



SAMRAT POLY RESINS

Manufacturer of Coating & Composite Resins · Doraha, Ludhiana, Punjab, India

SAFETY DATA SHEET

Doc. Ref: SPR-SDS-VER · Rev. 01 · Issue Date: 9 August 2026

VINYL ESTER RESIN

Bisphenol-A Epoxy Vinyl Ester Resin · Chemical & Corrosion Resistance · Industrial Grade

STYRENE/MEKP-CURED — NOT THE SAME CHEMISTRY AS THIS COMPANY'S TWO-PART EPOXY PRODUCTS

Despite sharing 'Bisphenol-A' terminology with this company's true two-part epoxy products (Bisphenol Resin, Clear Casting Resin, Epoxy Art Resin), this product is chemically and functionally different. Vinyl ester resin is made by capping an epoxy resin backbone with reactive methacrylate end groups — the result cures via MEKP-catalysed free-radical polymerisation in styrene monomer, the SAME cure chemistry as this company's unsaturated polyester resin family, NOT the amine-hardener, two-part mixing chemistry used by this company's true epoxy products. This product is supplied as a single uncatalyzed liquid (like the polyester family), not as a Part A requiring a separate amine hardener.

Vinyl Ester Resin is a Bisphenol-A based epoxy vinyl ester resin solution in styrene monomer, engineered for demanding industrial applications requiring exceptional chemical resistance, corrosion protection, and mechanical strength. The manufacturer's TDS confirms excellent adhesion, superior toughness, thermal stability, resistance to water/acids/alkalis/solvents, and low shrinkage on cure, with flexible curing methods from room temperature to 60–120°C heat cure. Recommended applications include FRP tanks and chemical storage vessels, pipelines, ducts and scrubbers, cooling towers, pressure vessels, offshore structures, and marine, pultrusion, and filament winding applications. It is supplied uncatalyzed and is intended for industrial and professional use only.

No specific corrosion-resistance test certification, marine classification-society approval, or formal chemical-resistance rating is claimed beyond the manufacturer's general TDS description.

SECTION 1: IDENTIFICATION

1.1 Product Identifier

Product Name	Vinyl Ester Resin
Product Type	Bisphenol-A based epoxy vinyl ester resin solution, industrial grade
Chemical Family	Vinyl ester resin (epoxy-derived backbone, methacrylate-terminated) in styrene monomer — cures via MEKP/free-radical mechanism, not amine-hardener epoxy chemistry
Product Code / Internal Reference	VER
SDS Document Reference	SPR-SDS-VER, Rev. 01

1.2 Relevant Identified Uses and Uses Advised Against

- Recommended use: FRP tanks and chemical storage vessels, pipelines, ducts and scrubbers, cooling towers, pressure vessels, offshore structures, and marine, pultrusion, and filament winding applications, via hand lay-up, spray-up, filament winding, casting, or pultrusion. For industrial/professional use only.
- Uses advised against: Food-contact, medical, pharmaceutical, or other applications not specifically approved by the manufacturer; use as supplied without the correct catalyst (MEKP) dosage; any use not confirmed with Samrat Poly Resins technical staff.

1.3 Details of the Supplier of the Safety Data Sheet

Company Name	Samrat Poly Resins
Registered Activity	Manufacturer of Coating & Composite Resins (ISO 9001:2015 certified)
Address	Oswal Road, Near GT Road, Doraha, Ludhiana — 141421, Punjab, India
GST No.	03ALBPS3446G1ZB
Website	samratpolyresins.in
Email	info@samratpolyresins.in

1.4 Emergency Telephone Number

Company Emergency Contact	+91 74638 81652
National Poison Information Centre (India)	1800-116-117 (Toll-Free, 24x7) — National Poisons Information Centre, AIIMS New Delhi

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the Substance or Mixture (GHS)

