

**AMBERLYST™ 45 Resin**

High Temperature Strongly Acidic Catalyst

Description

AMBERLYST™ 45 Resin is a new macroporous sulfonic acid polymer catalyst designed for use in high-temperature heterogeneous catalysis. It is particularly well suited for processes such as olefin hydration, esterification, and aromatic alkylation.

In these applications, AMBERLYST 45 Resin offers definite advantages over conventional resins:

- Higher thermal stability,
- High catalytic activity,
- Very low chloride leaching.

Typical Properties

Physical form	Dark brown, spherical beads
Ionic form as shipped	Hydrogen ($\geq 98\%$)
Concentration of acid sites	≥ 1.0 eq/L ≥ 2.95 eq/kg
Moisture holding capacity	51.0–55.0% (H^+ form)
Shipping weight	770 g/L (48.0 lbs/ft ³)
Particle size	
Uniformity coefficient	≤ 1.5
Fines content	< 0.355 mm : 0.2% max
Nitrogen BET	
Surface area	49 m ² /g
Average pore diameter	190 Å

(These are typical properties, not to be construed as specifications.)

Suggested Operating Conditions

Maximum operating temperature	170°C (340°F)
Minimum bed depth	60 cm (24 inches)
Operating flow rate	1–8 BV*/h (LHSV)
Pressure drop limitation	3 bar (45 psig) across the bed

*1 BV (Bed Volume) = 1 m³ solution per m³ resin or 7.5 gals per ft³ 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.

DOWEX™ Ion Exchange Resins

LENNTECH

info@lenntech.com

www.lenntech.com

Tel. +31-152-610-900

Fax +31-152-616-289

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