

## Used in nylon

### BX FR OP1312

#### Product Features

BX FR OP1312 is a halogen-free flame retardant based on organic phosphinates. The product achieves its flame retardant effect through intumescence. The thermoplastic polymer with BX FR OP1312 foams and crosslinks on exposure to flame and forms a stable char at the surface acting as a barrier. The protective layer provides a heat insulation effect, reduces oxygen access and prevents dripping of molten polymer.

#### Benefits

- Achieves its flame retardant effect through a combined gas phase and condensed phase mode of action
- UL 94 V-0 rating down to 0.4 mm thickness
- Good colorability
- Suited for both glass-fibre-reinforced and unreinforced grades
- The flame retarded polyamide compounds exhibit very good physical and excellent electrical properties
- Low smoke toxicity
- Good contrast in laser marking
- Low material density
- Non-halogenated flame retardants with favourable environmental and health profile

#### Specification and Technical Data

Characteristics	Unit	Target Value	DS <sup>1)</sup> TD <sup>2)</sup>	Test Method
Phosphorus	%(w/w)	21-23	☒ ○	
Water / Moisture	%(w/w)	max. 0.35	☒ ○	Thermogravimetry
Density	g/cm <sup>3</sup>	1.6	○ ☒	at 20 °C
Bulk Density	kg/m <sup>3</sup>	About 500	○ ☒	
Decomposition Temperature	°C	> 320	○ ☒	TGA 1 % weight loss
Average Particle Size (D50)	µm	≤ 10	○ ☒	

#### Applications

BX FR OP1312 is white powder, developed especially for Nylon. It is suitable for both glass fiber reinforced Nylon and non-reinforced Nylon. The flame retardant Nylon exhibits excellent physical and electrical properties.

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**Formulation**

In glass fiber reinforced Nylon 6 or 6.6, recommended to add 13 to 16% (by weight). BX FR OP1312 is usually sufficient to achieve the UL94 V-0 flame retardant requirements (at 1.6 0.8mm thickness). Due to different formulations and processing conditions, the dosage of flame retardant may be different.

**Application conditions**

Before processing, Nylon must be dried, the moisture content must less than 0.1%(by weight),

BX FR OP1312 does not require drying. The processing temperature should not exceed 320°C.

**Package:**

25 kg /bag, using paper bags with PE inner. The product should be stored in a dry place at room temperature.