



Technical Data Sheet

Product Name
**SCGC™
HDPE COMPOUND**

Product Type
Flame Retardant PE for Rotational Moulding

Product Grade
M1FBKA2P

Product Description

SCGC™ M1FBKA2P is a black, halogenated, polyethylene (PE)-based compound designed for rotational molding applications. It meets the UL 94 V-2 flame retardancy standard, UL 746A, and includes a UV stabilizer package for long-lasting performance in both indoor and outdoor environments.

Typical Application

- Covers
- Litter bins
- Small containers
- Air duct
- Industrial items required to have flame retardancy

Product Characteristics

- High ARM impact strength
- Good mouldability
- Good stiffness
- UV-stabilized (UV8) for outdoor use

International Compliance

- UL 94 VERTICAL BURNING
Flame Rating: V-2 at 3 mm
- UL 746A
Hot Wire Ignition (HWI): PLC-2
- UL 746A
High Current Arc Ignition (HAI):
PLC-0

*M1FBKA2P is not recommended for any food-contact applications.

Physical Properties

Properties	Test Method	Typical Value	Unit
Melt Flow Rate	ASTM D 1238 @ 190 °C, 2.16 kg	5.0	g/10 min
Density	ASTM D 792	0.985	g/cm ³
Melting Point	ASTM D 2117	128 (262)	°C (°F)
Crystallization Point	ASTM D 2117	116 (242)	°C (°F)
Heat Deflection Temperature	ASTM D 648 @ 0.455 MPa	64 (146)	°C (°F)
Vicat Softening Temperature	ASTM D 1525	117 (243)	°C (°F)
UL94 Flame Retardancy	IEC 60695-11-10	V-2	-
UL746A Hot Wire Ignition (HWI)	IEC 60695-2-20	PLC 2	-
UL746A High Current Arc Ignition (HAI)	UL746A	PLC 0	-
Mechanical Properties			
Tensile Strength at Yield	ASTM D 638 @ Speed 50 mm/min	19 (2813)	MPa (psi)
Tensile Strength at Break	ASTM D 638 @ Speed 50 mm/min	22 (3121)	MPa (psi)
Elongation at Break	ASTM D 638 @ Speed 50 mm/min	1211	%
Flexural Modulus	ASTM D 790	982 (142385)	MPa (psi)
Surface Hardness	ASTM D 2240	61	Shore D
ARM Impact Strength @ -40°C	ARM Method (5.5 mm rotomoulded sample)	9 (37)	J/mm (lb-ft)

Note: • The given values are typical value measured on the product. Values herein are not to be constructed 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 M1FBKA2P is about 220 °C which may vary with a color shade.

Points of Concerns

- M1FBKA2P is not recommended for any food-contact applications.
- It is not recommended to flame the surfaces of molded parts with an open torch due to risk of thermal degradation and premature failure.
- Inclusion of fillers or recycled materials into the resins either by compounding or dry blending is not recommended due to risk of compromised impact strength.
- Use of pigments above 0.3% by dry blending into natural or/and color compound powder should be avoided due to risks of lower impact strength.
- Additional antioxidants, internal lubricants, or UV stabilizers into the virgin resins during the compounding process should be considered depending on the end applications.
- For black compound, use up the powder as quickly as possible after the package is opened due to a 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, contact your SCG Chemicals technical services at the address as specified below.

Product Available Form

- Black compound powder

Product Packaging

- 25 kg loose bag
- 25 kg stretch wrap palletized
- 1,100 kg Flexi Bag

Storage

- Store in original container in tidy according to the manual of Handling and Storage from Thai Polyethylene Co., Ltd. / SCGC ICO Polymers Co., Ltd.
- 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 sloped.

Safety

- 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.



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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.
- 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.