

MECHSTER™ 9000MFR

(Very Low Flammability Orthophthalate Unsaturated Polyester Resins for RTM)

Mechster™ designates a variety of unsaturated polyester resins synthesized at **Mechemco Industries**. 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™ 9000MFR is a medium viscosity, medium reactivity, flame retardant Orthophthalate unsaturated polyester resin specially designed for components to comply with the fire retardant characteristics as per IS 6746:1994 Type I, and complying to IS 15061-2202 for Horizontal as well as Vertical Flammability criteria when used with Mechster™ 9000GFR Gel Coat. This resin while exhibiting very low flammability, retains physical and mechanical and electrical properties of unsaturated polyester resins.

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

- Medium Viscosity
- Homogenous Consistency
- Fast Wet out of Reinforcements
- Faster Gel to Cure

Physical Properties

Appearance	: Creamy White viscous liquid
Specific Gravity @30°C	: 1.28 ± 0.02
Viscosity @ 30°C by	
Brookfield Viscometer, cps	: 450 ± 50
LVD Spindle No. 3, 60 rpm	
Acid Value mg KOH/g	: 20 ± 3
Volatile Content (w/w) %	: 35 ± 2

Curing Behaviour

Geltime, minutes @ 30°C with	
1.5% v/w A103 ¹	
1.5% v/w C109 ²	: 10 - 12
Peak Exotherm Temperature ³	: 165

¹A103 : Cobalt Octoate Solution containing 3% Cobalt.

²C109 : Methyl Ethyl Ketone Peroxide Containing 9% Active Oxygen

³Resin Casting without Reinforcement

Typical Properties of Cured Mechster™ 9000MFR

	Cast ³
Specific Gravity @ 25°C	1.32
Tensile Strength, MPa	68
Tensile Elongation at Break, %	1.9
Tensile Modulus, MPa	3750
Flexural Strength, MPa	95
Flexural Modulus, MPa	3750
Heat Deflection Temperature, °C	78
Barcol Hardness	45
Limiting Oxygen Index	Min 25

The cast were prepared from **Mechster™ 9000MFR** catalysed with 1.0% v/w accelerator (A103) and 1.5% v/w catalyst (C109). The specimens were first allowed to cure at room temperature and subsequently post cured at 75°C for six hours.

Uses

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

Packaging and Storage

Mechster™ 9000MFR 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™ 9000MFR 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.

Our information regarding our products, equipments and processes is based on extensive research and experience in the field of Applied Engineering and is provided as a general guidance in the application of our product. The user should verify the suitability of our product for their end use. We do not warrant or assume any liability for the information provided.

Mechster™ is the Registered Trade Mark of Mechemco Industries

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