

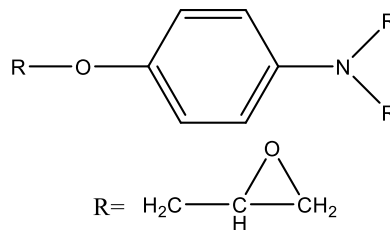
Technical Datasheet

SM-ER-90HD Electronic-grade Resin

Product Description

SM-ER-90HD is a high-purity, low-viscosity trifunctional epoxy resin based on para-aminophenol (TGpAP). Engineered for elite performance, it delivers rapid cure kinetics and superior thermal stability.

CAS NO. 5026-74-4



Applications

- High-temperature structural adhesives
- Micro-motor potting/encapsulation
- Matrix resin for filament winding, pultrusion, and prepreg systems
- High-temperature resistant reactive diluent
- Low-halogen electronic-grade adhesives, die-attach adhesives, and conductive adhesive matrices.
- Primary matrix or modifying resin for chip encapsulation materials.

Typical Physical Properties

Property	Value	Test Method
Appearance	Clear, yellow liquid	
Epoxy Value ,eq/100g	1.0 ~ 1.04	GB/T 1677-2008
Viscosity @ 25±1°C (mPa·s)	500 - 1,500	GB/T 2794-2013
Total Chlorine (ppm)	≤1,200	Q/HYSZ-75-2022
Inorganic Chlorine (ppm)	≤5	Q/HYSZ-75-2022
Non-volatile Matter (%)	≥ 99.5	GB/T 2793-95

Physical Properties (Typical Composites)

Property	DDS	Test Method
Glass Transition Temp (T _g), °C	220-225	GB/T 194667.2-2004
Tensile Strength (MPa)	67	GB/T 2567-2008
Tensile Modulus (GPa)	3.3	
Flexural Strength (MPa)	129	
Flexural Modulus (GPa)	3.5	
Elongation at Break (%)	2.5	
Impact Strength (kJ/m ²)	9	-
Mixing Ratio (Resin:Hardener)	100: 56	

Processing condition system: 80°C2h + 100°C2h + 120°C2h + 140°C2h + 200°C2h.*

Processing & Usage

- **Hardener Compatibility:** Can be cured using standard epoxy hardeners such as amines, anhydrides, and imidazoles. Recommended hardeners include 4,4'-Diaminodiphenylmethane (DDM), Methyltetrahydrophthalic anhydride (METHPA), Methyl nadic anhydride (MNA), and 2-Ethyl-4-methylimidazole (2,4-EMI).

Storage & Handling

- Exhibits high reactivity—10 times that of bisphenol A epoxy resins
- Exposure to high temperatures, light, or an open environment will accelerate resin degradation.
- Shelf life is 12 months. Store in a cool, dry, and well-ventilated area in tightly sealed original containers.
- Storage at lower temperatures can further extend the shelf life.
- Viscosity may increase slightly over time depending on storage conditions. If the product remains within application limits and exhibits no macroscopic gelation or significant property shifts, it may continue to be used.