

# TF3

## Training Foam Concentrate

TF3 enables fire services to train with fire fighting foam where front-line fluorosurfactant based foams are restricted to use in emergencies by European environmental regulators including the UK's Environment Agency. TF3 is a natural protein based product which mimics the performance of Angus Petroseal S 3 FFFP, an aviation industry standard for protein based fire fighting foams, to provide realistic fire training without the use of fluorinated chemicals.

Angus Fire has a commitment and long track record of formulating foams for minimal environmental impact and maximum performance. A key element of this responsibility is to use a natural organic base material, control and reduce the quantities of fluorosurfactants and other chemicals that could be released into the environment.

The use of low toxicity training foams permits front-line fire fighters to be continuously trained in critical fire fighting techniques to ensure high performance standards of readiness are maintained. This also allows proven fluorosurfactant products to minimise the risk to fire fighter safety in the event of an emergency.

The potential for conflict between all these objectives is clear, no more so than in aviation fire fighting.

Angus Fire has developed TF3 Fluorine Free Foam (F3) for training to eliminate this conflict. It now allows foam users to meet their key objectives and responsibilities within the legislative requirements.

### DESCRIPTION

TF3 is a Fluorine-Free Foam (F3) organic concentrate for 3% usage and has been specially formulated as a unique training foam with no fluorosurfactants. It is the first foam which can be used routinely as a substitute for fire vehicle calibration and equipment testing, to mimic the induction characteristics of Petroseal 3 FFFP while complying with European regulatory requirements including those of the UK Civil Aviation Authority and Environmental Agency.

TF3 was developed to meet the stringent environmental and regulatory requirements of the aviation sector. TF 3 also has clear training benefits for several other fire fighting applications and other Angus concentrates including Niagara AR-FFFP and Tankmaster FP.

### ENVIRONMENT

TF3 is formulated for minimum environmental impact. It is produced from natural proteins, and is free of fluorinated chemicals, glycol ethers, biocides and zinc. It is also readily biodegradable. TF3 has exceptionally

low aquatic toxicity to fresh and seawater organisms. It contains no synthetic detergents and so will not carry hydrocarbons through fuel separators.

### APPLICATION

TF3 is suitable for use in training with conventional foam induction and delivery equipment such as the Angus Hi-Combat range of portable foam equipment. It is not recommended for real life fire fighting incidents.

### INDUCTION

3% induction is recommended to mimic the induction performance and foam quality characteristics of Petroseal 3 FFFP.

### STORAGE RECOMMENDATIONS

TF3 should be stored in the original green containers. The containers are colour coded green to avoid confusion with front-line Angus fire fighting foams. TF3 should be used within 2 years from the date of purchase. In tropical conditions a shelf life of no longer than 6 months from the date of purchase can be expected.

## TYPICAL PHYSICAL PROPERTIES

Specific gravity	1.15
pH	7
Viscosity mm <sup>2</sup> sec <sup>-1</sup> @ 20°C (68°F)	≤30
Minimum use temperature °C (°F)	-15 (6)

## TYPICAL FOAM PROPERTIES

As with any foam, the foam properties of TF3 vary depending on the performance characteristics of foam equipment used and operating conditions. When tested in accordance with UK Def 42-40 it gives the following properties:

Expansion ratio	≥7:1
25% drainage time	≥5 mins

## TYPICAL PACKING SPECIFICATION

Container type	Green Plastic rectangular	Green Plastic cylindrical
Capacity	20 litres	200 litres
Full weight	24 kg	239 kg
Nominal dimensions (mm)	300 L x 250 D x 390 H	580 dia x 922 H