



NETWORK POLYMERS PVT LTD.

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NETPOL™ 1011 (Orthophthalate Polyester Resin)

Netpol™ designates a variety of unsaturated polyester resins synthesized at *Network Polymers 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 **Netpol™ 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.

Netpol™ 1011 is a medium reactivity and low viscosity orthophthalate polyester resin. It is designed to give:

- Fast wetout of fibreglass reinforcements
- High Glass to Resin Ratio (larger coverage)
- High loading of inorganic fillers
- Fast Moulding Cycles
- Smooth and Glossy (tack-free) surface.

Components made from **Netpol™ 1011** display excellent physical, mechanical and electrical properties.

Physical Properties

| Property | Nominal Values | Test Method* |
|--------------------------------------|----------------------|--------------|
| Appearance | Clear Viscous Liquid | - |
| Specific Gravity @ 25°C | 1.10 ± 0.01 | AM-103 |
| Viscosity ⁽¹⁾ @ 25°C (cP) | 300 ± 75 | AM-101 |
| Acid Value (mg KOH/g) | 20 ± 4 | AM-102 |
| Volatile Content (%) | 38 ± 3 | AM-106 |

Curing Behaviour⁽²⁾ at 25 °C:

| Property | Nominal Values | Test Method* |
|---------------------------|----------------|--------------|
| Gel Time (mins) | 10 - 20 | AM-110 |
| Total Time to Peak (mins) | 25 - 40 | AM-110 |
| Peak Exotherm Temp (°C) | 165 - 185 | AM-110 |

*Internal Test Method available upon request.

⁽¹⁾ Viscosity: LVDV-E, Sp #2, RPM 20

⁽²⁾ Gel Time done using 50g + 1% A103 + 1.5% C109

A103: Co Octoate Solution (3% Cobalt)

C109: Methyl Ethyl Ketone Peroxide (9% Active Oxygen)

Properties of Cast of Unfilled Base Resin

| Property | Nominal Values | Test Method |
|----------------------------------|----------------|-------------|
| Specific Gravity @ 25°C | 1.21 | ISO 1183 |
| Tensile Strength (MPa) | 65 | ISO 527-2 |
| Tensile Modulus (MPa) | 3600 | ISO 527-2 |
| Elongation at Break (%) | 2.0 | ISO 527-2 |
| Flexural Strength (MPa) | 95 | ISO 178 |
| Flexural Modulus (MPa) | 3500 | ISO 178 |
| Heat Deflection Temperature (°C) | 70 | ISO 75-2 |
| Barcol Hardness | 40 | ASTM 2583 |

Uses

Netpol™ 1011 is a versatile orthophthalate polyester resin suitable for many applications primarily for molding FRP components. It is primarily used for Contact Molding Applications. It is also used in casting applications.

Packing

Netpol™ 1011 is supplied in non returnable M.S. drums containing 225 kg or returnable IBCs containing 1.0 MT and ISO Tanks containing ~ 20 MT net

Storage and Handling

Netpol™ 1011 should be stored in a cool and dry place away from sunlight, preferably below 25°C. Under these conditions, the shelf life is 4 months. The storage stability could be further improved by aerating the resin stored in barrels at an interval of about a fortnight.

Netpol™ 1011 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. Spillages may be absorbed onto sand or earth and shovelled 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.

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.