KAPPAFLAM P 31
Halogen free, permanent flame retardant for synthetic fibres

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

FUNCTION
KAPPAFLAM P 31 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 P 31 to be labelled with the compliance mark.

KAPPAFLAM P 31 is suitable for the washproof flame retardant finishing of textiles made of polyester or polyamide fibres. 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.

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
160 – 180 °C for polyamide textiles

In this way a good wash resistance is achieved and a 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 container.