



## Product Data Sheet

### AMBERLYST™ 15DRY Polymeric Catalyst

Industrial-grade, Strongly Acidic Catalyst

#### Description

AMBERLYST™ 15DRY Polymeric Catalyst is a bead-form, strongly acidic catalyst 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™ 15DRY 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 main applications are alkylation, esterification, etherification, condensation, and hydrolysis.

#### Applications

- Esterification (acetates, acrylates, fatty acid esters)
- Etherification (MTBE, ETBE, TAME)
- Phenol alkylation
- Condensation
- Hydrolysis

#### Typical Properties

---

##### Physical Properties

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

---

##### Nitrogen BET

Surface Area	53 m <sup>2</sup> /g
Total Pore Volume	0.40 cc/g
Average Pore Diameter	300 Å

---

##### Chemical Properties

Ionic Form as Shipped	H <sup>+</sup>
Concentration of Acid Sites <sup>‡</sup>	≥ 4.70 eq/kg
Catalyst Volatiles	≤ 1.6%

---

##### Particle Size<sup>§</sup>

< 300 μm	≤ 0.5%
< 425 μm	≤ 2.0%

---

##### Swelling (in solvent)

Phenol	38%
--------	-----

---

##### Density

Shipping Weight	610 g/L
-----------------	---------

---

<sup>‡</sup> Dry Weight Capacity ≥ 4.70 eq/kg

<sup>§</sup> 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	120°C (250°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 <sup>-1</sup>

## 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](http://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 ™, SM or ® are owned by affiliates of DuPont de Nemours Inc. unless otherwise noted. © 2020 DuPont.

