



Product Data Sheet

AMBERLYST™ 35DRY Polymeric Catalyst

Industrial-grade, Strongly Acidic Catalyst

Description

AMBERLYST™ 35DRY Polymeric Catalyst is a bead-form, strongly acidic 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 macroporous pore structure of AMBERLYST™ 35DRY 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 minimal water content of AMBERLYST™ 35DRY makes it excellent for use in non-aqueous systems where the presence of water will have a negative effect on catalytic activity. Its exceptional thermal resistance coupled with very high dry weight capacity make it the catalyst of choice for phenol alkylation, esterification, etherification, condensation, and hydrolysis.

Applications

- Esterification (acetates, acrylates, fatty acid esters)
- Etherification (MTBE, ETBE, TAME)
- Phenol alkylation
- Condensation
- Hydrolysis
- Non-aqueous ion exchange systems

Typical Properties

Physical Properties

Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Gray to black, opaque, spherical beads

Nitrogen BET

Surface Area	50 m ² /g
Total Pore Volume	0.35 cc/g
Average Pore Diameter	300 Å

Chemical Properties

Ionic Form as Shipped	H ⁺
Concentration of Acid Sites †	≥ 5.00 eq/kg
Catalyst Volatiles	≤ 3.0%

Particle Size §

< 300 µm	≤ 0.3%
> 850 µm	≤ 10.0%

Swelling (in solvent)

Phenol	27%
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Density

Shipping Weight	560 g/L
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† Dry Weight Capacity ≥ 5.00 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	150°C (300°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 ⁻¹

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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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