Technical Data Sheet



Polynt Composites USA ... Delivering high-quality composite resin technologies & solutions since 1947!

Polynt 717-3145 Unsaturated Polyester RTM/Infusion Resin

Description

717-3145 is an RTM/infusion resin that is pre-promoted for room temperature gel and cure with methyl ethyl ketone peroxide (MEKP) or acetyl acetone peroxide initiator. This system complies with SCAQMD Rule 1162 and is considered a "closed mold resin."

Features & Performance Benefits

- Low viscosity
- Good flow and saturation properties
- Good wet-out
- Excellent mechanical properties

Suggested Applications

- RTM
- Infusion
- General purpose
- Small to large parts
- Difficult to process parts

Typical Liquid Properties (77°F)

Appearance		Pink
Brookfield viscosity (cP), RVT #3 @ 20 rpm		240
Gel time (minutes), 0.5% MEKP-925 + 0.5% Azox		14
Gel to peak time (minutes)		6.3
Peak exotherm (°F)		350
Weight per gallon (lbs/gal)		9.2
Nonvolatile mass (NVM %)		60
Styrene content (%)		40

Typical Mechanical Properties

0.125" Cured Unfilled Castings		
Flexural strength (psi)	ASTM D790	18,700
Flexural modulus (psi)	ASTM D790	566,000
Tensile strength (psi)	ASTM D638	9,600
Tensile modulus (psi)	ASTM D638	582,000
Tensile elongation (%)	ASTM D638	2.0
Barcol hardness (934.1)	ASTM D2583	45
Heat deflection temperature (°F)	ASTM D648	178

Polynt Composites USA Inc. ▪ 99 East Cottage Ave. ▪ Carpentersville, IL 60110
Customer Service: phone +1 800 322 8103 ▪ fax +1 847 428 2757
www.polynt.com ▪ www.polyntcompositesus.com
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Safety & Handling

All sales of products manufactured by Polynt Composites USA Inc. and described herein, are made solely on condition that Polynt Composites USA customers comply with applicable health and safety laws, regulations and orders relating to the handling of our products in the workplace. Before using, read the following information, and both the product label, and Safety Data Sheet pertaining to each product.

Most products contain styrene. Styrene can cause eye, skin and respiratory tract irritation. Avoid contact with eyes, skin and clothing. Impermeable gloves, safety eyewear and protective clothing should be worn during use to avoid skin and eye contact. Wash thoroughly after use. Styrene is a solvent and may be harmful if inhaled. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Extended exposure to styrene at concentrations above the recommended exposure limits may cause central nervous system depression causing dizziness, headaches or nausea and, if overexposure is continued indefinitely, loss of consciousness, liver and kidney damage.

Do not ingest or breathe vapor, spray mists or dusts caused by applying, sanding, grinding and sawing products. Wear an appropriate NIOSH/MSHA approved and properly fitted respirator during application and use of these products until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapors, mists and dusts are below applicable exposure limits. Follow respirator manufacturer's directions for respirator use.

The 12th Report on Carcinogens issued by the National Toxicology Program lists styrene as a “reasonably anticipated” carcinogen, but the Report cautions that the NTP listing does not mean that styrene presents a risk to persons in their daily lives. The Styrene Information and Research Center does not agree with the classification as it did not include a review of all available data. SIRC states: “HHS included styrene in the 12th RoC despite the fact that European Union regulators have determined styrene does not represent a human cancer concern. E.U. scientists reviewed the full styrene database, weighing all of the available data in reaching their conclusion.”

The International Agency for Research on Cancer (IARC) reclassified styrene as Group 2B, "possibly carcinogenic to humans." This revised classification was not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Center does not agree with the reclassification and published the following statement: Recently published studies tracing 50,000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene. Styrene is classified by OSHA and the Department of Transportation as a flammable liquid. Flammable products should be kept away from heat, sparks, and flame.

Lighting and other electrical systems in the work place should be vapor-proof and protected from breakage. Vapors from styrene may cause flash fire. Styrene vapors are heavier than air and may concentrate in the lower levels of molds and the work area. General clean air dilution or local exhaust ventilation should be provided in volume and pattern to keep vapors well below the lower explosion limit and all air contaminants (vapor, mists and dusts) below the current permissible exposure limits in the mixing, application, curing and repair areas.

Some products may contain additional hazardous ingredients. To determine the hazardous ingredients present, their applicable exposure limits and other safety information, read the Safety Data Sheet for each product (identified by product number) before using. If unavailable, these can be obtained, free of charge, from your Polynt Composites USA representative or from: Polynt Composites USA Inc., 99 East Cottage Ave., Carpentersville, IL 60110, 800-322-8103.

FIRST AID: In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapors or spray mist, remove to fresh air. If swallowed, get medical attention. Those products have at least two components that must be mixed before use. Any mixture of components will have hazards of all components. Before opening the packages read all warning labels. Observe all precautions.

Keep containers closed when not in use. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Emptied containers may retain hazardous residue. Do not cut, puncture or weld on or near these containers. Follow container label warnings until containers are thoroughly cleaned or destroyed.

FOR INDUSTRIAL USE AND PROFESSIONAL APPLICATION ONLY. KEEP OUT OF REACH OF CHILDREN.

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