



## TF90

### Training Foam (TF) Concentrate

#### Integrity

*Doing what's right, rather than what's convenient*

Angus Fire prides itself on the open and honest way in which we conduct our business throughout the world. Our foams are an extension of our ethical beliefs and we pride ourselves in being the responsible foam manufacturer, balancing high performance with minimal environmental impact. Our training foams are manufactured without any added fluorosurfactants, fluoropolymers, organohalogens, PFCAs, PFOA and no PFOS in accordance with EU Directive 2006/122/EC and amended Council Directive 76/769/EEC.

#### Balanced Chemical System

Each training foam is designed to be used in live fire training scenarios and do not contain the active ingredients which enable high performance foams to work. These foams are kinder to the environment and can be used for training and testing of systems when required.



- Natural protein based
- Low toxicity
- Mimics the performance of Angus FP foams
- Can be used routinely as a substitute for vehicle and equipment testing

#### A fluorosurfactant free training foam which mimics the application and physical properties of Angus fire fighting foam.

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 permit front-line fire fighters to be continuously trained in critical fire fighting techniques to ensure high performance standards are maintained.

The potential for conflict between all these objectives is clear. Angus Fire has developed TF90 Training Foam to eliminate this conflict and allow foam users to meet their key objectives and responsibilities within the legislative requirements.

#### Description

TF90 is a Fluorine-Free Foam (F3) concentrate for 6% usage, which has been specially formulated to provide a unique training foam with a protein base material but no fluorosurfactants.

TF90 mimics the performance of Angus Fire's FP products, to provide realistic fire training without the use of fluorinated chemicals.

TF90 was developed to meet stringent environmental and regulatory requirements.

TF90 has clear training benefits for fire fighting applications such as offshore drilling and production platforms.

#### Environment

TF90 is formulated to minimise any environmental impact. It is produced from a natural protein base, and is free of fluorinated chemicals, and glycol ethers. It is also readily biodegradable.

#### Application

TF90 should be used in training through 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

6% induction is recommended to simulate induction and foam quality performance of 6% FP.

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### Storage Recommendations

TF90 should be stored in the original containers and according to Angus Fire's storage recommendations. The labels are colour coded green to avoid confusion with front-line Angus fire fighting foams. TF90 should be used within 1 year from the date of purchase.

### Disposal

For fire water runoff and accidental spillage please refer to Angus Fire's Foam Disposal Guide and MSDS for more information.

### Reliability

TF90 is produced to rigorous quality control standards which ensure consistent fire performance and excellent product reliability.

Angus Fire operates a quality management system which complies with the requirements of BS EN ISO 9001:2008.

#### Typical Physico-Chemical Properties

Appearance		Dark Brown Liquid
Specific gravity @ 20°C (68°F)		≥ 1.05
pH @ 20°C (68°F)		6.6 - 7.6
Viscosity @ 20°C (68°F)	mm <sup>2</sup> sec <sup>-1</sup>	2
Maximum continuous storage temperature	°C (°F)	49 (120)
Maximum intermittent storage temperature	°C (°F)	60 (140)
Freezing point	°C (°F)	-3 (27)
Effect of freeze/thaw		No loss of performance
Lowest use temperature	°C (°F)	0 (32)

#### Typical Foam Properties

Foam generated using the U.K. Defence Standard DEF42-40 5 lpm branchpipe at 7 Bar pressure.  
Foam collected in a 1630 ml N.F.P.A. drainage pan.

Expansion ratio		≥ 6:1
25% drainage time	min/sec	≥ 5'00"

#### Typical Packing Specification

Container type	Plastic Rectangular	Plastic Cylindrical
Capacity	25 litres	200 litres
Full weight (kg)	27	230
Nominal dimensions (mm)	280 L x 280 D x 440 H	580 dia x 922 H
Part Number	F9915G0P	F9915J0P



**EMERGENCY FOAM SERVICE** Call +44 (0) 15242 61166 – 24 hours a day, every day

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Angus Fire operates a continuous programme of product development. The right is therefore reserved to modify any specification without prior notice and Angus Fire should be contacted to ensure that the current issues of all technical data sheets are used.