



SHS

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SHOWA HIGHPOLYMER SINGAPORE PTE.LTD

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SAFETY DATA SHEET

1. IDENTIFICATION OF MATERIAL AND SUPPLIER

Trade name: SHS
Chemical Name: Vinyl Ester Resin 8000
Other Names: Resin Solution, Flammable
Use: In manufacture of filled or reinforced plastics composite
Company Name: SHOWA HIGHPOLER SINGAPORE PTE.LTD.
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2. HAZARDS IDENTIFICATION

GHS Classification

FLAMMABLE LIQUIDS , Category 3

ACUTE TOXICITY – INHALATION , Category 4

SKIN CORROSION/IRRITATION , Category 2

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY(SINGLE EXPOSURE) , Category 3

Respiratory tract irritation

SERIOUS EYE DAMAGA/IRRITATION , Category 2

ASPIRATION HAZARD , Category 1

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY(REPEATED EXPOSURE) , Category 1

Auditory system

Central nervous system(CNS)

AQUATIC TOXICITY (ACUTE) , Category 2

GHS label elements:

Symbol(s)

Signal words : Danger

GHS Hazard : PHYSICAL HAZARDS

Statements

: H226: Flammable liquid and vapor.

: HEALTH HAZARDS:

: H304: May be fatal if swallowed and enters airways.

: H332: Harmful if inhaled.

: H315: Causes skin irritation.

: H319: Causes serious eye irritation.

: H355: May cause respiratory irritation.

: H372: Causes damage to organs through prolonged or repeated exposure

: ENVIRONMENT HAZARDS:

: H401: Toxic to aquatic life.

GHS Precautionary statements:

Prevention :

P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P233: Keep container tightly closed.

P243: Take precautionary measures against static discharged.

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection

Response :

P304+P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P332+P313: If skin irritation occurs: Get medical advice/attention.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P370+P378: In case of fire: Use appropriate media for extinction.

Storage :

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P235: Keep cool.

Disposal :

P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other Hazards which : Vapours are heavier than air. Vapours may travel across the ground and reach do not result in remote ignition sources causing a flashback fire danger.
classification May form flammable/explosive vapour-air mixture.
Maintain dissolved oxygen and inhibitor at proper levels to prevent runaway polymerisation.
Repeated exposure may cause skin dryness or cracking.

Aggravated Medical : Pre-existing medical conditions of the following organ(s) or organ system(s) may Condition be aggravated by exposure to this material: Central nervous system (CNS).
Auditory system. Respiratory system.

SECTION THREE. INFORMATION ON HAZARDOUS COMPONENTS

Component CAS No. WT %

Styrene 100-42-5 47.0

SECTION FOUR. FIRST AID MEASURES

Ingestion: Harmful if swallowed. Single dose oral toxicity is low. Do not induce vomiting. Aspiration of material into the lungs could cause pneumonitis which can be fatal. Give milk or water. Seek medical attention.

Inhalation of Vapour: Harmful. Effects may include headache, nausea, fatigue, central nervous system depression, pulmonary oedema. May be irritating to nose, throat and respiratory tract.

Move victim to fresh air. Apply artificial respiration or give oxygen if necessary. Seek medical attention.

Eye Contact: Irritant. Flush with copious amounts of water - lift eyelids repeatedly. Seek medical attention.

Skin Contact: Irritant. Wash thoroughly with soap and water. Remove contaminated clothing and launder before re-use. Seek medical advice if irritation persists.

Advice to Doctor: Treat symptomatically.

SECTION FIVE. FIRE-FIGHTING MEASURES

Flammable Liquid. 3.1C

Flammable Limits: LEL 1.1%

UEL 6.1%

Flash Point: 34°C (Setaflash)

Hazchem Code 3[Y]

EXTINGUISHING MEDIA. Foam, carbon dioxide, dry powder, water fog.

UNUSUAL FIRE AND EXPLOSION HAZARDS.

Styrene will polymerise at elevated temperatures. If this occurs in a closed container there is risk of violent rupture.

SPECIAL FIREFIGHTING PROCEDURES.

Fight like a fuel-oil fire. Water used in fire-fighting should not be allowed to enter drainage systems or contaminate soil.

SECTION SIX. ACCIDENTAL RELEASE MEASURES

Steps to be taken if the material is released or spilled.

Eliminate all sources of ignition (flames, hot surfaces, electrical, static or frictional sparks). Ventilate area.

Dyke area of spill and pump material into drums for use or disposal. Absorb remainder on sand or perlite and place the saturated absorbent into closed containers for disposal.

Prevent contamination of storm-water drains.

Waste disposal method. Destroy by liquid incineration with off-gas scrubber.

