



Exolit® IFR 36

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Ammonium polyphosphate flame retardant system for thermosets, especially epoxy resins

Product Description

Exolit IFR 36 is a non-halogenated flame retardant based on ammonium polyphosphate, which develops its effectiveness through phosphorus/nitrogen synergism. Exolit IFR 36 differs in its mode of action from chlorine- or bromine-containing flame retardants by achieving its effect through intumescence. The flame retarded material foams on exposure to flame. The carbon foam layer so formed protects the polymer through its heat insulating effect and reduces further oxygen access.

Benefits

- Non-halogenated flame retardant based on ammonium polyphosphate which develops its effectiveness through phosphorus/nitrogen synergism
- Differs in its mode of action from chlorine- or bromine-containing flame retardants by achieving its effect through intumescence
- May be used in a range of thermosets, especially epoxy resins
- Suitable both for coatings and reinforced materials
- In composites, it may be used alone or in combination with aluminum trihydroxide (ATH)
- Non-halogenated flame retardant with favorable environmental and health profile

Specifications

Characteristics	Unit	Target Value	DS ¹⁾	TD ²⁾	Test Method
Appearance		powder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	visual evaluation
Phosphorus	% (w/w)	19.0-21.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Photometrie after oxidative dissolution
Nitrogen	% (w/w)	14.0-16.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Elemental analysis
Density	g/cm ³	approx. 1.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Solubility in Water	% (w/w)	< 10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	at 25 °C in 10 % aqueous suspension
Decomposition Temperature	°C	> 230	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Average Particle Size (D50)	µm	approx. 12	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Particle Size Distribution	% (w/w)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	< 275 µm	>= 98.5			Air iet sieving
		-			
		-			
Weight Loss			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	1% (w/w)	> 230			
	5% (w/w)	approx. 298			
	10% (w/w)	approx. 334			
	50% (w/w)	approx. 580			
		-			

¹⁾ Delivery specification: The product is constantly monitored to ensure that it adheres to the specified values.

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

Applications

Exolit IFR 36 may be used in a range of thermosets, especially epoxy resins. It is suitable both for coating and reinforced materials.

Intumescent Coatings

Exolit IFR 36 offers a unique performance when incorporated into epoxy-based intumescent coatings. It is especially suitable for passing standards for the steel protection of hydrocarbon fire scenarios.

Composite Applications

In composites Exolit IFR 36 may be used alone or in combination with aluminum trihydrate (ATH).

In composites for transport applications it can be used to control fire, smoke and toxicity. Especially in railway (EN 45545-2) and aviation (FAR 25.853) applications low smoke density and toxicity is a key requirement. Moreover Exolit IFR 36 can be used to control heat release in epoxy composites for aviation.

Packaging and Handling

Delivery form

White, free-flowing powder

Packaging

Exolit IFR 36 is supplied in PE bags with 20 kg net weight. The bags are delivered on pallets with 800 kg net weight. Exolit IFR 36 is also available in big bags (500 kg net weight).

Storage

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

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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®](#).

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For regulatory details such as the classification and labelling as dangerous substances or goods please refer to our corresponding Material Safety Data Sheet.

Contact Us;

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

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