TECHNICAL DATA SHEET

ELEMENTIS

CHARGUARD™ 2000

Fire Retardant Synergist

GENERAL INFORMATION

CHARGUARD™ 2000 is an organically modified mineral thickener most suitable for compounding in combination with fire retardants in low to intermediate polarity thermoplastic resin systems. The usage of **CHARGUARD™ 2000** as a synergist at total formulation weight levels of from 3.5% to 5% may lead to improvements in fire retardant protection performance leading to cost savings, reduced environmental impact, and potentially improved material properties.

CHEMICAL & PHYSICAL PROPERTIES

Composition:	Organically Modified Bentonite Clay
Appearance:	Light tan finely divided powder
Moisture:	3.0 % max
Density:	1.7 g/cm³
Bulk Density:	0.35-0.43
LOI (Loss on Ignition):	38.5-41.5%
Particle Size Distribution:	200 Mesh >80%

Note: These are typical properties not to be used for specification purposes

APPLICATIONS

CHARGUARD™ 2000 is particularly suitable for halogen-free flame-retardant thermoplastic compounds processed at temperatures not to exceed 235C:

- Ethylene-Vinyl Acetate co-polymer (EVA)
- Low Density Polyethylene (LDPE)
- High Impact Styrene (HIPS)
- Polypropylene (PP)
- Polyamide (Nylon 6)
- Polylactic Acid (PLA)

KEY PROPERTIES

- Does not contain intentionally added Per- and polyfluoroalkyl substances (PFAS).
- Enhances the effectiveness of non-halogenated and halogenated fire retardants by delaying the combustion process and stopping the spread of molten flame drip.
- Creates char layer oxygen barrier which is non-flammable and reduces the availability of combustible gases generated during thermal decomposition.
- Reduces the amount of smoke produced in a fire, a significant factor in improving fire safety and survivability.

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INCORPORATION

To achieve an optimum dispersion and exfoliation of the additive, the use of a co-rotating twin screw extruder is required when compounding with thermoplastic resins.

CHARGUARD™ 2000 should be added at the throat of the twin screw extruder to ensure optimal mixing with other performance additives. Improved mixing is achieved when using a (>40 L/ 1 D) screw geometry with a high dispersion geometry.

Notes:

- No pre-activate required.
- Use with coupling agent recommended.
- Compounding at >235C for extended periods of time will produce acrid smell and accelerated decomposition.

LEVELS OF USE

- Typically, 3.5% and 5% as supplied based on total formulation weight.
- Masterbatch levels may vary depending on desired performance attributes.

HEALTH & SAFETY

Before using this product, please consult our Safety Data Sheet (SDS) for information on safe handling and storage. The SDS can be found on the company website.

SHELF LIFE

4 (four) years from date of manufacture.

STORAGE RECOMMENDATIONS

To be sorted and transported at a temperature below 50 °C in a cool, dry location.

QUALITY ASSURANCE

Quality system at the site manufacturing this product complies with and is certified to ISO 9001 quality standards.

SUSTAINABILITY

Our commitment to sustainability is reflected in our smectite clay mining operations, which boast over 21% lower mining emissions compared to similar clays. By minimizing organic modification and purification processes, we reduce energy consumption. Additionally, we ensure a high standard for human rights and biodiversity throughout the product lifecycle. This dedication to quality and sustainability underscores our leadership in providing superior organoclays that meet the evolving demands of modern industries.

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