**AMBERLYST™ 15DRY Polymeric Catalyst**
Industrial-grade, Strongly Acidic Catalyst

**Description**
AMBERLYST™ 15DRY Polymeric Catalyst is a bead-form, strongly acidic catalyst developed particularly for heterogeneous acid catalysis of a wide variety of organic reactions. It is also useful in non-aqueous ion exchange systems for the removal of cationic impurities.

The macroporous pore structure of AMBERLYST™ 15DRY permits ready access of liquid or gaseous reactants to the hydrogen ion sites located throughout the bead, thus facilitating successful performance even in non-swelling organic media. The main applications are alkylation, esterification, etherification, condensation, and hydrolysis.

**Applications**
- Esterification (acetates, acrylates, fatty acid esters)
- Etherification (MTBE, ETBE, TAME)
- Phenol alkylation
- Condensation
- Hydrolysis

**Typical Properties**

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Copolymer</td>
<td>Styrene-divinylbenzene</td>
</tr>
<tr>
<td>Matrix</td>
<td>Macroporous</td>
</tr>
<tr>
<td>Type</td>
<td>Strong acid cation</td>
</tr>
<tr>
<td>Functional Group</td>
<td>Sulfonic acid</td>
</tr>
<tr>
<td>Physical Form</td>
<td>Gray, opaque, spherical beads</td>
</tr>
</tbody>
</table>

**Nitrogen BET**
- Surface Area: 53 m²/g
- Total Pore Volume: 0.40 cc/g
- Average Pore Diameter: 300 Å

**Chemical Properties**
- Ionic Form as Shipped: H⁺
- Concentration of Acid Sites ‡: ≥ 4.70 eq/kg
- Catalyst Volatiles: ≤ 1.6%

**Particle Size §**
- < 300 µm: ≤ 0.5%
- < 425 µm: ≤ 2.0%

**Swelling (in solvent)**
- Phenol: 38%

**Density**
- Shipping Weight: 610 g/L

‡ Dry Weight Capacity ≥ 4.70 eq/kg
§ For additional particle size information, please refer to the [Particle Size Distribution Cross Reference Chart](Form No. 177-01775).

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[Image 57x732 to 159x762]
### Suggested Operating Conditions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Operating Temperature</td>
<td>120°C (250°F) in non-aqueous media</td>
</tr>
<tr>
<td>Bed Depth, min.</td>
<td>600 mm (2.0 ft)</td>
</tr>
<tr>
<td>Pressure Drop, max.</td>
<td>1 bar (15 psig) across the bed</td>
</tr>
<tr>
<td>Flowrates</td>
<td>Linear Hourly Space Velocity (LHSV) 0.5 – 5 h⁻¹</td>
</tr>
</tbody>
</table>

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DuPont has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved withDuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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Please be aware of the following:

- **WARNING:** Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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Have a question? Contact us at:  
www.dupont.com/water/contact-us

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