



## Product Data Sheet

### **AMBERLYST™ 15DRY Polymeric Catalyst**

Industrial-grade Strongly Acidic Catalyst

#### **Description**

AMBERLYST™ 15DRY Polymeric Catalyst is a bead form, strongly acidic ion exchange resin 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 macroreticular 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.

#### **Typical Physical and Chemical Properties\*\***

Matrix	Styrene-divinylbenzene, macroporous
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Gray, spherical beads
Ionic Form as Shipped	H <sup>+</sup> Form
Concentration of Acid Sites <sup>d</sup>	≥ 5.0 eq/kg
Catalyst Volatiles	≤ 1.0%
Particle Size	
< 300 μm	≤ 0.1%
< 425 μm	≤ 0.5%
Nitrogen BET	
Surface Area	53 m <sup>2</sup> /g
Pore Volume	0.40 cc/g
Pore Size, average	300 Å
Whole Uncracked Beads	≥ 98%
Swelling	Dry → Phenol : 38%
Bulk Density, as Shipped <sup>c</sup>	610 g/L

<sup>c</sup> As per the backwashed and settled density of the resin, determined by ASTM D-2187.

<sup>d</sup> Dry Weight Capacity ≥ 5.0 eq/kg.

## Suggested Operating Conditions\*\*

Maximum Operating Temperature	120°C (250°F) in non-aqueous media
Bed Depth, min.	60 cm (24 inches)
Operating Flowrate	1 – 5 BV*/h (LHSV)
Pressure Drop, max.	1 bar (15 psig) across the bed

\* 1 BV (Bed Volume) = 1 m<sup>3</sup> solution per m<sup>3</sup> resin or 7.5 gal per ft<sup>3</sup> resin

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**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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