



Print this page Flame Retardants

Additives

Exolit® AP 740

Edition Date July 25, 2013 Edition Number

Intumescent system based on APP for light weight composite and gel-coat applications

Product Description

Exolit AP 740 is a white free flowing powder. It is a non-halogenated additive flame retardant based on ammonium polyphosphate which develops its effectiveness through phosphorus/nitrogen synergism. Exolit AP 740 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 additive flame retardant system based on ammonium polyphosphate which develops its effectiveness through phosphorus/nitrogen synergism and intumescence
- May be used in a range of thermoset resins, especially unsaturated polyester resin, acrylic resins, epoxy or phenolics
- Suitable both for coatings and reinforced materials
- Low smoke density
- In polyester gel coats, important standards like DIN EN 13501-1 or DIN 5510 S4 SR2 ST2 can be passed
- Can be used alone or in combination with synergists like aluminium hydroxide in composites
- Very effective in methacrylate-styrene dissolved polyester resins
- Non-halogenated flame retardant with favorable environmental and health profile

Specifications

Characteristics	Unit	Target value	DS ¹⁾	TD ²⁾	Test method
Phosphorus	% (w/w)	18.0 - 20.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Photometry after oxidizing dissolution; (11/17)
Nitrogen	% (w/w)	21.0 - 23.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Elemental analysis; (11/07)
Density	g/cm ³	approx. 1.8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	At 25 °C
Bulk Density	g/cm ³	approx. 0.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Solubility in Water	% (w/w)	< 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	At 20 °C in 10 % suspension
Decomposition Temperature	°C	> 200	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial evolution of ammonia
Average Particle Size (D50)	µm	approx. 16	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Particle Size Distribution	% (w/w)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	Air jet sieving; (11/02)
	> 100 µm	max. 2.0			
		-			
		-			
		-			

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

Intumescent coatings

Exolit AP 740 may be used in a range of thermoset resins, especially unsaturated polyester resin, acrylic resins, epoxy or phenolics. It is suitable both for coatings and reinforced materials. In addition to primary effects of fire such as spread of flames and residual length, secondary effects such as smoke density and formation of toxic smoke is of interest.

Using Exolit AP 740 a low smoke density is achieved. By the addition of Exolit AP 740 in polyester gel coats important standards like DIN EN 13501-1 or DIN 5510 S4 SR2 ST2 can be passed. In composites Exolit AP 740 can be used alone or in combination with synergists like aluminium hydroxide.

Formulations and achievable flame retardant effect

Exolit AP 740 is very effective in methacrylate-styrene dissolved polyester resins.

Classifications:

UL 94 V-0 (1.6 mm): > 30 phr* Exolit AP 740
 DIN 5510 S4 SR2 ST2: > 30 phr* Exolit AP 740
 NF 92-501 class M1: > 50 phr* Exolit AP 740
 DIN EN 13501-1: > 75 phr* Exolit AP 740

ABD 0031 Airbus Industries requirements for interior parts: Passed with 50 phr

In styrenic polyester resins Exolit AP 740 can be combined with aluminium hydroxide to reduce the overall filler content necessary to pass different flammability standards. In these systems, Exolit AP 740 is normally added at 15 – 25 parts and aluminium hydroxide at 50 – 150 parts per hundred resin.

*phr= parts per hundred resin

Packaging and Handling

Delivery form

White free flowing powder

Packaging

Exolit AP 740 is supplied in 20 kg net bags. The standard supply unit is a 1.000 kg shrink-wrapped pallet.

Storage

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

Safety and MSDS

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).

www.clariant.com



Clariant International Ltd



This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Clariant makes no warranties, express or implied, as to the information's accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Clariant's products for its particular application.

* Nothing included in this information waives any of Clariant's General Terms and Conditions of Sale, which control unless it agrees otherwise in writing. Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Clariant products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products. For additional information, please contact Clariant.

* For sales to customers located within the United States and Canada the following applies in addition: No express or implied warranty is made of the merchantability, suitability, fitness for a particular purpose or otherwise of any product or service.

© Trademark of Clariant registered in many countries.

© 2019 Clariant International Ltd