



Product Data Sheet

DuPont™ AmberLyst™ A21DRY Ion Exchange Resin Industrial-grade, Weakly Basic Polymeric Resin

Description

DuPont™ AmberLyst™ A21DRY Ion Exchange Resin is an industrial-grade, weakly basic, polymeric resin supplied in bead-form. This weak base anion exchange resin was developed for the purification or disproportionation of chlorosilanes.

AmberLyst™ A21DRY can also be used for the removal of acidic materials from hydrocarbon streams where minimal water can be tolerated.

Applications

- Silane disproportionation
- Deacidification from non-aqueous streams

Typical Properties

Physical Properties

Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Weak base anion
Functional Group	Tertiary amine
Physical Form	Beige, opaque, spherical beads

Nitrogen BET

Surface Area	35 m ² /g
Total Pore Volume	0.10 cc/g
Average Pore Diameter	110 Å

Chemical Properties

Ionic Form as Shipped	Free base (FB)
Concentration of Base Sites ‡	≥ 5.00 eq/kg
Catalyst Volatiles	≤ 0.3%

Particle Size §

Particle Diameter	550 µm
< 300 µm	≤ 1.0%
> 1180 µm	≤ 2.0%

Swelling (in solvent)

SiCl ₄	7%
SiCl ₃ H	26%

Density

Shipping Weight	330 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. 45-D00954-en).

Suggested Operating Conditions

Maximum Operating Temperature	100°C (210°F)
Bed Depth, min.	600 mm (2.0 ft)
Flowrates	
Linear Hourly Space Velocity (LHSV)	0.5 – 5 h ⁻¹

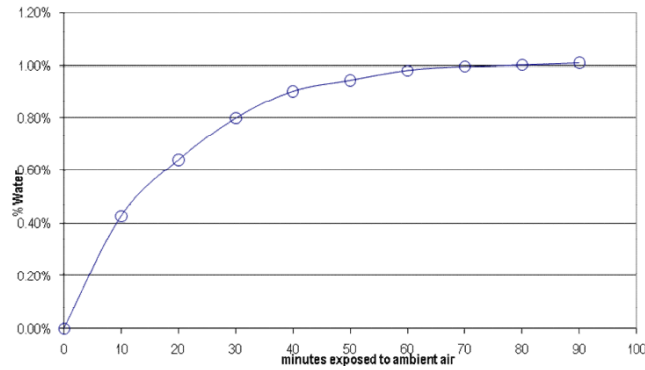
* 1 BV (Bed Volume) = 1 m³ solution per m³ resin or 7.5 gal per ft³ resin

Application Information

Water Uptake

DuPont™ AmberLyst™ A21DRY Ion Exchange Resin does exhibit a tendency to pick up moisture from the air. The amount of moisture pickup by the resin is likely dependent upon the ambient humidity. Figure 1 provides an example of moisture pickup, showing that after one hour approximately 1% moisture had been added to AmberLyst™ A21DRY at ambient temperatures.

Figure 1: Moisture Uptake



Loading and Handling Procedure

Due to the fact that AmberLyst™ A21DRY resin picks up moisture upon exposure to air, it is recommended that the exposure of AmberLyst™ A21DRY to air containing any moisture be avoided. Therefore, it is recommended that the container of AmberLyst™ A21DRY be opened under conditions where the atmosphere is moisture-free and added to the reactor under a blanket of dry nitrogen.

Product Stewardship

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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:

www.dupont.com/water/contact-us

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