

# INEOS HDPE J50-1000-181

High Density Polyethylene Copolymer

INEOS Olefins & Polymers USA

Message:

J50-1000-181 is a high density polyethylene copolymer intended for the injection molding of closures for beverages. Because of its high purity and excellent organoleptic properties, this grade is certified as low taste and is intended for packaging that is in direct contact with beverages. Typical applications are caps and closures for the packaging of still water, juice, and dairy products as well as other injection molded applications where low taste and odor are critical. This resin contains a lubrication package for improved release from the mold and lower application torques on bottles. This material meets the Food and Drug Administration requirements of 21 CFR 177.1520.

| General Information                                         |                                   |                   |             |
|-------------------------------------------------------------|-----------------------------------|-------------------|-------------|
| Additive                                                    | Lubricant                         |                   |             |
| Features                                                    | Copolymer                         |                   |             |
|                                                             | Excellent Organoleptic Properties |                   |             |
|                                                             | Food Contact Acceptable           |                   |             |
|                                                             | High Density                      |                   |             |
|                                                             | High Purity                       |                   |             |
|                                                             | Low to No Odor                    |                   |             |
|                                                             | Low to No Taste                   |                   |             |
|                                                             | Lubricated                        |                   |             |
|                                                             |                                   |                   |             |
| Uses                                                        | Caps                              |                   |             |
|                                                             | Closures                          |                   |             |
| Agency Ratings                                              | EC 1907/2006 (REACH)              |                   |             |
|                                                             | FDA 21 CFR 177.1520               |                   |             |
| RoHS Compliance                                             |                                   |                   |             |
|                                                             | Contact Manufacturer              |                   |             |
| Forms                                                       | Pellets                           |                   |             |
| Processing Method                                           | Injection Molding                 |                   |             |
| Physical                                                    | Nominal Value                     | Unit              | Test Method |
| Density                                                     | 0.951                             | g/cm <sup>3</sup> | ASTM D4883  |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)                   | 11                                | g/10 min          | ASTM D1238  |
| Environmental Stress-Cracking Resistance (100% Igepal, F50) | 4.00                              | hr                | ASTM D1693B |
| Hardness                                                    | Nominal Value                     | Unit              | Test Method |
| Durometer Hardness (Shore D)                                | 66                                |                   | ASTM D2240  |
| Mechanical                                                  | Nominal Value                     | Unit              | Test Method |
| Tensile Strength <sup>1</sup>                               |                                   |                   | ASTM D638   |
| Yield                                                       | 27.6                              | MPa               |             |
| Break                                                       | 11.4                              | MPa               |             |

|                                                          |               |                   |             |
|----------------------------------------------------------|---------------|-------------------|-------------|
| Tensile Elongation <sup>2</sup>                          |               |                   | ASTM D638   |
| Yield                                                    | 9.5           | %                 |             |
| Break                                                    | > 800         | %                 |             |
| Flexural Modulus - Tangent                               | 1190          | MPa               | ASTM D790A  |
| Impact                                                   | Nominal Value | Unit              | Test Method |
| Notched Izod Impact                                      | 37            | J/m               | ASTM D256   |
| Notched Izod Impact (Area)                               | 3.70          | kJ/m <sup>2</sup> | ASTM D256   |
| Thermal                                                  | Nominal Value | Unit              | Test Method |
| Deflection Temperature Under Load (0.45 MPa, Unannealed) | 72.8          | °C                | ASTM D648   |
| Brittleness Temperature                                  | < -70.0       | °C                | ASTM D746   |
| Vicat Softening Temperature                              | 123           | °C                | ASTM D1525  |
| NOTE                                                     |               |                   |             |
| 1.                                                       | 51 mm/min     |                   |             |
| 2.                                                       | 51 mm/min     |                   |             |

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### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

