

DuPont™ Purge Resin LDPE 6611

DuPont™ Purge Resin Product Data Sheet

Description

Product Description

DuPont® LDPE-6611 is a high viscosity low density polyethylene resin that contains various additives to assist in purging and cleaning the extruder. This polymer is formulated with agents to help it wet and scour metal surfaces within the extrusion system. It also contains a blowing agent which helps to disrupt normal flow patterns and enhance scouring action. The resin normally will foam, snap, and crackle as it leaves the die. Odors that are associated with ammonia and fish are detectable from the extrudate and feed hopper. When extruded, the resin has a grayish brown color and a very high viscosity at the die exit.

Restrictions

Material Status

- Commercial: Active

Other Restrictions

Precautions:

*** Adequate ventilation is required for use. Fumes from extrusion can be irritating to the eyes, nose, and throat. Fumes from high temperature extrusion of polyolefin resins contain various products of decomposition that may be toxic.

*** Exploding bubbles can spit hot polymer as the melt exits the die. Proper protective apparel, including eye protection, should be worn.

DuPont® LDPE-6611 should not be extruded or exposed to temperatures above 310°C (590°F).

DuPont® LDPE-6611 does not comply with FDA regulations, so complete purging from the extrusion system is required after use.

DuPont® LDPE-6611 contains silicon dioxide to assist in scouring hard deposits from metal surfaces. Excessive use of this purge compound can cause premature equipment wear, particularly in some extrusion systems that are soft nickel plated.

Typical Characteristics

Applications

DuPont® LDPE-6611 is not required for normal transitions into and out of Surlyn® ionomer resins, Nucrel® acid copolymer resins, and other common polyolefins. The "Disco Purge / Transition Procedure" is recommended for use during these normal transitions, and special purging compounds such as DuPont® LDPE-6611 are not part of this procedure. There are instances, however, when it is practical to use a special purging compound like DuPont® LDPE-6611. For a copy of the "Disco Purge / Transition Procedure", please contact your DuPont Packaging & Industrial Polymer representative.

Examples for use include:

- Cleaning particularly dirty extruders.
- Removing die lines caused by oxidized polymer deposits.
- Purging extruders that have chronic purging problems (gels) following runs of Surlyn® resins, Nucrel® resins, Elvax® ethylene vinyl acetate resins, or other specialty resins. Consulting your technical representative is also highly recommended for these cases.
- Purging prior to extrusion jobs that are particularly sensitive to gels.

- Facilitating purging for shutdowns when normal Disco Purging has not proven effective. A shutdown is any period of time when the extruder will be completely turned off, such as a weekend or maintenance outage. It is very important that specialty copolymers such as Surlyn® and Nucrel® be completely purged before such a shutdown, as the cool-down, heat-up, and soak periods allow plenty of time to cause significant gel problems.
- Facilitating rapid removal of pigments from the extruder.
- DuPont® LDPE-6611 has also been used to facilitate pulling and cleaning large diameter extrusion screws. However, acrylic purge material is normally used for this purpose.
- The high viscosity of DuPont® LDPE-6611 lends itself to easy cleaning of hardware during disassembly, because it peels rather than smearing along the metal surfaces. Although most frequently used on flat die extrusion equipment, DuPont® LDPE-6611 can also be used for round die converting equipment as well. It can be difficult to purge DuPont® LDPE-6611 out of standard spiral-fed blown film dies, unless a very low melt index polyethylene is available for this purpose (0.5 MI LDPE or 1.0 MI LLDPE).

Typical Properties

Physical	Nominal Values	Test Method(s)	
Density ()	0.97 g/cm ³	ASTM D792	ISO 1183
Melt Flow Rate (190°C/2.16kg)	0.5 to 1.5 g/10 min	ASTM D1238	ISO 1133
Thermal	Nominal Values	Test Method(s)	
Melting Point (DSC)	109°C (228°F)	ASTM D3418	ISO 3146
Freezing Point (DSC)	95°C (203°F)	ASTM D3418	

Processing Information

General

Maximum Processing Temperature 310°C (590°F)

General Processing Information *** DuPont® LDPE-6611 has a very specific procedure for proper useage. Please consult with your local DuPont technical representative to request a copy of the procedure.

