



## Product Data Sheet

### **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	$\geq 1.0$ eq/L $\geq 2.95$ eq/kg
Moisture holding capacity	51.0–55.0% (H <sup>+</sup> form)
Shipping weight	770 g/L (48.0 lbs/ft <sup>3</sup> )
Particle size	
Uniformity coefficient	$\leq 1.5$
Fines content	$< 0.355$ mm : 0.2% max
Nitrogen BET	
Surface area	49 m <sup>2</sup> /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 m<sup>3</sup> solution per m<sup>3</sup> resin or 7.5 gals 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.

### **DOWEX™ Ion Exchange Resins** For more information about DOWEX™ resins, call the Dow Water & Process Solutions business:

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