Dow Packaging & Specialty Plastics

Product Data Sheet

ENTIRA™ AS SD100

Polymer Modifier

General Information

Product Description	ENTIRA™ AS SD100 is an extremely hygroscopic ionomer resin that is supplied as free flowing pellets.

Status

Material Status	Commercial: Active

Typical Characteristics

Uses	Industrial Applications; Packaging
Features	ENTIRA™ AS SD100 is used to lower the static decay time and surface resistivity of LDPE, LLDPE and other polymers.
Characteristics / Benefits	ENTIRA™ AS SD100 can be precompounded or dry blended into polymers for extrusion, molding, or various other processing methods
Applications	Antistatic agent for polyethylene (LDPE, LLDPE and EVA) and other polymers, in films, moldings and extruded forms

Typical Properties

Physical	Nominal Values	Test Method(s)	
*Density ( )	0.985 g/cm³	ASTM D792	ISO 1183
*Melt Flow Index (190°C/2.16kg)	5.0 g/10 min	ASTM D1238	ISO 1133

Thermal	Nominal Values	Test Method(s)	
*Melting Point (DSC)	92 °C (197.6 °F)	ASTM D3418	ISO 3146
Freezing Point (DSC)	64 °C (147.2 °F)	ASTM D3418	ISO 3146
Vicat Softening Point ( )	63 °C (145.4 °F)	ASTM D1525	ISO 306

Processing Information

*Maximum Processing Temperature	210 °C (410 °F)
General Processing Information	ENTIRA™ AS SD100 is a hygroscopic material. To minimize exposure to moisture, any remaining material should be hermetically sealed in a barrier package immediately after use. In order to reuse remaining material that has been hermetically sealed, the material should be dried under vacuum with a nitrogen flow at 50−60°C for several hours prior to use. ENTIRA™ AS SD100 is available in pellet form for use in conventional equipment for processing polyolefins. ENTIRA™ AS SD100 can be fed together with base polymers and other additives in the hopper during processing. Typical addition levels range from 10-30%. Materials of construction used in the processing of this resin should be corrosion resistant. Stainless steels of the types 316, 15-5PH, and 17-4PH are excellent, as is quality chrome or nickel plating, and in particular duplex chrome plating. Type 410 stainless steel is satisfactory, but needs to be tempered at a minimum temperature of 600°C (1112°F) to avoid hydrogen-assisted stress corrosion cracking. Alloy steels such as 4140 are borderline in performance. Carbon steels are not satisfactory. While stainless steels can provide adequate corrosion protection, in some cases severe purging difficulties have been encountered. Nickel plating has been satisfactory, but experiments have shown that chrome surfaces have the least adhesion to acid based polymers. In recent years, the quality of chrome plating has been deteriorating due to environmental pressures, and the corrosion protection

has not always been adequate. Chrome over top of stainless steel seems to provide the best combination for corrosion protection and ease of purging.

After processing ENTIRA™ AS, purge the material out using a polyethylene resin, preferably with a lower melt flow rate than the ENTIRA™ AS resin in use.
The "Disco Purge Method" is suggested as the preferred purging method, as this method usually results in a more effective purging process. Information on the Disco Purge Method can be obtained via your Dow Sales Representative.

Never shut down the extrusion system with ENTIRA™ AS in the extruder and die. Properly purge out the ENTIRA™ AS with a polyethylene, and shut down the line with polyethylene or polypropylene in the system.

FDA Status Information	ENTIRA™ AS SD100 Resin complies with Food and Drug Administration Regulation 21 CFR 177.1330(a) - - Ionomeric resins, subject to the limitations and requirements therein. ENTIRA™ AS SD100 Resin may be used in contact with non-alcoholic food, subject to the finished food-contact article meeting the extractive limitations under the intended conditions of use, as shown in 21 CFR 177.1330(d).
Regulatory Information	For information on regulatory compliance outside of the U.S., consult your local Dow representative.
Safety & Handling	For information on appropriate Handling & Storage of this polymeric resin, please refer to the material Safety Data Sheet. A Product Safety Bulletin, material Safety Data Sheet, and/or more detailed information on extrusion processing and/or compounding of this polymeric resin for specific applications are available from your Dow representative.

Product Stewardship

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For further information contact your Dow sales or technical representative to request a Medical Application Review Request Form. Additional details of Dow's Medical Applications Policy are available at:
https://www.dow.com/en-us/support/product-safety.html

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http://www.dow.com/products_services

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Additional Information

To contact Dow via Toll-Free or Local Toll phone numbers in specific countries, please see the following webpage:
https://www.dow.com/en-us/support/contact-representative.html

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