Hazard Class	Category	H-Statement
Flammable liquids	Category 3	H226 — Flammable liquid and vapour
Acute toxicity — inhalation	Category 4	H332 — Harmful if inhaled
Skin irritation	Category 2	H315 — Causes skin irritation
Eye irritation	Category 2	H319 — Causes serious eye irritation
Specific target organ toxicity — single exposure	Category 3 (respiratory tract irritation)	H335 — May cause respiratory irritation
Specific target organ toxicity — repeated exposure	Category 1	H372 — Causes damage to organs through prolonged or repeated exposure
Reproductive toxicity	Category 2	H361d — Suspected of damaging the unborn child
Aspiration hazard	Category 1	H304 — May be fatal if swallowed and enters airways
Hazardous to the aquatic environment — chronic	Category 3	H412 — Harmful to aquatic life with long-lasting effects

This classification reflects the styrene-driven hazard pattern shared across this company's styrene-containing resin family, applied with full confidence to this product's TDS-confirmed 40% styrene content and TDS-confirmed 32°C flash point. Although this product's resin backbone is epoxy-derived, its hazard classification follows the styrene/MEKP-cured resin family, not this company's amine-hardener two-part epoxy products — the vinyl ester oligomer itself is not independently classified beyond this pattern, as its exact molecular structure/methacrylate content is not disclosed.

2.2 Label Elements

Signal Word	DANGER
Pictograms	GHS02 (Flame), GHS07 (Exclamation Mark), GHS08 (Health Hazard)
Hazard Statements	H226, H304, H315, H319, H332, H335, H361d, H372, H412
Precautionary Statements — Prevention	P210, P233, P240, P241, P242, P243, P261, P264, P271, P280
Precautionary Statements —	P303+P361+P353, P304+P340, P305+P351+P338, P312, P321, P332+P313,

Response	P337+P313, P370+P378
Precautionary Statements — Storage	P403+P235, P405
Precautionary Statements — Disposal	P501

2.3 Other Hazards

- Vapours may form flammable/explosive mixtures with air. Vapour is heavier than air and can travel along floors/low points to a source of ignition and flash back.
- The recommended storage temperature (below 25°C, per TDS) sits a genuine margin — approximately 7°C — below the confirmed flash point (32°C, per TDS). This is a comfortable, real margin, not an overlap; standard flammable-liquid storage controls still apply regardless, see Section 7.
- Uncatalyzed resin can undergo hazardous, self-accelerating exothermic polymerization if contaminated with peroxides (including its own MEKP catalyst), strong oxidizers, or exposed to excessive heat — this can lead to container rupture or fire, independent of any external ignition source.
- This product is supplied uncatalysed. Organic peroxide catalyst/MEKP, where used, is a separate chemical product and must be handled in accordance with its own Safety Data Sheet.
- This product supports heat-cure processing (60–120°C, per TDS) in addition to room-temperature cure — elevated-temperature processing (e.g. pultrusion dies, ovens) introduces additional thermal/burn hazards not covered by this SDS; follow equipment-specific safety procedures for heated processing.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Vinyl Ester Resin is a mixture. It is supplied as a single-pack, uncatalyzed resin; MEKP catalyst (and accelerator, where used) is applied separately by the customer at the point of use and is not an ingredient of the supplied product — it is outside the scope of this SDS.

Component	CAS No.	EC No.	Concentration (% w/w)	Classification / Hazard Role
Vinyl ester resin / oligomer (Bisphenol-A based epoxy vinyl ester, per manufacturer TDS)	Not assigned / reaction product of variable composition	Not applicable	60% (balance to 100% from confirmed styrene content)	Principal resin/binder component. Derived from an epoxy resin backbone capped with reactive methacrylate groups — not the same substance as this company's true (amine-cured) epoxy resin products, despite the shared 'Bisphenol-A' terminology. Not separately classified as the main hazard driver in this mixture.
Styrene monomer	100-42-5	202-851-5	40%	Flam. Liq. 3 (H226); Acute Tox. 4 (H332); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319); STOT SE 3 (H335); STOT RE 1 (H372); Repr. 2 (H361d); Asp. Tox. 1 (H304); Aquatic Chronic 3 (H412). Reactive diluent, per manufacturer TDS, and principal volatile component contributing to flammability, inhalation, irritation, aspiration, reproductive, repeated-exposure, and environmental hazards. Notably higher confirmed concentration than this company's general-purpose polyester resins.

