

## DuPont™ Surlyn® 9520

### Surlyn® resins Product Data Sheet

#### Description

**Product Description** DuPont™ 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.

#### Restrictions

**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 (g/cm <sup>3</sup> )  | 0.95 g/cm <sup>3</sup> | ASTM D792      | ISO 1183 |
| * Melt Flow Rate (190°C/2.16kg) | 1.1 g/10 min           | ASTM D1238     | ISO 1133 |
| Thermal                         | Nominal Values         | Test Method(s) |          |
| * Melting Point (DSC)           | 96°C (205°F)           | ASTM D3418     | ISO 3146 |
| Freezing Point (DSC)            | 76°C (169°F)           | ASTM D3418     | ISO 3146 |
| Vicat Softening Point (°C)      | 74°C (165°F)           | ASTM D1525     | ISO 306  |

#### Processing Information

##### General

- \* 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 DuPont 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., consult your local DuPont 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 DuPont Packaging and Industrial Polymers 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

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