

SCONA TPPL 5112 PA

Coupling agent for filler- and fiber-reinforced polylactic acid composites to achieve excellent adhesion to the matrix. Compatibilizer for blends made of polylactic acid and other polar, bio-based polymers to improve mechanical and optical properties.

Product data

Composition

Chemically modified polylactic acid

Bio-based

Typical properties

The values indicated in this data sheet describe typical properties and do not constitute specification limits.

Grafting functionality:	Maleic anhydride
Grafting level:	> 1.0 %
MVR (190 °C, 2.16 kg):	20–30 cm ³ /10 min
Drying loss (180 min, 110 °C):	< 0.5 %
Color:	off-white
Supplied as:	powder

Storage and transportation

Store in sealed containers in a cool, dry, and well-ventilated location.

Applications

Thermoplastics

Special features and benefits

SCONA TPPL 5112 PA is a high-performance polymer modifier based on a polylactic acid (PLA) functionalized with maleic anhydride. The additive acts as a coupling agent in filler- and fiber-reinforced polylactic acid compounds. It is especially suitable for PLA compounds to which wood flour or natural fibers are added. The addition of the coupling agent leads to optimized fiber-matrix bonding and therefore improves the mechanical properties and the processability of the composite material. The excellent flowability of the additive also guarantees good fiber wetting. In addition, SCONA TPPL 5112 PA is an outstanding compatibilizer for polymer blends made of polylactic acid and other polymers, including some bio-based polymers such as polybutylene succinate (PBS) or polybutylene adipate terephthalate (PBAT). The additive increases compatibility and ensures an even distribution of the blend components. This results in an improvement of the mechanical and optical properties of the material.

Recommended use

Coupling agent	<input checked="" type="checkbox"/>
Compatibilizer	<input checked="" type="checkbox"/>
Dispersing aid	<input type="checkbox"/>

especially recommended recommended

Recommended levels

Coupling agent: 2–6 % additive (as supplied) based on the total formulation, depending on the fiber/filler content.

Compatibilizer: 5–30 % additive (as supplied) based on the polylactic acid content in polymer blends.

Dispersing aid: 2–6 % additive (as supplied) based on the total formulation, depending on the filler content.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

Incorporation and processing instructions

The product can be added via volumetric or gravimetric dosing units during processing in all extruders, blow molding machines, and injection molding machines. In filled materials, dosing via the main feed is recommended in order to guarantee good wetting of the fibers/fillers.



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This issue replaces all previous versions.