



Product Data Sheet

AMBERLYST™ A21DRY Ion Exchange Resin

Industrial-grade, Weakly Basic Polymeric Resin

Description

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
-----------------	---------

† Dry Weight Capacity ≥ 5.00 eq/kg

§ For additional particle size information, please refer to the (missing or bad snippet).

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

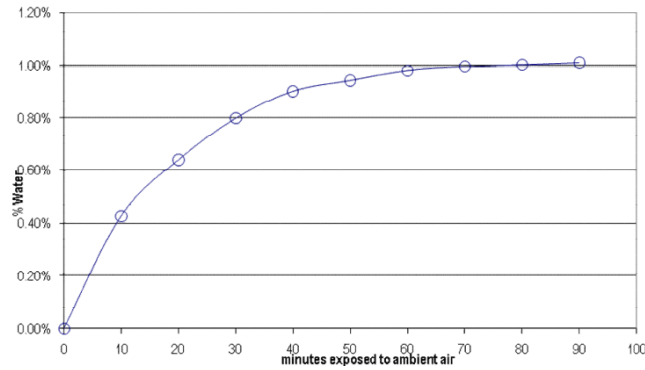
* 1 BV (Bed Volume) = 1 m³ solution per m³ resin or 7.5 gal per ft³ resin

Application Information

Water Uptake

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

DuPont has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

DuPont strongly encourages its customers to review both their manufacturing processes and their applications of DuPont products from the standpoint of human health and environmental quality to ensure that DuPont products are not used in ways for which they are not intended or tested. DuPont personnel are available to answer your questions and to provide reasonable technical support. DuPont product literature, including safety data sheets, should be consulted prior to use of DuPont products. Current safety data sheets are available from DuPont.

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

All information set forth herein is for informational purposes only. This information is general information and may differ from that based on actual conditions. Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where DuPont is represented. The claims made may not have been approved for use in all countries. Please note that physical properties may vary depending on certain conditions and while operating conditions stated in this document are intended to lengthen product lifespan and/or improve product performance, it will ultimately depend on actual circumstances and is in no event a guarantee of achieving any specific results. DuPont assumes no obligation or liability for the information in this document. References to "DuPont" or the "Company" mean the DuPont legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. No freedom from infringement of any patent or trademark owned by DuPont or others is to be inferred.

DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, ℠ or ® are owned by affiliates of DuPont de Nemours Inc. unless otherwise noted. © 2020 DuPont.