Component	CAS No.	EC No.	Concentration (% w/w)	Classification / Hazard Role
Polymerisation inhibitor / stabiliser package	Proprietary / not disclosed	Proprietary / not disclosed	<0.1% (not separately stated in the TDS)	Controls premature polymerisation during storage. Identity and exact concentration are retained as proprietary manufacturer information.

SECTION 4: FIRST-AID MEASURES

4.1 Description of First-Aid Measures

Eye Contact	Rinse cautiously with clean water for several minutes. Remove contact lenses if present and easy to do — continue rinsing. Obtain medical attention where required.
Skin Contact	Remove contaminated clothing. Wash thoroughly with soap and water. Seek medical attention if irritation, redness, or a burning sensation develops.
Inhalation	Move the affected person to fresh air. Keep at rest in a position comfortable for breathing. Obtain medical attention where symptoms persist or exposure is significant.
Ingestion	Do not induce vomiting — risk of aspiration into the lungs (chemical pneumonitis). Rinse mouth with water if the person is conscious. Obtain immediate medical attention. Never give anything by mouth to an unconscious person.

4.2 Most Important Symptoms and Effects, Acute and Delayed

- Eye/skin: redness, irritation, itching; prolonged or repeated contact may cause drying or cracking of skin.
- Inhalation (at elevated vapour concentrations): headache, dizziness, drowsiness, nausea, and irritation of the nose and throat; high concentrations may cause central nervous system depression / narcosis. Given the higher confirmed styrene content (40%) relative to this company's general-purpose resins, vapour exposure may be reached more readily at a given evaporation rate — ventilation is particularly important for this product.
- Ingestion/aspiration: risk of chemical pneumonitis if aspirated into the lungs during swallowing or vomiting.

4.3 Notes to Physician

Treat symptomatically. There is no specific antidote. Aspiration of this material during ingestion or vomiting can cause chemical pneumonitis, which may be fatal — treating physicians should be made aware of this risk. Do not induce vomiting.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

- Suitable: Alcohol-resistant foam, dry chemical powder, carbon dioxide (CO₂), water spray/fog (for cooling containers).
- Not suitable: Avoid a direct high-pressure water jet, which may spread burning liquid.

5.2 Special Hazards Arising from the Substance or Mixture

- Vapours may form flammable mixtures with air and may travel to distant ignition sources.
- Heated containers may rupture. Uncontrolled polymerisation may generate heat, potentially leading to violent rupture of closed containers/drums.
- Combustion/decomposition may produce carbon monoxide, carbon dioxide, styrene vapours, and irritating fumes.

5.3 Advice for Fire-Fighters

- Evacuate the area and fight fire from a safe, protected distance where possible.
- Wear suitable protective equipment and self-contained breathing apparatus (SCBA) where appropriate.

- Cool fire-exposed closed containers/drums with water spray from a safe distance to prevent pressure build-up and rupture.
- Contain fire-fighting water run-off; prevent it from entering drains, watercourses, or soil.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Eliminate ignition sources. Restrict unnecessary access to the spill area.
- Ventilate the area, especially low-lying and enclosed spaces where vapour can accumulate. Use non-sparking tools.
- Wear appropriate PPE as described in Section 8 before attempting clean-up.

6.2 Environmental Precautions

- Prevent entry into drains, sewers, watercourses, or soil. Dike/bund the spill if it is safe to do so.
- Notify the relevant Pollution Control Board and site EHS personnel for any spill that reaches, or is likely to reach, a drain or waterway.

