



Print this page Polymer Solutions

BU Additives and Adsorbents

## Exolit® OP 930

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Fine grained phosphinate flame retardant for epoxy laminate systems.

### Product Description

Exolit OP 930 is a white, fine-grained powder based on an organic phosphinate. The product is not hygroscopic and it is insoluble in water and common organic solvents like acetone, dichloromethane, MEK, toluene. Exolit OP 930 can easily be dispersed in solvents like acetone or MEK.

For more details see our [Innovation Spotlight video](#).

### Benefits

- White powder, not hygroscopic, insoluble in water and common organic solvents like acetone, dichloromethane, MEK, toluene
- Can easily be dispersed in solvents like acetone or MEK
- Halogen-free flame retardant with a high phosphorus content, suitable for use in both thermoplastic and thermoset applications where the most stringent fire retardancy standards must be met
- for epoxy based laminates for printed circuit boards like halogen-free FR-4 and CEM-3 laminates; can be readily dispersed in epoxy resin systems when a high shear mixer is used
- Does not increase water pick-up after Pressure Cooker test
- Low smoke toxicity
- Non-halogenated flame retardant with favorable environmental and health profile

### Specifications

Characteristics	Unit	Target Value	DS <sup>1)</sup>	TD <sup>2)</sup>	Test Method
Phosphorus	% (w/w)	23.3 - 24.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Photometry after oxidizing dissolution; (11/17) or wavelength dispersive X-ray fluorescence spectrometry; (11/23)
Water / Moisture	% (w/w)	max. 0.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Thermogravimetry 130°C; (11/03)
Density	g/cm <sup>3</sup>	1.35	<input type="checkbox"/>	<input checked="" type="checkbox"/>	at 20 °C
Bulk Density	kg/m <sup>3</sup>	100 - 250	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Decomposition Temperature	°C	> 300	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Particle Size Distribution	µm		<input checked="" type="checkbox"/>	<input type="checkbox"/>	Laser diffraction in acetone; (11/47)
	D50	< approx. 10 (TD)			
	D95	max. 20 (DS)			

<sup>1)</sup> 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.

<sup>2)</sup> Technical data: The technical data are used solely to describe the product and are not subject to regular monitoring.

### Applications


Exolit OP 930 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.

One application is epoxy based laminates for printed circuit boards. Halogen-free FR-4 and CEM-3 laminates can be produced by using Exolit OP 930. It can be readily dispersed in epoxy resin systems when a high shear mixer is used. Exolit OP 930 does not increase the water pick-up after Pressure Cooker test.

**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 other flame retardants like ATH

**Note:** There are various third party patent rights relating to the use of Exolit OP 930 in polyester based flame retardant applications. Further details can be obtained from Marketing Specialties Business, BS Flame Retardants +49-6196-757-8109 .

## Packaging and Handling

### Delivery form

White powder

### Packaging

Exolit OP 930 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](#).

## EcoTain®

Products that offer outstanding sustainability advantages are awarded Clariant's EcoTain® label. EcoTain® products significantly exceed sustainability market standards, have best-in-class performance and contribute overall to sustainability efforts of the company and our customers. Find out more about: [EcoTain®](#).



## PEOPLE



- Non hazardous, studies on life cycle data available.



- Saves lives and assets as a (halogen free) flame retardant. Supports the attainability of eco-labels for customer products.



## PLANET



- Phosphorus is on the EU list of critical raw materials but recycling is possible and actively investigated.



Very efficient production process with high yield, minimized waste and low water consumption.



## PERFORMANCE



- Extensive work with customers along the value chain, optimizing material performance and evaluating life cycle aspects with stakeholders.



- Efficient at comparatively low loadings. Synergies with other halogen free flame retardants. High tracking resistance in E&E applications.

## Safety

Further safety data and handling information are 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).

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