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

The polyester fabric equipped with KAPPAFLAM P31 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.

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 are still remaining 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 special 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
at 160 – 180 °C for polyamide-textiles

Thereby a good wash resistance is achieved and a product-specific smell of the finished good is avoided. Afterwashing 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 of approx. 2.0 – 3.0.

DILUTION INSTRUCTION
KAPPAFLAM P 31 can be diluted with water, acetone or ethanol at any ratio.

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