



Isochem
KAUTSCHUK-GESELLSCHAFT
mbH

Isobond PC-45 (Caprolactam and Phenolic Blocked MDI)

Isobond PC-45 is an ultra-fine aqueous dispersion of a caprolactam and phenolic blocked methylene diisocyanate which is used as an adhesion promoter for rubber to textile bonding.

Blocked MDI is widely used for the treatment of polyester tyre cord and the treatment of reinforcing fabric for i.e. conveyor belts.

Isobond PC-45 is a new adhesion promoter, Made in Germany under a unique production process and combines the advantages of caprolactam- and phenolic-blocked MDIs. Isobond PC-45 sets the standard in particle size, stability, and provides with a very wide processing window.

Chemical Characterization

45 % aqueous dispersion of a urethane-prepolymer produced by reaction of methylene-bis-(4-phenylisocyanate) with ϵ -caprolactam and a 4, 4'-methylene-bis (phenyl carbanilate):

Empirical formula $C_{27}H_{32}N_4O_4$; CAS No. 54112-23-1

And

4, 4'-methylene-bis (phenyl carbanilate):

Empirical formula $C_{27}H_{22}N_2O_4$; CAS No. 101-65-5

Typical Properties

Appearance:	White liquid dispersion
Solids:	44 +/- 2 %
Particle size distribution (50 %-value):	1 - 2.0 µm
(90 %-value):	< 6.0 µm
Viscosity (flow time) (25 °C):	12 - 40 sec (EN ISO 2431, 4mm flow cup)
Density:	~ 1.12 g/cm³
Miscibility:	in water at any ratio

Application

Isobond PC-45 is used as a technical auxiliary in combination with RFL (resorcinol-formaldehyde-latex) for surface treatment of technical yarns and fabrics. It is extremely efficient for improving the polyester/rubber adhesion in polyester tyre cord and reinforcing fabric in technical rubber products such as conveyor belts, etc.

It can be used in the single dip method as an additive to the RFL-bath or in the double dip method as a pre-dip. Isobond PC-45 can be used at activation temperatures from as low as 180 °C and up to 250 °C.

At the same oven temperatures as for caprolactam-blocked MDI, Isobond PC-45 allows a faster processing speed.

For further information please call our technical service.

Storage Stability / Pack Size

Isobond PC-45 is stable for at least one year when stored in sealed original packing at temperatures between +5 °C and +30 °C without exposure to sunlight. **Not frost resisting! Stir up before using!**

Standard pack size is in 1 ton plastic containers (Schütz container); it also can be supplied in 200 kg plastic drums or 22 kg plastic canisters.

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The above information is based on our experience to date and is intended for your advice. It does not constitute a guarantee for individual applications because the application and handling in each case lie beyond our control. If damage or injury occurs as a result of an application for which we are proven liable, or maximum liability will be limited to the value of the products supplied by us and used by you. Claims for compensation based on the provisions of the Product Liability Law are not affected by the liability exclusion insofar as they are based solely on this law and are made by third parties.

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