

Material Safety Data Sheet

1. Chemical Product and Company Identification

Trade Name: **Laminating Resin**
Chemical Name: Unsaturated Polyester Resin

Product Code: **4510 MVP Class 1 Fire Retardant Low Emission Resin**

Manufacturer: **Advance Coating Company**
Emergency Telephone: (978) 874-5921
Chemtrec 24 Hrs. Emergency 800-424-9300

2. Composition/Information on Ingredients

<u>Component</u>	<u>CAS#</u>	<u>Exposure Limits</u>	<u>% by weight</u>
Polyester Resin	Proprietary	None assigned	67 ± 2%
Styrene Monomer	100-42-5	50.0 ppm ACGIH TWA 100.0 ppm ACGIH STEL	33 ± 2%

3. Hazard Identification

Emergency Overview: WARNING! Flammable liquid. Causes eye irritation. May cause skin and upper respiratory tract irritation. May cause central nervous system depression. Do not take internally.

Relevant Routes of Exposure: Inhalation, eye and skin.

Signs and Symptoms of Acute Overexposure:

Exposure to styrene vapors from this product may cause irritation of the eyes, nose, and throat, and headache, nausea or vomiting. Liquid resin is irritating to eyes and skin. The use of respirators and a local exhaust system are mandatory around spray operations. Protective gloves and goggles are recommended when contact with liquid resin by spray or splash is possible. Use with adequate exhaust ventilation.

Signs and Symptoms of Chronic Overexposure:

No known chronic health effects have been observed with normal use of this product.

Potential Health Effects/Health Hazard Identification

Acute Exposure

Eye: Causes Irritation

Skin: Causes Irritation

Ingestion: May cause irritation to the gastrointestinal track

Inhalation: Vapors may cause irritation of mucous membrane.

Chronic Exposure: Repeated exposure to high concentrations of styrene vapor

may cause nausea, loss of appetite, CNS depression, liver and kidney damage.

Other Hazards:

Known Synergist: None Known

Explosion Hazard: Empty drums are dangerous. They still may contain flammable vapors. Keep away from heat, sparks, or flames. Do not cut or weld on or near these drums.

Fire Hazard: Classified as Flammable Liquid.

Corrosion Hazard: Not corrosive

4. First Aid Measures

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse.

Ingestion: Call a physician or poison control center immediately. Induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person.

Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Additional protective Measures:

First Aid Facilities: Eye bath, safety shower, washing facilitation.

Advice to Physicians: None Known

5. Fire Fighting Measures

Flammable Liquid. Flammability Class: 1C

Extinguishing Media: Water spray, dry chemical, Carbon Dioxide, Foam

Protective Equipment: : Wear self-contained breathing apparatus and protective clothing.

Special Exposure Hazard: Containers can build pressure if exposed to heat or fire. The heat from a fire may cause polymerization which could cause violent rupture of closed drums. Vapors from the product may form explosive mixtures with air.

Special Fire Fighting Procedures: Use water spray to keep fire-exposed containers cool.

6. Accidental Release Measures

Leaks and Spills: Eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. For large spills; flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams.

Personal Protection: Wear protective clothing.

7. Handling and Storage

Handling: Material is a combustible liquid; keep away from heat, open flame, oxidizers, and other ignition sources. Avoid breathing vapors. Use protective equipment when handling.

Storage: Store with adequate ventilation and out of direct sunlight. Bond and ground containers of this product to prevent static sparks. Store away from oxidizing agents. Always use the oldest lot first.

8. Exposure Controls/Personal Protection

Engineering Control: Local exhaust ventilation should be used to control the emissions of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations.

Respiratory Protection: If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn.

Respirator type : Organic vapor. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.

Ventilation Required: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc.

Skin Protection: Wear impervious gloves, boots, and protective clothing appropriate for the risk of exposure.

Eye Protection: Wear safety glasses with side shields (or goggles).

9. Physical and Chemical Properties

Physical State:	Liquid
Odor:	Styrene odor
Boiling Point:	295°F

Freezing Point: Not determined
Flash Point: 89°F TCC
Vapor Pressure: 4.50 mm Hg @ 68°F
Oxidizing Properties: Reacts with strong oxidizing agents
Solubility in Water: Negligible
Density: 9.2 lb./gal.
Specific Gravity: 1.1 to 1.2
Volatile by Weight: 35 %
Explosion Limits: LEL 1.1% by volume
Evaporation Rate: (Butyl Acetate = 1) : Slower than Butyl Acetate

10. Stability and Reactivity

Chemical Stability: Stable
Conditions To Avoid: Heat and open flame
Incompatibility With Other Materials: Avoid oxidizing agents
Hazardous Decomposition Products: Carbon Dioxide, Carbon Monoxide and Organic Acids
Hazardous Polymerization: May occur.

11. Toxicological Information

<u>Material</u>	<u>LD50.RAT.Oral</u>
Styrene	>5g/kg

Eye Effects: Mildly irritating
Skin Effects: Mildly irritating
Inhalation Effects: Prolonged breathing of vapors can cause headache
Ingestion Effects: May cause nausea.

12. Ecological Information

Ecotoxicity: The styrene in this product is expected to be toxic to aquatic organisms.
Persistence: This product is expected to biodegrade.

13. Disposal Considerations

Disposal: Discharge, treatment, or disposal may be subject to national, state and local laws. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

Technical Shipping Name.....Unsaturated polyester, contains styrene
Freight Class Bulk.....Not Applicable
Freight Class Package Resin, Coal Tar or Petroleum
Product Label.....4510 MVP Class 1 Fire Shield Low E.

DOT (DOMESTIC SURFACE)

Proper Shipping Name.....Resin Solution
Hazard Class or Division.....3
UN/NA Number.....UN1866
Packing Group.....III
DOT Product RQ lbs (kgs).....4166 lbs (1889.7 kgs)
Hazard Label (s).....Flammable Liquid:
Hazard Placard (s)Flammable

IMO / IMDG CODE (OCEAN)

Proper Shipping Name.....Resin Solution
Hazard Class or Division.....3
UN Number.....UN1866
Additional IMO Information... ..Marine Pollutant
Packing Group.....III
Hazard Label (s).....Flammable Liquid; Marine Pollutant
Hazard Placard (s)Flammable Liquid; Marine Pollutant

ICAO / IATA (AIR)

Proper Shipping Name.....Resin Solution
Hazard Class Division Number.....3
UN Number.....UN1866
Subsidiary Risk.....None
Packing Group.....III
Hazard Label (s).....Flammable Liquid
Radioactive?.....Non-Radioactive
Passenger Air – Max. Qty.....60L
Passenger Packing Instruction.....309
Cargo Air – Max Qty.....220L
Cargo Air Packing Instruction.....310

15. Regulatory Information

U.S. Federal Regulations: Toxic substances control act (TSCA) Inventory - Yes

U.S. DOT Regulations:

Hazard class: Flammable Liquid
ID Number: UN1866
Packing Group: III

This MSDS contains all the information items specified in Schedule 1, Column 3 of the Controlled Products Regulations in a 16 heading format.

16. Other Information

NFPA Codes:

Health:	2	Flammability	3
Reactivity:	1		

HMIS Codes:

Health	2	Flammability	3
Reactivity:	1		

Workers using this product should read and understand this MSDS and be trained in the proper use of this material.

MSDS Prepared By:	(Preparer)	Chuncaai Yang
	(Title)	Technical Director

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This MSDS has been prepared with data from laboratories, raw material supplier data and government publications.

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