

# Multi-Purpose FR Technical Data Sheet

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Last updated 03 June 2019



## MPFR – TDS 002

### Overview

Fire Defender Multi-Purpose FR is a colourless liquid that renders a fabric or water absorbent material flame retarded when dry. The product is designed to fire retard fabrics and materials constructed with either natural or synthetic fibres.

The product has a faint odour during application but no odour when dry.

Normal precautions are strongly advised such as testing on an unobtrusive portion of the material prior to application.

### Physical Properties

<b>Appearance</b>	Viscous Clear Odourless Liquid
<b>Boiling Point</b>	100+ C (water is solvent)
<b>Melting Point</b>	-0 C (water is solvent)
<b>Vapour Pressure</b>	(kpa): 2.3 @ 20° Celsius
<b>Specific Gravity</b>	1.02 to 1.12
<b>Flash Point</b>	Non Combustible
<b>Flammability Limits</b>	Not Applicable
<b>Solubility in Water</b>	Miscible with water

### Product Features

- Easy to apply fire retardant.
- Odourless when dry.
- Suitable for curtains, fabrics, carpets and soft furnishings.
- Suitable for many materials that will absorb moisture.
- Australian Made

### Intended Application/Use

The method of application is dependent upon the type of material and the structure of the fibre to be protected. The quantity of Fire Defender Multi-Purpose FR required depends on the absorbency of the material, its inherent flammability and its overall weight. The only role of Fire Defender Multi-Purpose FR is to act as a flame retardant.

#### Possible applications areas:

Schools – Stage Curtains  
Theatres & Museums  
Hospitals & Clinics  
Senior Citizen Homes  
Government and Commercial Office Buildings  
Hotels & Convention Centres  
Residential Homes

### Limitations

Multi-Purpose FR is a flame retardant, not a flame proofing product, and not designed to protect material from fire damage. If there is an ignition source on or adjacent to the material, the material may char, but this product will greatly reduce (depending on composition) the ability of the treated material to become a fuel source.

Multi-Purpose FR sole purpose is to "Retard" the spread of flame. Materials that have a synthetic content may (depending on synthetic composition) continue to burn, but in a greatly retarded burn pattern compared to untreated material. Some materials cannot be successfully treated. E.g. rayon, leather. Stain guard treated materials may be treatable after laundering. If in doubt contact Fire Defender prior to application works.

Dry cleaning, extraction cleaning, steam cleaning, laundering or shampooing of any treated fabric or surface will wash out Fire Defender Multi-Purpose FR and re-application will be necessary. Not suitable for use on gloss/wax paper or some high quality printing paper. Generally not suitable for tents and annexes as these have been impregnated with a water repelling agent or wax.

If the proposed material has a high percentage of synthetic fibre, seek advice from Fire Defender.



