space of containers at room temperature. Flammable concentrations of vapor can accumulate at temperatures above flash point. Dense smoke is emitted when burned without sufficient oxygen.

Extinguishing Media : Water fog or fine spray, carbon dioxide fire extinguishers, dry chemical fire extinguishers, foam. Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function. Water fog, applied gently may be used as a blanket for fire extinguishment.

Media To Be Avoided : Do not use direct water stream.

Fire Fighting Instructions : Keep people away. Isolate fire area and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. Fight fire from protected location or safe distance. Consider use of unmanned hose holder or monitor nozzles. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Burning

liquids may be moved by flushing with water to protect personnel and used as a blanket for fire extinguishment. Contain fire water run-off if possible. Fire water run-off, if not contained may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this MSDS.

Protective Equipment For Fire Fighters : Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves) If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

Protect People : Isolate area. Keep unnecessary and unprotected personnel from entering the area Keep personnel out of low areas. Keep upwind of spill. Ventilate area of leak or spill. Vapor explosion hazard, keep out of sewers. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. For large spill, warn public of downwind explosion hazard. Check area with combustible gas and handling equipment. No smoking in area. Use appropriate safety equipment. For additional information, refer to section 8, Exposure Controls / Personal Protection. Refer to section 7, Handling for additional precautionary measures. See Section 10 for more specific information.

Protect The Environment : Prevent from entering into soil, sewers, waterways and / or ground water. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

Cleanup : Pump with explosion-proof equipment. If available use foam to smother and suppress. Remove residual with hot soapy water. Solvents are not recommended for cleanup unless the recommended exposure guidelines and safe handling practices for the specific solvent are followed. Consult appropriate solvent MSDS for handling information and exposure guidelines. See Section 13, Disposal Considerations for additional information.

7. HANDLING AND STORAGE

Handling : Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not swallow. Avoid breathing vapor. Use only with adequate ventilation. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and / or flash back may occur. Containers, even those that have been emptied, can contain vapors. Do not cut, drill grind, weld, or perform similar operations on or near empty containers. No smoking open flames or sources of ignition in handling or storage area. Never use air pressure for transferring product. Electrically bond and ground all containers and equipment before transfer or use of material. Use of non-sparking or explosion proof equipment may be necessary depending upon the type of operation. Spills of these organic materials on hot fibrous insulations may lead to lowering of the auto ignition temperatures possibly resulting in spontaneous combustion. See Section 8, Exposure Controls / Personal Protection.

Storage : Store below 24 degrees C (75 degrees F). Minimize sources of ignition, such as

static build up, heat, spark or flame. Keep containers closed. Maintain inhibitor and dissolved oxygen level. Vapors may polymerize to cause plugs in vents. See Section ten for more specific information.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures : Provide general and / or local exhaust ventilation to control airborne levels below the exposure guideline. Use only with adequate ventilation.

Personal Protective Equipment

Eye / Face Protection : Use chemical goggles. If exposure causes eye discomfort, use full face respirator.

Skin Protection : Wear clean, long-sleeved, body-covering clothing. Use gloves chemically resistant to this material. When prolonged or frequently repeated contact could occur, use chemically protective clothing resistant to this material. Selection of specific items such as face shield, gloves, boots, apron, or full-body suit will depend on operation.

Respiratory Protection : Atmospheric levels should be maintained below the exposure guideline. Wher respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be exceeded use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure airline with auxiliary self-contained air supply.

Exposure Guideline(s)

Styrene : The Styreneics Industry, including PF&L, supports a 50 ppm TWA, 100 ppm STEL, exposure limit in accord with a voluntary compliance program proposed by industry and accepted by OSHA in March 1996. The ACGIH TLV is 20 ppm TWA, 40 ppm STEL. ACGIH classifies as A4. (OSHA continues to list the PEL in the z-2 Table as 100 ppm TWA, 200 ppm Ceiling, with a maximum acceptable concentration of 600 ppm for 5 minutes in any 3 hours).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Yellow Liquid
Odor	:	Pungent Styrene
Vapor Pressure	:	4.5 mmHg @ 20C (based on Styrene)
Vapor Density	:	3.6 (based on Styrene)
Boiling Point	:	294 degrees F (146 degrees C) (based on Styrene)
Solubility in Water	:	Insoluble
Specific Gravity	:	1.020-1.060

10. STABILITY AND REACTIVITY

Stability	:	Stable under recommended storage conditions. See Storage, Section 7.
Conditions to Avoid	:	Avoid temperatures above 122 degrees F (50 degrees C). Exposure to elevated temperatures can cause product to decompose. Avoid static discharge. Do not blanket or purge with an inert gas to avoid depleting the oxygen concentration. Avoid direct sunlight or ultraviolet sources.
Incompatibility With Other Materials	:	Avoid contact with oxidizing materials, acids, caustic potash, caustic soda, metal halides. Avoid unintended contact with peroxides. Avoid contact with absorbent materials such as clay base absorbents.
Hazardous Decomposition Products	:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: carbon monoxide, carbon dioxide, phenolics.
Hazardous Polymerization	:	Can occur. Elevated temperatures can cause hazardous polymerization. Maintain inhibitor and dissolved oxygen level. Do not purge containers of this material with nitrogen. Polymerization can be catalyzed by: free radical initiators, sunlight, ultraviolet light. Uninhibited monomer vapors can polymerize and plug relief devices.

