



NETWORK POLYMERS PVT LTD.

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NETPOL™ 3011

Technical Datasheet

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™ 3011 is a high molecular weight Isophthalic acid based unsaturated polyester resin specially designed for hand layup and sprayup applications.

The **Netpol™ 3011** is designed to have,

- fast wet out of reinforcements
- rapid cures and tackfree surface cure
- higher heat deflection temperature
- excellent surface finish

Component moulded from **Netpol™ 3011** exhibit excellent hydrolytic stability, improved mechanical strength.

Liquid Resin Properties

Property	Nominal Values	Test Method*
Appearance	Pale Yellow Clear Viscouse Liquid	AM-113
Relative Density @ 25°C	1.09 ± 0.01	AM-103
Viscosity ¹ @ 25°C, cP	400 ± 100	AM-101
Acid Value, mg KOH/g	15 ± 4	AM-102
Volatile Content, (w/w) %	39 ± 3	AM-106

Curing Characteristics

Standard Gel Time Test² @ 25°C

Property	Nominal Values	Test Method*
Gel Time, minute	10 – 15	AM-110
Peak Exotherm Temperature, °C	160 – 190	AM-110

Note::

* Internal Test Method, available on request

1: By Brookfield Viscometer, Sp. No 2, 30 rpm

2: Determined with 50 g resin mass using 1% A103 + 1.5% C109

A103: Cobalt Octoate with 3% Cobalt

C109: Methyl Ethyl Ketone Peroxidet containing 9% Active Oxygen

Netpol™ 3011(UV) : UV Stabilized Version of Netpol™ 3011

Properties of Cured Unfilled Cast Resin:

Property	Typical Value	Test Method
Specific Gravity	1.20	AM-201
Tensile Strength, MPa	70	ISO 527-2
Tensile Modulus, MPa	3500	ISO 527-2
Elongation at Break, %	2.5	ISO 527-2
Flexural Strength, MPa	120	ISO 178
Flexural Modulus, MPa	3500	ISO 178
Izod Impact Strength, kJ/m ² (Unnotched)	15	ISO 180
Heat Deflection Temperature, °C	90	ISO 75-2
Barcol Hardness	40	ASTM 2583
Water Absorption, (w/w)% @ 25°C (after 1 day)	<0.10	ISO-62
Water Absorption, (w/w)% @ 25°C (after 7 days)	0.15	ISO-62
Water Absorption, (w/w)% @ 25°C (after 28 days)	0.30	ISO-62

Uses

Netpol™ 3011 is suitable for fabricating FRP moldings with hand lay-up, spray-up for a wide range of different applications

Packaging

Netpol™ 3011 is supplied in non-returnable MS Drums containing 220 kg net or returnable IBCs containing 1.0 MT net.

Storage & Handling

Netpol™ 3011 should be stored in a cool and dry place away from sunlight, preferably below 25°C. Under these conditions, the shelf life is 3 months. The storage stability could be further improved by aerating the resin stored in barrels at an interval of about a fortnight.

Netpol™ 3011 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 information mentioned and recommendation in this Technical Data Sheet 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.