

ProRail

veiligheidsregiozhz >>

Marktverkenning Schuimblusvoertuigen

Bijlage 4

Datasheet schuim



Respondol ATF 3-3%

Fluorine Free (FF)
Foam 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 fluorine free formulations contain no fluorosurfactants, fluoropolymers, organohalogens, PFAS, PFOA and no PFOS in accordance with EU Directive 2006/122/EC and amended Council Directive 76/769/EEC.

Patented Foam Technology

Since Angus Fire became the first foam manufacturer to offer a commercially available fluorine free foam, our chemists have worked hard to always push the boundaries of fluorine free technology. Respondol foam concentrate has been designed as a multi-purpose fluorine free foam for those circumstances when minimising environmental impact is paramount.

A unique patented formulation – repeatable and responsible certification



- High approval rating under EN1568 pt 3 & 4 on all fuels using all waters; 1A/1A – 1A/1A – 2A/2A.
- Lower viscosity than other fluorine free foams to ensure easy induction.
- Fluorine free to minimise environmental persistence.
- 3% induction on both hydrocarbon and polar solvent risks.

Respondol ATF 3-3 is a superior quality 3% synthetic fluorine free (FF) foam concentrate, designed for extinguishing and securing all types of flammable liquid fires and Class A incidents. Respondol ATF 3-3 has been designed specifically for emergency responders who are faced with a variety of risks in a range of situations.

Respondol ATF 3-3 is a patented combination of surfactants and other ingredients to produce a vapour sealing blanket of foam that rapidly spreads over the surface of the fuel to provide rapid control and extinguishment.

- Unique patented formulation only available from Angus Fire.
- Specifically designed for those emergency responders under environmental pressures.
- Approved to EN1568 part 3 and 4 on all fuels and all water types.

Applications

Respondol ATF 3-3 is used in high risk situations where hydrocarbons (such as

oils, gasoline, diesel fuel, and aviation kerosene) are stored, processed, or transported and/or polar solvents (such as alcohols, ketones, esters, and ethers) are stored, processed, or transported.

Respondol ATF 3-3 provides a vapour suppressing foam blanket on unignited hydrocarbon spills.

Respondol ATF 3-3 can also be used as a wetting agent in combating fires in Class A materials such as wood, paper, and tyres.

Approvals and listings

Respondol ATF 3-3 is independently tested and certified to EN1568:2008 part 3 and 4. Performance exceeds the requirements of these tests.

Respondol ATF 3-3 is audited and approved to Underwriters Laboratories UL162 (7th Edition).

Respondol ATF 3-3 also meets the requirements of IMO MSC.1/Circ.1312.

Respondol ATF 3-3 passed Lastfire with excellent results in fresh and sea water.

Equipment

Respondol ATF 3-3 is intended for use at 3% on hydrocarbons and polar solvents. It is readily proportioned using conventional foam proportioning equipment such as portable and fixed (in-line) foam venturi proportioners. Respondol ATF 3-3 should be used with air aspirating discharge devices such as low expansion branchpipes and other devices.

Respondol ATF 3-3%

Fluorine Free (FF) Foam Concentrate

Compatibility

Respondol ATF 3-3 is suitable for use in combination with:

- Soft or hard, fresh, brackish or sea water.
- Expanded protein-based or synthetic foams for application to a fire in sequence or simultaneously.

Environment

Respondol ATF 3-3 is PFOS free in accordance with EU Directive 2006/122/EC and amended Council Directive 76/769/EEC. Respondol ATF 3-3 is 100% biodegradable and is manufactured without any added fluorinated surfactants or fluorinated polymers.

Storage

Respondol ATF 3-3 is exceptionally stable in long-term storage. A shelf-life of at least ten years can be expected if it is stored correctly.

Disposal

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

Product Quality

Respondol ATF 3-3 production is closely controlled, Angus Fire operates a quality management system which complies with the requirements of BS EN ISO 9001 and BS EN ISO 14001.

