

Technical Data Sheet

Product Commercial Name: RY 501

Description: Stiffening and Toughening Nucleating Agent

Chemical Name: Bis (4-tert-butylbenzoate-o) hydroxyl Aluminum

Chemical Formula: $C_{22}H_{27}AlO_5$

Molecular Weight: 398.43

CAS No.: 13170-05-3

Product Description

The stiffening and toughening nucleating agent RY 501, as an efficient inhomogeneous nucleation agent for all kinds of semi-crystalline polymers, is especially applicable to polyolefin, polyester, nylon, methyl ether or thermoplastic urethane.

The stiffening and toughening nucleating agent RY 501 increases the yield per unit time in injection molding or blowing mould through enhancing the crystallization temperature/or crystallization rate. Besides, the mechanical properties (such as the impulse strength and tensile strength) of the final products can be improved significantly. Meanwhile, when obtaining better-controlled crystallization, warping is reduced because smaller and more homogeneous crystalline solids have been formed. It also helps to enhance the optical performance and to improve the transparency of polymer with a low additive content.

The stiffening and toughening nucleating agent RY 501 is chemically inert, so there is no adverse reaction when it is used with other auxiliaries such as the processing agent, light stabilizer or long-acting heat stabilizer. Because of its superior heat stability, it will not limit the original processing conditions of plastics. Because of its favorable insolubility in the polymer nomenclature, the atomization and pulverization of products will not be caused. RY 501 does not melt in the course of processing, but it is extremely easy to disperse in the polymer melt if it is squeezed out.

Typical Properties

RY 501	Appearance	Aluminum mass fraction, %	Moisture mass fraction, %	Mass fraction of ash content, %
	White powder	6.2-6.6	≤1.0	12.4-16.0

Scope of Application

The stiffening and toughening nucleating agent RY 501 is primarily applied to the polypropylene random copolymer. For example, as the special material for washing machine production, RY 501 can be used to manufacture many components, such as the washing machine's twin-tubs, spin dryer tube, foundation, panel,

operation board and wave wheel. RY 501 can also be used as special materials for manufacturing household appliances such as the refrigerator.

Application Description

To ensure the optimum effect of stiffening and toughening nucleating agent RY 501, it should be uniformly dispersed in the polymer melt. When using it, please firstly mix the agent for over 5 minutes with a blender (1000 RPM), so as to fully disperse the materials. The commonly recommended additive content is 0.1-0.3%, while specific application purposes should be considered otherwise. The stiffening and toughening nucleating agent RY 501 keeps stable in the air at a temperature of 400°C, and thus there is no limit to its processing conditions.

Package and Storage

Net 20KGS / PE bag unit, net 500KGS / Carton / Pallet.

The product should be protected against moisture and damp during transportation and stored in dry and ventilated place away from the fire source. Please fasten the bag before the product is used up.

Storage Life

24 months from production date.