# Technical Data Sheet

Product Name: SCGC GREEN POLYMER

Product Type: **High Density Polyethylene**

Product Grade: **S199F**

## Product Description

S199F is a high strength polyethylene produced by SMX™ technology, resulting in better impact strength with excellent process ability. This grade can be produced various film widths from wider operating condition with balancing between mechanical properties and bubble stability. It is recommended for high quality film application in consumer and industrial segment such as general purpose film.

## Typical Application

- Shopping bags and T-shirt bags
- Roll bags
- Trash bags
- Gloves
- Industrial liner bags
- Cover film

## Product Characteristics

- High toughness
- High stiffness
- Low gel content
- Good appearance
- Good moisture barrier
- Food contact applicable

## International Compliance

- U.S FDA 21 CFR 177.1520
- Regulation (EU) No.10/2011
- Packaging and Packaging waste Directive 94/62/EC
- RoHS Directive 2011/65/EU (RoHS 2)
- REACH Regulation (EC) No.1907/2006

## Physical Properties

| Properties | Test Method | Typical Value | Unit |
|---|---|---|---|
| Melt Flow Rate | ASTM D 1238 @ 190 °C, 2.16 kg | 0.04 | g/ 10 min |
| Density | ASTM D 1505 (anneal @ 100 °C) | 0.956 | $g/cm^3$ |
| Melting Point | ASTM D 2117 | 131 | °C |
| Vicat Softening Point | ASTM D 1525 | 124 | °C |
| Brittleness Temperature | ASTM D 746 | <-60 | °C |
| ESCR | ASTM D 1693 (Method B, Compression Molded, 25% Igepal, 50 °C) | >1000 | Hours, $F_{50}$ |
| **Film Properties** | | | |
| Tensile Strength at Yield | ASTM D 882 | MD : -*-, TD: 330* | $kg/cm^2$ |
| Tensile Strength at Break | ASTM D 882 | MD : 1,100*, TD : 720* | $kg/cm^2$ |
| Tensile Modulus, 2% Secant | ASTM D 882 | MD : 11,500*, TD : 10,150* | $kg/cm^2$ |
| Elongation at Break | ASTM D 882 | MD : 340*, TD : 510* | % |
| Elmendorf Tear Strength | ASTM D 1922 | MD : 6*, TD : 40* | g |
| Dart Impact Strength | ASTM D 1709 | 280* | g |

**Note:** - The given values are typical value measured on the product. Values herein are not to be constructed as a product specification.
- Conversion factor for changing unit from $kg/cm^2$ to MPa is divided by 10.20.
- (*) Properties obtained from SCGC internal test, film thickness 25 micron, BUR 5:1, MD = Machine Direction, TD = Transverse Direction.

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## Processing Guidelines

The actual extrusion condition depends on type of using machine, size and film thickness of product required.
Generally, Melt temperature should be 180 °C-200°C with blow up ratio (BUR) = 3-5 times and frost line height (FLH) = 8-13 times of die diameter.

**Product Technical Assistance**

For technical assistance or further information on this product or any other SCG Chemicals' products, contact your SCG Chemicals technical service at the address as specified below.

## Product Available Form

- Pellet

## Product Packaging

- 25 kg loose bag
- 25 kg stretch wrap palletized
- 750 kg big bag
- Sea bulk container

## Storage

- Store in original container in tidy according to the manual of Handling and Storage from Thai Polyethylene Company Limited.
- Product(s) should be stored in dry and dust free location at temperature below 50 °C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and colour changes and can have negative effects on the physical properties of this product.
- Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
- The storage area should be stable and not be slopped.

## Safety

- The product is not classified as a hazardous material.
- Please see our Material Safety Data Sheet for details on various aspects of safety, recovery, and disposal of the products; for more information, contact your SCG Chemicals technical services.

## Recycling

- The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.
- Please see our Material Safety Datasheet for details on various aspects of safety, recovery and disposal of the products; for more information, contact your SCG Chemicals technical services.

## Related Documents

- The latest version of this document will be available at our website, www.scgchemicals.com, or can be obtained from the SCG Chemicals technical services.
- The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product.
    - Safety Data Sheet.
    - Declaration of Compliance.

## Disclaimer

- The Applications specified herein is for reference only.
- It is customer's responsibilities to inspect and test the product for suitability of the customer's own use and purpose. The customer is responsible for appropriate, safe, legal use, processing and handling of the product.
- To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication. We however do not assume any liability whatsoever for the accuracy and completeness of the information contained herein.
- We make no warranties which extend beyond the description herein. Nothing herein shall constitute any implied warranty of merchantability or fitness for a particular purpose.
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