*** This procedure specifies how to properly utilize the resin, and in what proper quantities for a given size extrusion system. Improper useage of the material will lessen its effectiveness, and possibly make it more challenging to remove from the system using a polyethylene resin with the appropriate melt flow rate.

To activate the blowing agent, the resin must be extruded above about 221°C (430°F). Purging efficiency may be somewhat reduced if the resin does not foam.

The maximum recommended temperature for use in purging extrusion equipment is 285C (545F). This is due to the volatility of the blowing agent, and the increased spitting of polymer from the die exit as a hazard. The highest temperature to use in any environment where operators are not exposed to the polymer exiting the die would be a maximum of 310C (590F). However please note that experience has found that the purge compound is effective at 285C (545F), and higher temperatures are not necessary for processing. Thus for operations safety, 285C (545F) as a maximum use temperature is recommended.

FDA Status Information

DuPont® LDPE-6611 does not comply with FDA regulations, so complete purging from the extrusion system is required after use.

Regulatory Information

For information on regulatory compliance outside of the U.S., consult your local DuPont representative.

Safety & Handling

DuPont® LDPE-6611 as supplied by DuPont is not considered hazardous material. As with any hot material, care should be taken to protect the hands and other exposed parts of the body when handling molten polymer.

*** At recommended processing temperatures, small amounts of fumes will evolve from this resin. In the case of DuPont® LDPE-6611, the amount of fumes

noticeable upon extrusion will be greater than that seen with other typical ethylene based polymers. These fumes can be irritating in nature to eyes, nose, and throat. Proper ventilation when using DuPont® LDPE-6611 is essential. Please consult the MSDS for this product for more detailed information.

When resins are overheated, more extensive decomposition may occur. Adequate ventilation should be provided to remove fumes from the work area. Disposal of scrap presents no special problems and can be by landfill or incineration in a properly operated incinerator. Disposal should comply with local, state, and federal regulations. Resin pellets can be a slipping hazard. Loose pellets should be swept up promptly to prevent falls. For more detailed information on the safe handling and disposal of DuPont resins, a Material Safety Data Sheet can be obtained from the DuPont Packaging and Industrial Polymers website or by contacting your sales representative.

Read and Understand the Material Safety Data Sheet (MSDS) before using this product

Regional Centres

DuPont operates in more than 70 countries. For help finding a local representative, please contact one of the following regional customer contact centers:

Americas

DuPont Company, BMP26-2363
Lancaster Pike & Route 141
Wilmington, DE 19805 U.S.A.
Telephone +1 302-774-1161
Toll-free (USA) 800-628-6208
Fax +1 302-999-4399

DuPont do Brasil, S.A.
Alameda Itapecuru, 506
06454-080 Barueri, SP Brasil
Telephone +55 11 4166 8122
Fax +55 11 4166 8720

Asia Pacific

DuPont China Holding Co., Ltd.
Shanghai Branch
399 Keyuan Road, Bldg. 11
Zhangjiang Hi-Tech Park
Pudong New District, Shanghai
P.R. China (Postcode: 201203)
Telephone +86 21 3862 2888
Fax +86-21-3862-2889

Europe / Middle East / Africa

DuPont de Nemours Int'l. S.A.
2,Chemin du Pavillon Box 50
CH-1218 Le Grand Saconnex
Geneva, Switzerland
Telephone +41 22 717 51 11
Fax +41 22 717 55 00

<http://www.dupont.com/>

The data listed here fall within the normal range of properties, but they should not be used to establish specification limits nor used alone as the basis of design. The DuPont Company assumes no obligations or liability for any advice furnished or for any results obtained with respect to this information. All such advice is given and accepted at the buyer's risk. The disclosure of information herein is not a licence to operate under, or a recommendation to infringe, any patent of DuPont or others. Since DuPont cannot anticipate all variations in actual end-use conditions, DuPont makes no warranties and assumes no liability in connection with any use of this information.

CAUTION: Do not use DuPont materials in medical applications involving implantations in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-3 and DuPont CAUTION Regarding Medical Applications H-50102-3.

Copyright © 2009 DuPont. The DuPont Oval Logo, DuPont™, The miracles of science™, and trademarks designated with "®" are registered trademarks or trademarks of E.I. du Pont de Nemours and Company or its affiliates. All rights reserved.

This data sheet is effective as of 04/04/2009 11:31:25 PM and supersedes all previous versions.