6.3 Methods and Material for Containment and Cleaning Up

- Absorb using an inert, non-combustible material such as sand, earth, or vermiculite. Transfer into suitable, labelled containers.
- For large spills, dike the area to prevent spreading; pump into salvage containers using non-sparking, explosion-proof equipment where vapour concentrations warrant it.
- Do not allow contaminated absorbent to accumulate in a confined pile — bulk resin-soaked absorbent can self-heat and undergo exothermic polymerization.
- Dispose through authorised waste handlers — see Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

- Handle with adequate ventilation — particularly important given this product's higher confirmed styrene content (40%) relative to this company's general-purpose resins.
- Avoid skin/eye contact. Keep away from heat, sparks, flames, and direct sunlight. No smoking.
- Ground/bond transfer equipment; use non-sparking equipment; protect against static discharge — particularly for bulk transfer, filament winding, and pultrusion operations.
- Keep away from organic peroxides/MEKP except during controlled manufacturing/curing operations. Keep away from incompatible accelerators, reducing agents, acids, bases, and amines. Never return catalyzed/mixed material to the bulk container.
- Keep containers tightly closed. Use the PPE specified in Section 8.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

FLAMMABLE LIQUID STORAGE — GENUINE MARGIN, STANDARD CONTROLS STILL APPLY

Recommended storage temperature (below 25°C, per TDS) sits a genuine margin — approximately 7°C — below the confirmed flash point (32°C, per TDS), similar to this company's DMC/SMC Resin. This is a real, comfortable buffer, not a thin margin requiring extra caution — but it does NOT reduce the underlying flammable-liquid classification (Category 3) or the standard controls required below:

Cool, dry, well-ventilated storage · No open flames · No smoking · No sparks · Explosion-proof electrical fittings where required · Proper grounding/bonding · Avoid direct sunlight and heat accumulation · Keep containers tightly closed · Store away from oxidising agents, organic peroxides/MEKP (except during controlled manufacturing/curing operations), and incompatible accelerators, reducing agents, acids, bases, and amines.

Storage Temperature

Below 25°C, per manufacturer TDS. Avoid direct sunlight and localized heat sources; excessive temperature shortens shelf life and increases self-polymerization risk, independent of the flash-point margin noted above.

Shelf Life

6 months from date of manufacture, under recommended storage conditions, per manufacturer TDS — shorter than this company's general-purpose polyester

	resins.
Storage Area	Cool, dry, well-ventilated area, away from direct sunlight and ignition sources. Bund/contain to capture leaks. Store as a flammable liquid (Category 3) in accordance with MSIHC 1989 (see Section 15).
Incompatible Materials	Peroxides and other free-radical initiators (incl. MEKP), strong oxidizing agents, strong acids and bases, amines, reducing agents — keep segregated unless intentionally used under controlled processing conditions.
Packaging Material	225 kg drum as supplied, per manufacturer TDS. Keep containers tightly closed when not in use.

7.3 Specific End Use(s)

Manufacture of chemical-resistant/corrosion-resistant FRP composite products via hand lay-up, spray-up, filament winding, casting, or pultrusion. Refer to the product TDS (SPR-TDS-VER) for gel time (15–20 minutes, specifically at 1.5% MEKP and 25°C) and processing parameters. This product supports both room-temperature cure (with MEKP and, per the TDS's Key Features, an accelerator — specific accelerator dosage not stated) and heat cure (60–120°C, with optional post-cure), offering more processing flexibility than this company's standard room-temperature-only polyester resins. Confirm the specific accelerator and dosage with Jaspal before room-temperature processing, and follow appropriate thermal-safety procedures for heat-cure/post-cure processing.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters — Occupational Exposure Limits (Styrene, the major volatile component)

Source	TWA	STEL / Ceiling	Basis
ACGIH (USA)	TLV-TWA 10 ppm	TLV-STEL 20 ppm	Threshold Limit Value; Ototoxicant and A3 notations
NIOSH REL (USA)	50 ppm (215 mg/m ³)	ST 100 ppm (425 mg/m ³)	Recommended Exposure Limit
OSHA PEL (USA)	100 ppm	Ceiling 200 ppm / Peak 600 ppm	29 CFR 1910.1000 Table Z-2
India — Factories Act 1948, Second Schedule	50 ppm (215 mg/m ³)	STEL 100 ppm (425 mg/m ³)	Statutory limit under §41-F

