

KAPPAFLAM P 31

Permanent flame retardant for synthetic fibres

Chemical composition	organic phosphoric compound
Appearance	clear, slightly yellowish liquid
pH-value 20 °C	approx. 2.0 (2.5 %)
Density 20 °C (g/ml)	approx. 1.27
Active content (%)	approx. 90
Ionic charge	nonionic

Function

KAPPAFLAM P31 is used for permanent, flame retardant finishing of polyester fabrics used indoors and outdoors.

The polyester fabric finished with KAPPAFLAM P 31 is resistant to washing and dry cleaning. It fulfills the requirements of the fire shaft test in accordance with DIN-4102-B1 and complies with the building inspection certificate no P-3543/624/14-MPA BS with the external monitoring and internal production control. This allows KAPPAFLAM P31 to be labelled with the compliance mark. The test of the building supervisory board cannot replace the final verification of the product.

KAPPAFLAM P 31 also has the ACP listing according to Oeko-tex.

KAPPAFLAM P 31 is suitable for the washproof flame retardant finishing of textiles made of polyester. Its effect is based on the formation of a protective gas atmosphere that extinguishes the flame immediately. Even after 50 wash cycles at 60 °C, more than 90 % of KAPPAFLAM P 31 remain on the fibre. Furthermore, after 10 dry cleanings, more than 90 % of KAPPAFLAM P 31 still remain on the fabric. The handle and other properties of the finished textiles are not influenced due to the low application level of KAPPAFLAM P 31. A permanent, non-wash-resistant flame retardant can be achieved on polyamide fibres.

KAPPAFLAM P 31 can cause colour changes, therefore preliminary tests are recommended.

Further properties of KAPPAFLAM P 31 are:

- good thermal stability and
- low volatility.

Application

KAPPAFLAM P 31 is applied by the pad thermofixing process.

An application of 2 – 5 % is recommended, so that during the padding, e. g. at a liquor pick-up of 50 %

- 80 g/l KAPPAFLAM P 31

are used to achieve an application of 3.6 %.

- Drying: 1 – 2 minutes at 120 – 140 °C and
- Thermofixing: 1 – 2 minutes at 190 – 210 °C for polyester textiles
- Thermofixing: 1 – 2 minutes at 160 – 180 °C for polyamide textiles

When using the products, the precautionary measures applicable to the handling of chemicals must be observed. For storage and hazard information as well as safety advice, please refer to the relevant safety data sheets. Application solutions and product residues must be disposed of in accordance with official regulations. The listed instructions correspond to our previous experience. However, in view of the different operating conditions, only non-binding information and advice can be given. Therefore, we cannot accept any liability whatsoever, including liability for claims by third parties. Errors, changes and misprints excepted. Non-binding product information, print date Oct 15, 2025, not subject to systematic change.

Contact

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Standards (further on request)

- Building Supervisory Certificate
- GOTS
- OEKOTEX Standard 100

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In this way a good wash resistance is achieved on polyester fabrics and the product-specific smell of the finished good is avoided. After-washing results in a further increase of the wash resistance and improves the handle.

The optimum processing conditions need to be determined by preliminary laboratory tests.

The application of a buffer (e. g. disodiumphosphate or diammoniumphosphate) is recommended to increase the pH-value to approx. 5 – 6.5 as the aqueous solution of KAPPAFLAM P 31 has a low pH-value of approx. 2.0 – 3.0.

Dilution instruction

KAPPAFLAM P 31 can be diluted with water at any ratio.

Storage

KAPPAFLAM P 31 remains stable for at least 1 year if stored properly and cool in a tightly closed original container.