SURLYN™ 9520

Ionomer

General Information

Product Description	SURLYN™ 9520 is an ionomer of ethylene acid copolymer. This polymeric material can be processed in conventional extrusion and injection equipment designed to process polyethylene and ethylene copolymer type resins, to create various shapes and sheeting.

Status

Material Status	Commercial: Active

Typical Characteristics

Composition	Zinc Ionomer
Characteristics / Benefits	Abrasion Resistance ---------- 290 NBS Index ---------- ASTM D1630 Flexural Modulus (23C) ---------- 260 MPa ---------- ASTM D790 Flexural Modulus (-20C) ---------- 655 MPa ---------- ASTM D790 Tensile Elongation @ Break (23C) --- 410% ---------- ASTM D638 / ISO 527-2 Tensile Strength @ Break (23C) ------ 25.5 MPa ---------- ASTM D638 / ISO 527-2 Tensile Impact Strength (23C) --------- 565 ft-lb/in2 ---------- ASTM D1822 Tensile Impact Strength (-40C) -------- 490 ft-lb/in2 ---------- ASTM D1822 Hardness (Shore D) ---------- 60 ---------- ASTM D2240 / ISO 868 Haze (0.25 inch) ---------- 26% ---------- ASTM D1003
Applications	Blow Molding / Injection Molding / Sheet Extrusion

Typical Properties

Physical	Nominal Values	Test Method(s)	
*Density ( )	0.95 g/cm³	ASTM D792	ISO 1183
*Melt Flow Index (190°C/2.16kg)	1.1 g/10 min	ASTM D1238	ISO 1133

Thermal	Nominal Values	Test Method(s)	
*Melting Point (DSC)	96 °C (204.8 °F)	ASTM D3418	ISO 3146
Freezing Point (DSC)	76 °C (168.8 °F)	ASTM D3418	ISO 3146
Vicat Softening Point ( )	74 °C (165.2 °F)	ASTM D1525	ISO 306

Processing Information

*Maximum Processing Temperature	285 °C (545 °F)
General Processing Information	SURLYN™ 9520 is normally processed at melt temperatures ranging from 185°-285°C (365°-545°F). Actual processing temperatures will usually be determined by either the specific equipment or substrate or one of the other polymers in a coextrusion or coinjection.. 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.

If surface properties of the extruded resin require modification (such as, lower C.o.F. for packaging machine processing), refer to the CONPOL™ Processing Additive Resins product information guide.

After processing SURLYN™, purge the material out using a polyethylene resin, preferably with a lower melt flow rate than the SURLYN™ 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 SURLYN™ in the extruder and die. Properly purge out the SURLYN™ with a polyethylene, and shut down the line with polyethylene or polypropylene in the system.

Regulatory Information

For information on regulatory compliance within or outside of the U.S.A., 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

Dow 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 Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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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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