8.2 Exposure Controls

- Engineering controls: Local exhaust ventilation at resin-handling, mixing, filament winding, and pultrusion stations — given the higher confirmed styrene content, ventilation adequacy is especially important for this product. Ensure general workplace ventilation keeps vapour concentrations below the applicable OEL.
- Eye/face protection: Chemical splash goggles; face shield where splashing is possible.
- Hand protection: Chemically resistant gloves suited to styrene/vinyl ester resin systems.
- Body protection: Protective clothing. Heat-resistant protective equipment where heat-cure/post-cure processing is used.
- Respiratory protection: Organic-vapour respiratory protection where ventilation is inadequate and where permitted by workplace respiratory-protection procedures.
- General hygiene: Do not eat, drink, or smoke while handling. Wash hands and exposed skin thoroughly after handling and before breaks. Eyewash and safety shower should be readily accessible.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, per manufacturer TDS (specific colour/clarity not separately stated)
Odour	Sweet, aromatic styrene-like odour, likely more pronounced given the higher confirmed styrene content
Odour Threshold	0.04–0.32 ppm, based on styrene component data
pH	Not applicable — non-aqueous organic resin solution
Melting / Freezing Point	Not applicable to mixture; styrene component freezing point approx. -31°C

Initial Boiling Point / Range	Approx. 145°C, based on styrene principal volatile component
Flash Point	32°C (closed cup), per manufacturer TDS (chemist-verified)
Evaporation Rate	Approx. 0.5 (n-butyl acetate = 1), based on styrene component / comparable resin-solution data
Flammability	Flammable liquid and vapour
Lower Explosive Limit	Approx. 1.1% v/v, based on styrene component data
Upper Explosive Limit	Approx. 6.1–7.0% v/v, based on styrene component data
Vapour Pressure	Approx. 4.5–6.4 mmHg at 20°C, based on styrene / comparable resin-solution data
Vapour Density (air = 1)	Approx. 3.6, based on styrene component data
Relative Density / Specific Gravity	1.05 g/cm ³ , per manufacturer TDS (chemist-verified)
Solubility in Water	Insoluble / very slightly soluble
Solubility in Organic Solvents	Soluble / miscible in compatible organic solvents and styrene
Partition Coefficient (log K_{ow})	Approx. 2.96, based on styrene component data
Auto-Ignition Temperature	Approx. 490°C, based on styrene component data
Decomposition Temperature	Not normally applicable under recommended storage and handling; hazardous decomposition may occur under fire, excessive heat, or uncontrolled polymerisation conditions
Viscosity	350 cPs at 25°C, per manufacturer TDS
Heat Deflection Temperature (Cured)	110°C, per manufacturer TDS — a cured-product performance characteristic, notably higher than this company's standard polyester and two-part epoxy resins, not a liquid property
VOC Content	Approx. 40% w/w, based on the confirmed styrene content of the uncured product
Explosive Properties	Not classified as explosive; hazardous exothermic polymerization possible under contamination/heat — see Section 10
Oxidizing Properties	Not classified as oxidizing

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Not reactive under normal handling and storage conditions when kept away from peroxides, strong oxidizers, and excess heat. Can undergo hazardous, self-accelerating exothermic polymerization if contaminated or overheated.

10.2 Chemical Stability

Stable under recommended storage conditions. Uncontrolled polymerisation may occur under excessive heat or contamination.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization can occur if the resin is contaminated with peroxides (including MEKP catalyst), strong oxidizing agents, or exposed to excessive heat without adequate inhibitor protection. This reaction is exothermic and, in a confined or bulk quantity, can self-accelerate to the point of container rupture or fire.

10.4 Conditions to Avoid

- Heat, direct sunlight, sparks, open flames, and other ignition sources during storage.

- Prolonged storage above the recommended storage temperature.
- Oxidising agents, organic peroxides (outside controlled curing), incompatible accelerators, reducing agents, acids, bases, and amines.

