



## Product Data Sheet

### 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

<b>Physical Properties</b>	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Gray, opaque, spherical beads
<b>Nitrogen BET</b>	
Surface Area	53 m <sup>2</sup> /g
Total Pore Volume	0.40 cc/g
Average Pore Diameter	300 Å
<b>Chemical Properties</b>	
Ionic Form as Shipped	H <sup>+</sup>
Concentration of Acid Sites †	≥ 4.70 eq/kg
Catalyst Volatiles	≤ 1.6%
<b>Particle Size §</b>	
< 300 µm	≤ 0.5%
< 425 µm	≤ 2.0%
<b>Swelling (in solvent)</b>	
Phenol	38%
<b>Density</b>	
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).

## Suggested Operating Conditions

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

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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.

Have a question? Contact us at:

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