



## TECHNICAL DATA SHEET

Product Type

Octene Copolymer PE for Rotational Moulding

Product Name

**SCG LLDPE**

Product Grade

**M53**

### Product Description

SCG M53 is a color compound of DOWLEX™ NG 2429.01G which is a linear-low density polyethylene octene copolymer for rotational moulding applications. M53 is specifically designed for applications requiring excellent chemical and stress crack resistance and impact strength combined with low warpage and high thermal stability. It is fully antioxidant and UV stabilized resulting in a wide processing latitude, good color retention, and long life expectancy. M53 is recommended for large and thick tanks with a generous radius and curve.

### Typical Applications

- Diesel fuel tanks
- Boat and tractor parts
- Chemical storage containers

### Product Characteristics

- Excellent ESCR
- Excellent chemical resistance
- High impact strength
- Fully antioxidants stabilized for rotomoulding process and long term thermal stability
- High UV20 stabilization for outdoor use

### International Compliance

- Base resin of M53 meets the requirements of U.S. Food and Drug Administration (FDA) 21 CFR Part 177.1520 (c), paragraph 3.1a, for food contact under conditions of use C-H (21 CFR 176.170(c) Table 2), for all food types.
- For compliance of specific colors, please contact our technical service.

### Product Properties

Property	Test Method	Typical Value	Unit
<b>Resin Properties</b>			
Melt Flow Rate @ 190 °C, 2.16 kg	ASTM D 1238	4.0	g/10 min
Density	ASTM D 1505	0.935	g/cm <sup>3</sup>
Melting Point	ASTM D 2117	125 (257)	°C (°F)
Crystallization Point	ASTM D 2117	105 (221)	°C (°F)
Heat Distortion Temperature	ASTM D 648 @ 0.455 MPa	60 (140)	°C (°F)
Heat Distortion Temperature	ASTM D 648 @ 1.82 MPa	41 (106)	°C (°F)
Vicat Softening Temperature	ASTM D 1525	118 (224)	°C (°F)
<b>Mechanical Properties</b>			
Tensile Strength-at-Yield	ASTM D 638 @ Speed 50 mm/min	17 (2460)	MPa (psi)
Tensile Strength-at-Break	ASTM D 638 @ Speed 50 mm/min	30 (4350)	MPa (psi)
Elongation-at-Break	ASTM D 638 @ Speed 50 mm/min	1000	%
Flexural Modulus, 1% Secant	ASTM D 790	550 (80000)	MPa (psi)
Surface Hardness	ASTM D 2240	57	Shore D
ARM Impact Strength @ -40 °C	ARM Method (5.5 mm rotomoulded sample)	27 (110)	J/mm (lb-ft)
ESCR (100% Igepal)	ASTM D 1693, Condition A	>1,000	hrs, F50

**Note:** the given values are typical values measured on the product. Values herein are not to be construed as a product specification.



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### Processing Guidelines

Moulding cycles depend on mould materials and its wall thickness, oven temperature, and shot size. Typical oven temperatures should be set between 250 and 300 °C. The recommended PIAT for M53 is about 240 °C and may vary with a color shade. These grades require 10% longer cooking time than normal butene grades.

### Points of Concerns

- Finishing rotational parts by flaming, using scrap/filler in compound formulation, or dry blending pigment > 0.3% can decrease mechanical properties of rotational parts, which is not recommended.
- Not for cooking less than 10 min heating time.
- For black compound, use up the powder as quickly as possible after the package is opened due to a high moisture pick-up that will result to pinholing and poor impact strength.

### Product Technical Assistance

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

### Product Available Forms

- Color compound powder
- 25 kg loose bag
- 25 kg stretch wrap palletized

### Product Packaging

### 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 horizontal.

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### Safety

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

### 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 Safety Data Sheet for details on various aspects of safety, recovery and disposal of the products; for more information, contact your SCG Chemicals technical service.

### Related Documents

- The latest version of this document will be available at our website, [www.scgchemicals.com](http://www.scgchemicals.com), or can be obtained from the SCG Chemicals technical service.
- 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
  - Statement on compliance to food contact regulations

### 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.
- No liability can be accepted in respect of the use of the product in conjunction with other materials. The information contained herein relates exclusively to the product when it is not used in conjunction with any third party's materials.