10.5 Incompatible Materials

Peroxides and other free-radical initiators, strong oxidizing agents, strong acids and bases, amines, reducing agents, and metal driers/accelerators other than those intentionally formulated into the cure system.

10.6 Hazardous Decomposition Products

Under fire, hazardous decomposition may generate carbon monoxide, carbon dioxide, styrene vapour, and irritating fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological effects associated with this product are primarily attributed to its styrene content, the major hazardous/volatile component, present at a higher confirmed concentration (40%) than most of this company's other resin products. Component-based data is presented below; no whole-product toxicological testing data was provided in the manufacturer's TDS.

11.1 Information on Toxicological Effects

Acute Toxicity — Oral (rat)	LD50 approx. 2,650 mg/kg, based on styrene component data
Acute Toxicity — Inhalation (rat, 4h)	Harmful by inhalation; LC50 approx. 12,000 ppm, based on styrene component data
Skin Corrosion / Irritation	Causes skin irritation, based on styrene component data
Serious Eye Damage / Irritation	Causes serious eye irritation; may cause lachrymation at elevated vapour concentrations, based on styrene component data
Respiratory / Skin Sensitisation	No sensitisation classification identified for the styrene component or in comparable resin systems reviewed
Germ Cell Mutagenicity	Styrene mutagenicity data is mixed/inconclusive in published sources; no mutagenicity classification applied
Carcinogenicity	Styrene is classified by IARC as Group 2B (possibly carcinogenic to humans) and by ACGIH as A3 (confirmed animal carcinogen, unknown relevance to humans)
Reproductive Toxicity	Suspected reproductive toxicity — Category 2 (H361d, suspected of damaging the unborn child), based on styrene component classification
STOT — Single Exposure	May cause respiratory tract irritation and CNS effects — headache, dizziness, drowsiness, nausea — at elevated vapour concentrations
STOT — Repeated Exposure	May cause damage to organs (central nervous system, hearing, upper respiratory tract) through prolonged or repeated exposure, based on styrene component data
Aspiration Hazard	May be fatal if swallowed and enters airways (risk of chemical pneumonitis), based on styrene component data

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Fish	LC50 (96h) approx. 25–65 mg/L, based on styrene component data
Aquatic Invertebrates	EC50 (48h) approx. 23 mg/L, based on styrene component data
General	Harmful to aquatic life with long-lasting effects, depending on exposure and

concentration. Avoid release into drains, soil, groundwater, or surface water. Styrene is the principal environmental concern in this mixture.

12.2 Persistence and Degradability

The product, as a complete uncured resin mixture, is not expected to be readily biodegradable. The cured (fully polymerized) resin is expected to be inert, chemically resistant, and largely insoluble, consistent with its intended corrosion-resistant end use.

12.3–12.6 Bioaccumulative Potential, Mobility, Other Adverse Effects

A formal PBT/vPvB assessment has not been performed. Do not release to the environment; see Section 6.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

- Dispose of uncured resin, resin-contaminated waste, and rinse water through authorised industrial/hazardous waste handlers. Do not discharge into drains, soil, or waterways.
- Handle uncured/off-spec resin and resin-contaminated absorbent as hazardous chemical waste, in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (India) and applicable State Pollution Control Board requirements.
- Cured FRP composite waste is generally treated as inert solid waste, given its designed chemical resistance; confirm current requirements with the relevant State Pollution Control Board.
- Empty containers may contain flammable vapours and product residue. Do not cut, weld, drill, or apply heat to empty containers. Handle, store, and dispose of empty containers as hazardous waste unless certified as cleaned, or return to an authorised drum-reconditioner.
- Follow all applicable local, state, and national regulations for disposal.

