Exolit® OP 945

Edition Date December 15, 2022 **Edition Number**

Finer grained version of aluminum diethyl phosphinate flame retardant for adhesives, films and fibres

Product Description

Exolit OP 945 is a white, fine-grained powder based on an organic phosphinate with a D95 of less than 5 µm. The product is not hygroscopic and it is insoluble in water and common organic solvents like acetone, dichloromethane, MEK, toluene. Exolit OP 945 can easily be dispersed in solvents like acetone or MEK.

For more details see our Innovation Spotlight video.

Benefits

- Based on an organic metal phosphinate
- Not hygroscopic, insoluble in water and common organic solvents like acetone, dichloromethane, MEK, toluene
- Good hydrolysis resistance
- Halogen-free flame retardant with a high phosphorus content which is suitable for use in both thermoplastic and thermoset applications to meet the most stringent fire retardancy standards
- Particularly suitable for very thin adhesive applications like flexible printed circuit boards due to its specifically designed particle size distribution; can be readily dispersed in epoxy resin systems when a high shear mixer is used
- Low smoke toxicity
- Non-halogenated flame retardant with favorable environmental and health profile

Specifications

Characteristics	Unit	Target Value	DS[1])	TD[2])	Test Method
Appearance		white powder	☐	☑	Visual contact; (11/43)
Phosphorus	% (w/w)	23.3 - 24.0	☑	☐	Photometry after oxidizing dissolution; (11/17) or wavelength dispersive X-ray fluorescence spectrometry; (11/23)
Water / Moisture	% (w/w)	≤ 0.5	☑	☐	Thermogravimetry 130°C; (11/03)
Density	g/cm³	ca. 1.3	☐	☑	
Bulk Density	g/cm³	100 - 250	☐	☑	
Decomposition Temperature	°C	> 300	☐	☑	
Particle Size Distribution	µm		☑	☐	Laser diffraction in acetone; (11/47)
	D95	≤5			

[1]) Delivery specification: The product is monitored on a regular basis to ensure that it adheres to the specified values. Test methods: Clariant method numbers 11/xx in brackets.
[2]) Technical data: The technical data are used solely to describe the product and are not subject to regular monitoring.

Applications

Exolit OP 945 is a halogen-free flame retardant with a high phosphorus content which is suitable for use in both thermoplastic and thermoset applications where the most stringent fire retardancy standards must be met.

Due to its specifically designed particle size distribution, Exolit OP 945 is particularly suitable for very thin adhesive applications like flexible printed circuits. It can be readily dispersed in epoxy resin systems when a high shear mixer is used.

Classification: UL 94: class V-1, 1.6 mm
concentration: approx. 10 parts Exolit / 100 parts resin

Classification: UL 94: class V-0, 1.6 mm
concentration: approx. 30 parts Exolit / 100 parts resin

or in combination with modified resins
or other flame retardants like ATH

Packaging and Handling

Delivery form
White powder

Packaging
Exolit OP 945 is delivered in 25 kg cartons.

Storage
Minimum shelf life is 12 months from the date of shipping when stored according to the said conditions.

More information

For more details see our Innovation Spotlight video.

Safety

Further safety data and handling information is available from our current Material Safety Data Sheet. For disposal in accordance with the regulations the product should be treated as special waste and taken to a suitable incineration plant.

Contact Us
Please contact us for safety and regulatory details or the Material Safety Data Sheet (MSDS).

Contact Us;
Please contact us for safety and regulatory details or the Material Safety Data Sheet (MSDS).

www.clariant.com

Clariant International Ltd