



Print this page Flame Retardants

Additives

## Exolit® RP 614 presscake

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**Stabilized, microencapsulated red phosphorus as a wet filtercake.**

### Product Description

Exolit RP 614 Presscake is a fine brown-red powder with a water content of 10-25%, based on a highly stabilized, microencapsulated grade of red phosphorus. This allows a safe and simple handling of the red phosphorus in a presscake form, and avoids the hazards associated when working with dry red phosphorus powders. Exolit RP 614 Presscake is noted for its high oxidation and thermal stability. It is insoluble in water and organic solvents. Due to the combination of stabilization and microencapsulation, the material is mostly inert against atmospheric influences.

### Benefits

- Fine brownish-red powder based on a highly stabilized, microencapsulated grade of red phosphorus
- Safe and simple handling: avoids the hazards associated to working with dry red phosphorus powders
- High oxidation and thermal stability: mostly inert against atmospheric influences because of the combination of stabilization and microencapsulation
- Insoluble in water and organic solvents
- Very effective flame retardant due to its high phosphorus content
- Can be used as a flame retardant for both synthetic and natural rubber latex systems
- Used for a wide variety of water-based polymers, either alone or in combination with aluminium trihydroxide or other synergists
- 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
<b>Chemical Formula</b>	Px	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>Phosphorus</b>	%(w/w)	min. 90	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Gravimetry after extraction using HCl, on dry basis; (11/69)
<b>Active Substance</b>	%(m/m)	75 - 90	<input checked="" type="checkbox"/>	<input type="checkbox"/>	As solid content, calculated from water content, thermogravimetry; (11/03)
<b>White Phosphorus</b>	%(w/w)	<0.002	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NMR-spectroscopic determination after extraction with CS <sub>2</sub> ; (11/10)
<b>Water / Moisture</b>	%(w/w)	10 - 25	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Thermogravimetry; (11/03)
<b>pH Value</b>		6 - 10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10% Suspension in acetone / water, potentiometry; (11/12)
<b>Particle Size Distribution</b>	%(w/w)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	Wet sieving using acetone / water; (11/26) or laser diffraction; (11/47)
	>400µm	< 0.1			
	> 150µm	< 1.0			

<sup>1)</sup> 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.

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

### Applications

Exolit RP 614 Presscake can be used to flame retard both synthetic and natural rubber latex systems. Due to its high phosphorus content the product is a very effective flame retardant for a wide variety of water-based polymers either alone or in combination with aluminium trihydrate or other synergists. Since red phosphorus tends to emit small amounts of the toxic gas phosphine (PH<sub>3</sub>) – even if it is very well stabilised – we advise against using Exolit RP 614 Presscake for large area indoor applications like flame retarding mattresses or carpets. The inherent red-brown colour of Exolit RP 614 Presscake is transferred to any product to which the flame retardant is added.

### Packaging and Handling

**Delivery form**  
Presscake

**Packaging**  
Exolit RP 614 Presscake is supplied in 210 litre cylindrical, open-head, coated steel drums with a 150 kg net fill weight. Each drum has a steel cover 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

Exolit RP 614 Presscake containers must be closed tightly whenever any of the content is removed.

Although the desensitising process greatly reduces the sensitivity of red phosphorus to impact and friction as does the residual water, all handling operations must be carried out with due care, using only tools made from soft material (plastic, wood etc.). 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 614 Presscake as well as all operations in which Exolit RP 614 Presscake is exposed to intense heat, pressure etc. should be carried out in an inert gas atmosphere (nitrogen, argon).

For regulatory details such as the classification and labelling as dangerous substances or goods please refer to our corresponding Material Safety Data Sheet. Additional information is available in the special leaflet Safety Precautions in Handling Red Phosphorus Powder Grades.

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		Flammable solid
Respiratory or skin sensitization	Category 1	May cause an allergic skin reaction
Chronic aquatic toxicity	Category 2	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](http://www.clariant.com)



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