SECTION 14: TRANSPORT INFORMATION

UN Number	UN 1866
UN Proper Shipping Name	RESIN SOLUTION, flammable
Transport Hazard Class(es)	Class 3 — Flammable liquid (confirmed by flash point 32°C)
Packing Group	III
Environmental Hazards / Marine Pollutant	Not expected to be classified as a marine pollutant based on available component data
Special Precautions for User	Keep away from heat, sparks, flames, oxidisers, organic peroxides, and ignition sources. Transport in tightly closed, approved containers, upright and secured against movement.
Transport in Bulk (Annex II MARPOL/IBC Code)	Not applicable — product transported in 225 kg drums, not in bulk
India — Road Transport	Subject to the Central Motor Vehicles Rules, 1989 (Class 3, Flammable Liquid)

As with all dangerous goods shipments, the shipper is responsible for verifying classification, packaging, marking, and documentation against the dangerous-goods regulations current at the time and mode of each shipment.

SECTION 15: REGULATORY INFORMATION

15.1 India

- Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 (MSIHC), under the Environment (Protection) Act, 1986 — this product falls into the Rules' 'highly flammable liquid' band (flash point ≤60°C but >23°C; confirmed at 32°C). Schedule 1–3 applicability depends on quantities held on site.
- Occupational exposure limits for styrene under the Factories Act 1948, Second Schedule (§41-F) — see Section 8, particularly relevant given this product's higher confirmed styrene content.

- ACGIH reference exposure limits — see Section 8.
- Factories Act, 1948 and applicable State Factory Rules — workplace exposure limits, storage, and safety provisions for hazardous substances, including flammable-liquid handling and storage requirements.
- Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 — governs disposal (see Section 13).
- India has not formally adopted the GHS for workplace chemical classification; this 16-section GHS-format SDS in English follows generally accepted practice.
- Users must comply with all applicable local, state, national, and transport regulations. No marine classification-society approval or specific corrosion-resistance certification is claimed for this product beyond its TDS description.

15.2 International Reference (where this product or its components may be exported/shipped)

- Styrene (CAS 100-42-5) is an actively listed substance on the US TSCA Inventory and is registered under EU REACH; it carries a harmonised CLP classification broadly consistent with Section 2 of this SDS.
- For US shipments: OSHA Hazard Communication Standard, 29 CFR 1910.1200, applies to labelling and SDS format.
- For EU shipments: Regulation (EC) No. 1272/2008 (CLP) and Regulation (EC) No. 1907/2006 (REACH) apply.

SECTION 16: OTHER INFORMATION

Full Text of Hazard (H) and Precautionary (P) Statements Referenced in Sections 2 and 3

- H226 — Flammable liquid and vapour
- H304 — May be fatal if swallowed and enters airways
- H315 — Causes skin irritation
- H319 — Causes serious eye irritation
- H332 — Harmful if inhaled
- H335 — May cause respiratory irritation
- H361d — Suspected of damaging the unborn child
- H372 — Causes damage to organs through prolonged or repeated exposure
- H412 — Harmful to aquatic life with long-lasting effects

Abbreviations

ACGIH = American Conference of Governmental Industrial Hygienists · CAS = Chemical Abstracts Service · CLP = Classification, Labelling and Packaging Regulation (EU) · GHS = Globally Harmonized System of Classification and Labelling of Chemicals · HDT = Heat Deflection Temperature · IARC = International Agency for Research on Cancer · LC50/LD50 = Lethal Concentration/Dose, 50% · MSIHC = Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 · NIOSH = National Institute for Occupational Safety and Health · OEL = Occupational Exposure Limit · OSHA = Occupational Safety and Health Administration · PEL = Permissible Exposure Limit · REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals · REL = Recommended Exposure Limit · SDS = Safety Data Sheet · STEL = Short-Term Exposure Limit · STOT RE/SE = Specific Target Organ Toxicity, Repeated/Single Exposure · TLV = Threshold Limit Value · TWA = Time-Weighted Average.

Revision Information

SDS Version / Revision No.	01
Issue Date	9 August 2026
Prepared By	Samrat Poly Resins / Regulatory Department
Reason for Issue	Initial official issue

This SDS has been prepared based on available technical data, manufacturer/chemist-reviewed product information, component hazard data, and applicable safety references. The information is provided for safe handling, storage, transport, use, and disposal of the product. Values shown are typical for this resin system and are believed accurate; users are responsible for confirming suitability for their specific application and for compliance with current regulations at the time of use.