

Product Data Sheet

MECHSTER™ 9000HFR

(Very Low Flammability Halogen Free Unsaturated Polyester Resins)

Mechster™ designates a variety of unsaturated polyester resins synthesized at *Mechemco Resins Pvt. Ltd.*. These resins are specially engineered to meet the most diverse needs of fibreglass reinforced plastic moulding industry. Our R & D is geared to tailor **Mechster™ Resins** for the customers' most specific end application. In fact we take pride in suitably formulating the resin to improve your production efficiency as also the field performance of the FRP product.

Mechster™ 9000HFR is a medium viscosity, medium reactivity, halogen free flame retardant unsaturated polyester resin specially designed for components to comply with the low flame spread, low smoke density and low toxicity index when used with Mechster™ 1110NGHFR Gel Coat. This resin while exhibiting very low flammability, retains physical, mechanical and electrical properties of unsaturated polyester resins.

The **Mechster™ 9000HFR** is designed to have,

- Medium Viscosity
- Homogenous Consistency
- Fast Wet out of Reinforcements
- Complete Cure

Physical Properties

Property	Nominal Values	Test Method*
Appearance	Creamy White Viscous liquid	AM-113
Specific Gravity @30°C	1.46 ± 0.01	AM-103
Viscosity ¹ @ 30°C, cP	800 ± 100	AM-101
Acid Value, mg KOH/g	10 ± 3	AM-102
Volatile Content, (w/w) %	25 ± 2	AM-106

Curing Characteristics

Standard Gel Time Test² @ 30°C

Property	Nominal Values	Test Method*
Gel Time, minutes	6 - 8	AM-110
Peak Exotherm Temperature, °C	>100	AM-110

Note:

* Internal Test Method, available on request

1: By Brookfield Viscometer, Sp. No. 3 @ 50 rpm

2: Determined with 100 g of Resin using 1.0% (v/w) A103 + 2.0% (v/w) C109

3: Cast prepared by catalyzing resin with 1.0% (v/w) A101 + 1.5% (v/w) C109

A103: Cobalt Octoate with 3% Cobalt

C109: Methyl Ethyl Ketone Peroxidet containing 9% Active Oxygen

Properties of Cured Resin (Unfilled Cast)³

Property	Nominal Values	Test Method
Specific Gravity, @ 25 °C	1.55	IS 6746:1994
Tensile Strength, MPa	40	ISO 527-2
Flexural Strength, MPa	100	ISO 178
Heat Deflection Temp., °C	95	ISO 75-2
Barcol Hardness	45	ASTM 2583
Limiting Oxygen Index	Min 25.	ISO 4589

Uses

Mechster™ 9000HFR is suitable for Flame Retardant Components and Parts to be produced by Hand Lay-up / Spray-up / RTM process for applications in Mass Transit, Automotive and Building and Construction Industries.

Packaging and Storage

Mechster™ 9000HFR is supplied in an open mouth HDPE Barrels containing 40 kg Net. It is recommended that material in the container is stirred / mix thoroughly prior to transfer / use. Material must be stored in a cool and dry place away from sunlight, preferably below 25°C. Under these conditions, the shelf life is 2 months.

Handling Precautions

Mechster™ 9000HFR has a flash point of 32°C and is classified as flammable. Containers should be kept in a cool and ventilated place away from sunlight and sources of ignition. "No Smoking" rules should be strictly enforced. In case of fire, use dry chemical, foam, carbon dioxide or water spray to extinguish the flame. Spillage may be absorbed onto sand or earth and shoveled off and disposed according to local disposal regulations.

Skin contact and vapor inhalation should be avoided during moulding because of the presence of styrene monomer. In case of irritation in the eye or skin, wash with copious amount of water. In extreme case, seek immediate medical advice. The moulding area should be sufficiently ventilated for reducing the vapour levels in the air while compounding and moulding.

Caution

Store catalyst and accelerator separately. Do not allow them to come in contact with each other as they form an explosive mixture. Carry out separate addition of accelerator and catalyst to the resin mix for avoiding accidents

The above information and recommendation are based on our extensive experience in the field and is provided only as a general guidance for application of our product. The user should verify the suitability of our product for their own specific applications. We do not warrant or assume any liability for the information provided.

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