11. TOXICOLOGICAL INFORMATION

(See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in section 1).

Skin	:	The LD 50 for skin absorption in rabbits is expected to be >2000 mg / kg.
Ingestion	:	The oral LD 50 for rats is expected to be >4000 mg / kg.
Mutagenicity (Effects On Genetic Material)	:	For Styrene: In vitro genetic toxicity studies were inconclusive. Animal genetic toxicity studies were inconclusive.

12. ECOLOGICAL INFORMATION (for detailed Ecological data, write or call the address or non-emergency number shown on Section 1).

Environmental Fate	:	
Movement & Partitioning	:	Bases largely or completely on information for styrene. Bioconcentration potential is low (BCF less than 100 or Log Pow less than 3). Potential for mobility in soil is low Koc between 500 and 2000).
Degradation & Persistence	:	Based largely or completely on information for styrene. Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable. Reaches more than 70% mineralization in OECD test(s) for inherent biodegradability.
Ecotoxicity	:	Bases largely or completely on information for styrene. Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1mg/L in the

most sensitive species tested).

13. DISPOSAL CONSIDERATIONS

Disposal Method : DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State / Provincial and Local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

Contaminated Packaging : PROTECTIVE FLOORINGS AND LININGS INC. HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SECTION 2 (Composition / Information On Ingredients).

FOR UNUSED OR UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted recycler, reclaimer, incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

CFR (D.O.T.)

Proper Shipping Name	:	Resin Solution
Class	:	3
UN / ID No.	:	UN1866
Packing Group	:	III

15. REGULATORY INFORMATION (not meant to be all-inclusive -- selected regulations represented)

Notice: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections or health and safety information.

U.S. Regulations

SARA 313 INFORMATION :

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

Chemical Name	CAS Number	Concentration
Styrene	000100-42-5	30% - 60%

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:

An immediate health hazard
A delayed health hazard
A fire hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW :

The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

Chemical Name	CAS Number	List
Styrene	000100-42-5	PA1 PA3

PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).
PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

INFORMATION SYSTEMS (WHMIS) CLASSIFICATION FOR THIS PRODUCT IS:

B2 - flammable liquid with a flash point less than 37.8C
D2A - possible, probable or known human carcinogen according to classifications by IARC or ACGIH.
D2B - eye or skin irritant.

Refer to elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

HAZARDOUS PRODUCTS ACT INFORMATION:

This product contains the following ingredients which are Controlled Products and / or on the Ingredient Disclosure List:

Component	CAS #	Amount (%w / w)
Styrene	00010042-5	30% - 60%

Canadian Classification : B2: Flammable liquids; D2A; Very toxic materials causing other effects D2B: Toxic materials causing other effects

Risk Phrase(s) : Highly flammable. Harmful by inhalation. Irritating to eyes and skin. The international Agency for Research on Cancer (IARC) has designated Styrene as possilby carcinogenic to humans.

Precautionary and First Aid Measure(s) : Do not breath vapour. Wear suitable gloves and eye protection.
If affected by vapour, move to freash air. If not breathing, administer artifical respiration.
In case of contact with eyes, rinse immediately with plenty of water and seek medical

advice. After conact with skin, wash with plenty of soap and water.

Other information : None

16. OTHER INFORMATION

Base Resin CAS Index :

113060-15-4	28572-30-	58182-50-6
135108-89-3	28679-80-3	61224-63-3
141224-31-9	29011-83-4	62569-28-2
149717-53-3	29350-58-1	64386-66-9
155122-62-6	29403-69-8	67386-67-0
25037-66-5	30110-00-0	67380-21-6
25101-03-5	30946-90-8	67599-39-7
25215-72-9	31260-98-3	67712-08-7
25464-21-5	31472-46-5	67845-68-5
25609-89-6	32505-78-5	67939-08-6
25749-46-6	32677-47-7	67939-40-6
25749-49-9	32762-75-7	68002-44-8
25987-82-0	36346-15-3	68140-84-1
26098-37-3	36425-15-7	68140-88-5
26123-45-5	36425-16-8	68171-28-8
25265-08-7	37339-47-2	68238-98-2
26301-26-8	37347-86-7	68299-40-1
26588-55-6	37999-57-8	68492-68-2
26795-76-6	42133-45-9	68511-26-2
27342-37-6	464920-01-2	68585-94-1
27837-75-8	52453-94-8	68647-07-4
27863-48-6	54228-09-0	72259-64-4
28472-89-1	56083-98-8	81192-92-9
28516-30-5	56083-99-9	9003-20-7
29403-69-8	57863-48-6	9065-68-3

Prepared By : Protective Floorings and Linings. EH&S Product Safety Department

[1] Classified according to:
*29 CFR 1910,1200,1915,1916,1917
*Mass, right-to-know law(ch. 40,M.G.L..O 111F)
*Canadian WHMIS regulations
*67/548/EEC(29th Adaption) and 99/45EC
*Worksafe Austialia (NOHSC: 1008(1999))