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<b>Surface Preparation</b>	<p><b>Fabrics</b> At the time of manufacture, some materials are treated with a variety of substances including starch, wax, silicon's and stain guard. These are often used to manipulate the material to achieve a certain finish, including gloss/sheen and texture. These substances will often result in the material having a water repellent quality. In these circumstances Multi-Purpose FR cannot be absorbed into the material therefore it will not achieve a fire retarded result however, these substances can often be removed by simply laundering as per material manufacturers recommendations. Launder all fabrics prior to application.</p> <p><b>Other materials</b> Surfaces should be clean and dry and free from dust and/or heavy lint. This applies to all surface types. Multi-Purpose is not suitable for application over sealed surfaces such as paint.</p>
<b>Mixing Instructions</b>	Shake bottle well before use. Should not be mixed with any other product.
<b>Application Procedure</b>	<p>Fire Defender Multi-Purpose FR is provided in a ready to use form. A fine mist spray will be required for most applications. <b>Do not dilute or mix with other products.</b> Always check the material for colour-fastness prior to application works. Use on:</p> <p><b>Fabrics:</b> Where practicable, hang in a vertical position and using a fine mist spray, apply an even coating over the entire surface to both sides of the fabric. Can be applied as part of the manufacturing process or as an aftermarket (DIY) application. The fabric being treated should not be drenched /saturated.</p> <p><b>Furnishings.</b> Apply a mist coating over the material ensuring an even application and allow to dry naturally. If the material has a silky feel to it after it has dried, wipe the surface of the material with a damp cloth. If penetration to the cushioning, padding or underlay is required, spray an even coat to the entire surface and use a steaming machine to push the fire retardant into the sub layers, then reapply a mist coating to the entire surface again and let dry naturally. For further information regarding the steaming of furnishings, please contact Fire Defender.</p> <p><b>Carpet:</b> It is assumed that the carpet to be treated is already laid and is to be treated in-situ either as a floor covering or a wall lining. Carpet requires a heavy application to ensure penetration into the carpet base material – see coverage. For larger areas a hand operated backpack pump or powered pump is recommended.</p> <p><b>Cardboard:</b> Corrugated cardboard is best treated with a fine atomized spray on both sides. Do not soak material in any one spot, as this may tend to warp the cardboard and cause it to lose shape.</p> <p><b>Paper &amp; decorative materials:</b> Paper should be mist sprayed. Not suitable for use on gloss/wax paper or some high quality printing paper. It is best to test a sample prior to full application.</p> <p><b>Timber:</b> Can be used on timber that has a high absorption rate, notably pine. Two to three heavy applications by brush, roller or spray are recommended allowing Multi-Purpose FR to be absorbed into the wood before the next application. Can be used on other timbers with varying results. Ideally suited to light weight theatre props.</p> <p><b>Other Materials:</b> Multi-Purpose FR has the potential to treat many other materials that have the capacity to absorb moisture and application methods will vary depending on material. Assessment should be done on an as-needed basis. Contact us for assistants.</p>
<b>Cleaning Procedure</b>	After each day's use, all application equipment must be flushed out with clean warm water.
<b>Coverage</b>	<p>Coverage is totally dependent on the material that is being treated. As a guide for ordering, the following coverage rates can be used to estimate product quantities.</p> <p>Fabrics weighing 200g's or less weight per m2 – 18-20 sq metres per litre Fabrics weighing 300g's or less weight per m2 – 14-16 sq metres per litre Fabrics weighing 400g's or more weight per m2 – 10-12 sq metres per litre Carpet - 2.7sq metres per litre Cardboard, both sides – approximately 15 sq metres per litre Timber (two coats) - approximately 6 - 8 sq metres per litre</p>



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<b>Drying Time</b>	Lighter weight materials tend to dry quicker – in a matter of hours, and heavier material can take a full day. Atmospheric variables will assist or hinder the drying time. Cloudy and rainy days will extend the drying time while sunny and windy days will accelerate the drying time. Timbers should be left to dry for a minimum of 24 hours preferably with direct sun exposure before sealing or painting.
<b>Storage &amp; Shelf Life</b>	Ensure container is tightly sealed before storing to ensure no loss due to evaporation. Store in a cool dry location. A two year plus shelf life can be expected.
<b>Safety Recommendations</b>	<p>Ensure Material Safety Data Sheets are read and understood by all users before use. Fire Defender Multi-Purpose FR is an aqueous solution of inorganic salts, chemically neutral or slightly alkaline with a pH value of 7-8. While it has very low toxicology, it should be kept out of the reach of children.</p> <p>Will not burn in liquid or solid state. Non-hazardous for transport or storage. No EPG required. Not classified as dangerous. Avoid contact with eyes and skin. Ensure adequate ventilation – vapour may be harmful. Do not breathe vapour/spray. If swallowed, do not induce vomiting. For advice contact poisons information on 13 11 26 (within Australia).</p>
<b>Testing &amp; Results</b>	<p>Fire Defender Multi-Purpose FR has been tested by Australian Wool Testing Authority (AWTA), a fully registered and certified Australian standards testing facility with NATA approval. Tested to AS1530-3. Tests reports are available on request.</p> <p>Results show “a high degree of flame resistance” on medium weight materials including:</p> <ul style="list-style-type: none"><li>Cotton</li><li>Polyester/Cotton blend</li><li>Hessian</li><li>Wool</li><li>Hessian</li><li>Velvet</li><li>Viscose</li><li>Nylon</li></ul>

## Disclaimer

With Fire Defender having no direct control over the end application of the product or alterations to the same, any advice or information is given in good faith, in the belief it is reliable. Fire Defender accepts no responsibility or liability what so ever arising from the use of its products whether or not in accordance with any advice, information, recommendation, specification or service. In commercial situations it is always required that Multi-Purpose FR is applied by suitably qualified applicator, and that a certificate of application is obtained from the same.

