Techniical Bulletin

Lupasol® P
Polyethylenimine

Description
High molecular weight ethylenimine homopolymer. Colorless to pale yellow, aqueous solution with honey-like consistency.

Applications
Lupasol P has been used in the paper industry for over 50 years for increasing paper strength and flocculating fines in waste streams for recycling. Today this is its largest use.

Lupasol P promotes adhesion between different types of polyolefin surfaces, poly-olefins/paper, and metal films/paper. Lupasol P also improves adhesion of tire cords to natural and synthetic rubbers.

Lupasol P promotes adhesion of paints, ink jet inks, pigments, dyes, and fillers to various surfaces. It is a cationic dispersant.

Lupasol P, also promotes adhesion to metal surfaces and improves corrosion inhibitors.

Lupasol chelates heavy metal ions selectively and reversibly. It will scavenge organic halides.

Lupasol P anchors active enzymes to porous and non-porous supports for use in industrial chemical synthesis. Immobilized PEI effectively filters endotoxins and pathogens from blood plasma.

Note
Lupasol P and Lupasol PS are the same molecule with different percent solids.

Shelf Life
About 1 year in sealed containers. Freezing can occur at temperatures below 0°C, but it is fit for use after thawing and stirring.

Lupasol is a registered trademark of BASF Aktiengesellschaft

For More Information

Order Placement
To place orders for delivery in the United States please call our toll free number (800) 443-6460. To place orders for delivery in Canada please call BASF Canada at (800) 267-2955.

For Other Information
Including product literature and Material Safety Data Sheets please call (847) 249-6750.

Or Visit Our Website At:
www.performance.basf-corp.com

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Specifications

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Solids content</td>
<td>48.0 – 52.0 %</td>
</tr>
<tr>
<td>Viscosity @ 20°C</td>
<td>18,000 – 40,000 mPa-s</td>
</tr>
</tbody>
</table>

Typical physical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Density (20°C)</td>
<td>1.09 g/cm³</td>
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<tr>
<td>Pour Point</td>
<td>-3°C</td>
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<tr>
<td>pH</td>
<td>10–12</td>
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<tr>
<td>Dry Content</td>
<td>50%</td>
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<tr>
<td>Viscosity (20°C)</td>
<td>18,000 – 40,000 cps</td>
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<tr>
<td>Average Molecular Weight</td>
<td>750,000</td>
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<tr>
<td>Common Chemical Name</td>
<td>Polyethylenimine (PEI)</td>
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<td>CAS Number</td>
<td>9002-98-6</td>
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FDA Status

173.357 Materials used as fixing agents in the immobilization of enzyme preparations.

175.105 Lamination or sealing of food packaging items.

175.320 Resinous and polymeric coatings for polyolefin films to anchor epoxy surface coatings to base sheet.

176.170 Component of paper and paperboard in contact with aqueous and fatty foods.

176.180 Component of paper and paperboard in contact with dry food.

177.1200 Prime coat for cellophane used for packaging food impregnated in regenerated cellulose sheets.

Please refer to the Material Safety Data Sheet (MSDS) for this product for instructions on safe and proper handling and disposal.