Contaminated absorbent to be incinerated or deposited in secure landfill in accordance with appropriate regulations.

Liquid material mixed with peroxide initiators should be allowed to gel before disposal as solid waste in accordance with appropriate regulations.

SEVEN. HANDLING AND STORAGE

Avoid inhalation of vapour and contact with skin, eyes and clothing. Launder contaminated clothing before re-use. Wash hands thoroughly before eating.

Ground (earth) all connections and containers when using above flash point.

Store in a bonded area or approved flammable goods store away from direct heat (ideally below 27° C to prevent spoilage). Keep containers closed when not in use. Open drums slowly in case of internal pressure.

Isolate from all potential sources of ignition including flames and electrical sparks.

Store separate from oxidising materials, peroxides and metal salts.

SECTION EIGHT. EXPOSURE CONTROL / PERSONAL PROTECTION

Workplace Exposure Limit Styrene 100ppm

Use general dilution or local exhaust ventilation to maintain vapour concentration below WES level.

If concentrations exceed exposure limit use organic vapour canister mask or approved air-line mask.

Skin Protection: Wear overalls or other work clothing providing arm and leg cover. Use protective gloves (PVC).

Eye Protection: Safety goggles or splash mask.

SECTION NINE. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, cloudy or coloured viscous liquid.	
Odour:	Sweet or sharp aromatic odour of styrene.	
Boiling Point:	Greater than 64°C	Percent Volatiles: 25-55 _{w/w}
Specific Gravity:	1.1 – 1.7	Water Miscibility: Immiscible
Flammable Liquid		Flammable Limits: LEL 1.1%
Flash Point:	34°C UEL 6.1%	

SECTION TEN. STABILITY AND REACTIVITY

Stability.	Potentially unstable – may polymerise producing heat if stored incorrectly.
Conditions to avoid.	Exposure to sunlight, open flames, contamination and prolonged storage above 27°C.
Materials to avoid.	Strong acids, peroxides, other oxidising agents, transition metals e.g. copper and zinc, their alloys and galvanised items.
Hazardous polymerisation.	May occur as result of high temperature or contamination. If burned, these products will evolve black, acrid smoke along with carbon monoxide, carbon dioxide and various organic compounds.

SECTION ELEVEN. TOXICOLOGICAL INFORMATION

When used under properly controlled conditions, within workplace exposure limits and with adequate protective equipment, no adverse health effects are to be expected.

Acute effects of over exposure.

If Swallowed: Harmful by ingestion. Possible irritation of mucous membranes, nausea, vomiting and gastric disturbance. Possible depression of central nervous system. Aspiration into lungs could cause pneumonitis which may damage lungs or may be fatal.

Eye Contact: Mild to moderate irritation. Reddening may occur if exposure is prolonged.

Skin Contact: Irritant. May cause itching and redness of skin.

Inhalation of Vapour: May cause headaches, nausea, irritation of the respiratory tract and depression of the central nervous system.

Chronic effects of overexposure.

Mild dermatitis may result from prolonged or repeated skin contact. Styrene can be absorbed through the skin. Excessive exposure to the liquid material or vapour may affect the central nervous system, the liver, kidneys and respiratory system.

SECTION TWELVE. ECOLOGICAL INFORMATION

Prevent these products from entering storm-water drains sewers or waterways.

Styrene is the major contaminant hazard in these formulations and it will undergo slow (but near complete) biodegradation in contact with soil. Styrene vapour degrades rapidly in the atmosphere.

Styrene floats on water and will vaporise and biodegrade.

SECTION THIRTEEN. DISPOSAL CONSIDERATIONS

Waste Disposal: Small quantities of these products may be mixed with appropriate amounts of polymerisation initiators and allowed to solidify before disposal as solid waste.

Recover or recycle if possible.

This material and its container must be disposed of as hazardous waste.

Any disposal must comply with applicable local and national government regulations. Ensure that these materials do not enter drains, sewers or waterways.

SECTION FOURTEEN. TRANSPORT INFORMATION

UN Number: 1866

Proper Shipping Name: Resin Solution, Flammable.

Dangerous Goods Class: 3

Packing Group: 111

Hazchem Code: 3(Y)

Marine Pollutant

SECTION FIFTEEN. REGULATORY INFORMATION

These products are hazardous goods approved by the National Environmental Authority (Singapore) under the Group Standard for Additives, Intermediates, Process Chemicals, Raw Materials.

SECTION SIXTEEN. OTHER INFORMATION

Disclaimer: The information in this safety data sheet is given in good faith and is believed to be valid and accurate at the time of publication. However, no responsibility is accepted for accident or injury which may occur from omissions or from information contained in the data sheet.