Capa® Caprolactones for Coatings

Polyols for premium polyurethane coatings and stoving enamels
We are Ingevity

Ingevity provides specialty chemicals, high-performance carbon materials and engineered polymers that purify, protect and enhance the world around us. Through a team of talented and experienced people, Ingevity develops, manufactures and brings to market products and processes that help customers solve complex problems. These products are used in a variety of demanding applications, including asphalt paving, oil exploration and production, agrochemicals, adhesives, lubricants, publication inks, coatings, elastomers, bioplastics and automotive components that reduce gasoline vapor emissions.

Ingevity is the world leader in the production and development of caprolactone technology under the Capa® family of products. For the last 40 years, our experienced team and high-quality caprolactone offerings have earned the reputation of a trusted innovation partner that helps customers create winning formulas. Capa products add value to current formulations and enable customers to create new higher-performing products in the areas of coatings, polyurethane elastomers, adhesives, and bioplastics.

One molecule, millions of opportunities

The Capa product portfolio includes Capa monomer, polyols and thermoplastics. The multifunctional nature of our Capa polyol and thermoplastic products is the result of a unique ring-opening polymerization process used during manufacturing. The process is conducted under highly controlled conditions that eliminate the production of unwanted byproducts such as water, and creates caprolactones with a low acid value, closely defined functionality, low polydispersity and a high degree of reproducibility. How can our array of Capa caprolactones enhance the processing and performance advantages of your products, or open new product or market opportunities for your business?

For high-performance coatings

Ingevity has the expertise necessary to help customers create premium coating formulations for the most demanding indoor and outdoor commercial applications. From wind turbines, to metal and plastic automotive parts – coatings formulated with Capa are longer-lasting and built to perform.
Capa polyols for coatings and enamels

### Performance advantages
- Impressive weather, abrasion, impact and chemical resistance
- Ultimate combination of flexibility and toughness
- Excellent finish and appearance with high gloss and low haze

2K waterborne and solvent-borne polyurethane coatings are topcoats designed to withstand high levels of wear and tear from outdoor exposure. Adding Capa polyols into 2K formulations can reduce volatile organic compounds (VOCs) which increases the high-solid content of the coating. The low viscosity and good compatibility of Capa polyols can also improve flow and leveling of the coating and improve film formation.

### Processing advantages
- Low viscosity means easier application and reduced VOCs
- Behaves like a reactive coalescing agent, improving the film formation of waterborne coatings

### Business advantages
- Extends the life of coated surfaces
- Lowers servicing and maintenance costs
- Improves product sustainability

### Capa polyols for coatings and enamels

<table>
<thead>
<tr>
<th>Capa Grade</th>
<th>Type</th>
<th>Mw</th>
<th>OH Value, mg KOH/g</th>
<th>OH%</th>
<th>Viscosity, mPas@23°C</th>
<th>Recommendation</th>
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</thead>
<tbody>
<tr>
<td>Capa 2043</td>
<td>Diol</td>
<td>400</td>
<td>280</td>
<td>8.5</td>
<td>240</td>
<td>2K PUR/1K HMMM</td>
</tr>
<tr>
<td>Capa 2054J</td>
<td>Diol</td>
<td>550</td>
<td>204</td>
<td>6.2</td>
<td>340</td>
<td>1K HMMM</td>
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<tr>
<td>Capa 2085</td>
<td>Diol</td>
<td>830</td>
<td>135</td>
<td>4.1</td>
<td>330 (35°C)</td>
<td>1K HMMM</td>
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<tr>
<td>Capa 3050J</td>
<td>Triol</td>
<td>540</td>
<td>310</td>
<td>9.4</td>
<td>1,190</td>
<td>2K PUR</td>
</tr>
<tr>
<td>Capa 3091</td>
<td>Triol</td>
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<td>183</td>
<td>5.5</td>
<td>1,246</td>
<td>2K PUR/1K HMMM</td>
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<td>Capa 4101</td>
<td>Tetrol</td>
<td>1,000</td>
<td>218</td>
<td>6.6</td>
<td>1,850</td>
<td>2K PUR</td>
</tr>
</tbody>
</table>

Cured at temperatures over 130°C, stoving finishes are coatings valued for their toughness and abrasion and chemical resistance. The linear aliphatic structure of Capa polyols facilitates flexible 1K stoving formulations without compromising the final hardness, which is particularly important for high-performance automotive parts and coil coatings.

Two-component (2K) polyurethane coatings

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