



Print this page Flame Retardants

Additives

Exolit® RP 607

Edition Date August 23, 2013 Edition Number

Specially treated red phosphorus powder.

Product Description

Exolit RP 607 is a flame retardant based on red phosphorus. Due to a unique stabilization it is noted for its high oxidation and thermal stability. Exolit RP 607 is a fine brownish-red powder, insoluble in water and organic solvents. Due to the combination of stabilization and microencapsulation, the material is mostly inert against atmospheric influences.

Benefits

- Mostly inert against atmospheric influences due to the combination of stabilization and microencapsulation. High oxidation and thermal stability because of a unique stabilization
- Can be used in a large number of plastics alone or in combination with nitrogen- or halogen-containing flame-retardants
- Insoluble in water and organic solvents
- Particularly effective when used with condensation polymers such as polyamides, polyesters, polyurethanes, polyisocyanurates and epoxy resins
- For polyolefins and polystyrene we recommend the combination with synergists
- Can be used for solid plastics, closed cell foams, polymer adhesives at processing temperatures up to 300°C
- Non-halogenated flame retardant with favorable environmental and health profile

Specifications

Characteristics	Unit	Target Value	DS ¹⁾	TD ²⁾	Test Method
Chemical Formula		Px	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Phosphorus	%(w/w)	>95.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Photometry after oxidizing dissolution; (11/17) or wavelength dispersive X-ray fluorescence spectrometry; (11/23)
White Phosphorus	%(w/w)	<0.02	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NMR-spectroscopic determination after extraction with CS ₂ ; (11/10)
Density	g/cm ³	approx. 2.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bulk Density	g/cm ³	0.8 - 1.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
pH Value		approx. 7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10% Suspension in acetone / water, potentiometry; (11/12)
Particle Size Distribution	%(w/w)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wet sieving using acetone
	>400µm	< 0.1			
		-			
	>100µm	< 3.0			
	>45µm	< 25			
		-			

¹⁾ Delivery specification: The product is constantly monitored 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 RP 607 can be used in a large number of plastics alone or in combination with nitrogen- or halogen-containing flame retardants. It is particularly effective when used with condensation polymers such as polyamides, polyesters, polyurethanes, polyisocyanurates and epoxy resins. For polyolefins and polystyrene we recommend the use of synergists.

In each individual case it is always essential to carry out a series of tests with graduated quantities to determine the optimum Exolit RP 607 concentration. As a rule, depending on the type of plastic, the best results are obtained with addition of between 2% and 10%.

Exolit RP 607 can be used for solid plastics, closed cell foams, polymer adhesives at processing temperatures up to 300 °C.

The inherent red-brown color of Exolit RP 607 is transferred to any translucent and/or light-colored product to which the flame retardant is added.

Packaging and Handling

Delivery form

Powder

Packaging

Exolit RP 607 is supplied in 60 liter conical, full open-head steel drums (400 mm diameter x 600 mm high) with a 50 kg fill weight. Each drum has a loose anti-static

polyethylene liner and a ring-type lid closure.

Storage

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

Safety

The product reacts explosively with oxidizing agents. During decomposition or combustion yellow phosphorus and/or phosphorus pentoxide are formed.

When processing is carried out, particularly at elevated temperatures, it should be borne in mind that small amounts of phosphine may be formed especially in the presence of water. As phosphine is a toxic gas, an effective extraction facility must be provided.

Exolit RP 607 containers must be closed tightly whenever any of the content is removed. All handling operations must be carried out with due care, using only tools made from soft material (plastic, wood, etc.). Do not cut the metal bag closure or the bag itself.

If fire breaks out, the most suitable extinguishing agents are water spray, foam, wet sand and fire blankets. Fire extinguishers that operate under gas pressure are not suitable because they tend to whip up the red phosphorus powder and thus cause the fire to spread.

Areas where fires involving red phosphorus powder have been extinguished should be doused several times with 2% potassium permanganate or with 10% soda or copper sulphate solution to render harmless the toxic and spontaneously flammable yellow phosphorus formed during the fire.

Any mechanical movement of Exolit RP 607 as well as all operations in which Exolit RP 607 is exposed to intense heat, pressure etc. should be carried out in an inert gas atmosphere (nitrogen or argon).

Additional information concerning "Safety Precautions in Handling Red Phosphorus Powder Grades" is available on request from flameretardants@clariant.com.

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

As stated in the safety data sheet of the substance the use "industrial manufacture of screening smoke ammunition or smoke payloads" is advised against within the EU according to the REACH regulation. Therefore, every manufacturer of smoke ammunition or smoke payloads is obliged to create a chemical safety assessment for these uses and to inform the ECHA accordingly.

Hazard class	Hazard category	H-phrase
Flammable solids	Category 1	Flammable solid
Skin sensitisation	Category 1	May cause an allergic skin reaction
Chronic aquatic toxicity	Category 3	Harmful to aquatic life with long lasting effects

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