

# TaiflameGF-151

## Products Description

GF-151 is an aqueous solution of a non-blooming, phosphorus and nitrogen based compound which is used in the flame retardant of a wide variety of fabric types, such as cellulose hemp, synthetic and natural fiber/synthetic fibre blend fabrics.

Fabrics treated with GF-151 are used in automotive and aircraft fittings and trims as well as for curtaining, barrier cloths and other applications where durability of the flame retardant performance to wet washing is not required. The flame retardancy of GF-151 treated fabric is not affected by dry cleaning solvents but repeated use of water charged dry cleaning systems should be avoided.

GF-151 treated fabrics typically have a good hand and drape which is maintained after fabric processing. The flame retardant finish is non-blooming and has the low fogging performance required for automotive end uses.

### Typical Properties

Appearance	White crystalline
Assay	98.5% min
Phosphorus (% w/w)	28.5
Nitrogen (% w/w)	13
Solubility	26% (in warm water)
pH	4.0 (10% in H <sub>2</sub> O)

## Key features:

1. Non-reactive, non-durable phosphorus and nitrogen based flame retardant.
2. Treated fabric is non-blooming.
3. Low fogging.
4. Temperature stable at 150°C(max.)
5. Suitable for combined baths, light fastness and change in shade.
6. Minimal effect on dyestuffs, light fastness and change in shade.

### Typical application:

Fabric for treatment with GF-151 must be clean and absorbent. The fabric must also be free from alkali. The presence of dirt, sizes, natural waxes or applied finishes will prevent efficient absorption of GF-151.

The flame retardant performance obtained will be dependent on fabric type, weight and construction, the uniformity of application and the level of applied chemical. It is recommended that preliminary trials are carried out to establish processing prior to full-scale production runs.

Processing may be carried out by brushing, dipping or spraying techniques, although it is normally carried out by using a pad-dye technique. Compatible fluorocarbons and softeners may be applied as a combined pad bath which is the most efficient method of application.

### Level of use:

The absorbency of the fabric should be checked and wet pick-up determined to calculate the required pad bath concentration to achieve the required GF-151 add-on. Padding should be carried out at ambient temperature with an optimum pick-up in the range of 70-100% using either a 2 or 3 bowl pad mangle with good immersion in the impregnation liquor. Running wet pick-up measurements should be made to verify the application level.

The following values are given as an indication of the level of add-on typically needed to meet recognised flammability standards.

Fabric	% w/w Dry Solids Add-on
Cotton	6-12%
Cotton/Polyester	6-12%
Polyester	8-12%
Hemp	10-13%

Excessive addition of chemicals will give a poor fabric handle and should be avoided.

The level of application of GF-151 will depend on the fabric construction weight and flame retardant performance required. The following recipes give an indication of typical bath composition;

1. Treatment of 115g/m<sup>2</sup> 100% polyester fabric to meet CAA 8/2 for automotive end use.

G-151	13% w/w
wetting agent	0.2% w/w

2. Treatment of 280g/m<sup>2</sup> 100% cotton fabric to meet BS5867 Part2 Type B for curtaining.

G-151	12% w/w
wetting agent	0.2% w/w

Packing: 40kg/caton

### CHEMICAL STRUCTURE