Typical Physico-Chemical Properties

Appearance		Light Yellow
Specific gravity @ 20°C (68°F)		1.00 - 1.04
pH @ 20°C (68°F)		7 - 8
Viscosity @ 20°C (68°F)	cP	Non-newtonian
Maximum continuous storage temperature	°C (°F)	49 (120)
Maximum intermittent storage temperature	°C (°F)	60 (140)
Freezing point	°C (°F)	-6 (21.2)
Effect of freeze/thaw		No loss of performance
Lowest use temperature	°C (°F)	1.7 (35)

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.

Induction rate		3
Expansion ratio		≥ 7:1
25% drainage time	hour/min/sec	≥ 1'00'00"

Typical Packing Specification

	Plastic Square	Plastic Square	Plastic Cylindrical	Plastic Cylindrical	Ecobulk MX
Capacity	25 litres	5 US gallons	200 litres	55 US gallons	1000 litres
Empty weight (kg)	1.2	0.8	9.0	9.0	70
Filled weight (kg)	27	20	215	223	1100
Dimensions (mm)	448 x 286 x 286	402 x 293 x 240	580 D x 922 H	580 D x 922 H	1200 L x 1000 W x 1160 H
Part number	FN0521F0P	FN0521G0P	FN0521J0P	FN0521W0P	FN0521L8



**EN1568:2008
Parts 3 & 4**

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.

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SOLBERG® VERSAGARD™ AS-100

MULTIPURPOSE 3x3 FLUORINE-FREE FOAM CONCENTRATE



FAST FACTS

- Next-Generation 3x3 Fluorine-Free ATC concentrate
- Highest performance in EN-1568:2018 testing (1A/1A)
- ICAO Level B
- LASTFIRE (Good/Good/Good)
- IMO MSC.1/Circ. 1312 certification
- Biodegradable and non-persistent
- Fresh, salt & brackish water compatible
- Fast knockdown & extinguishing performance
- Excellent burnback performance
- No increase in viscosity upon contact with water
- Compatible with multiple equipment systems
- Contains no siloxanes

DESCRIPTION

SOLBERG® VERSAGARD™ AS-100 multipurpose 3x3 fluorine-free foam concentrate is a state-of-the-art alcohol-resistant, fluorine-free pseudoplastic foam technology, with no intentionally added PFAS chemicals, designed for extinguishing and securing both Class B (hydrocarbon fuel and polar solvent fuel) and deep-seated Class A fires. This fluorine-free foam concentrate is a combination of hydrocarbon surfactants and additives delivering excellent foaming, vapour sealing, extinguishment and burnback properties for attacking and securing both shallow and fuel in-depth fires, using fresh, sea or brackish water. Some fluorine-free foams are viscous and often show viscosity increase in contact with water. SOLBERG VERSAGARD AS-100 creates very stable foams with similar viscosity to traditional AR-AFFF foams. This significantly improves storage, handling and long-term stability.

APPLICATIONS

SOLBERG VERSAGARD AS-100 is designed to generate stable foams with high fluidity and slow drainage. This novel technology allows SOLBERG VERSAGARD to perform similarly to fluorinated products. It may be used with low expansion foam equipment (nozzles and monitors) and medium & high-expansion foam discharge devices to fight fires involving Class B hydrocarbon and polar solvent fuel fires. It is fully compatible and easily proportioned with standard firefighting equipment, including in-line inductors, self-inducting nozzles, fire truck pumps, bladder tanks, pump skids, balanced pressure systems and more.

In addition to its excellent foamability and bubble stability, SOLBERG VERSAGARD AS-100 has excellent wetting ability making it an effective tool for the extinguishment of Class A fuel fires.



CERTIFICATIONS

SOLBERG VERSAGARD AS-100:

- Achieved the maximum rating and certified in European Standard EN-1568:2018 part 3 & 4 on all fuels with fresh and sea water – 1A/1A - 1A/1A
- Passes and certified to European Standard EN-1568:2018 part 1 & 2 – for use with medium and high expansion foam discharge devices
- International Maritime Organization certification MSC.1/Circ. 1312
- LASTFIRE batch-certified as GOOD/GOOD/GOOD with 3 nozzles (semi, asp, system)
- Tested and certified to ICAO Level B – high performance on aviation fuels with both fresh and sea water

USAGE RATE

The proportioning rate is 3% for both hydrocarbons and polar solvents. It is used at 1% on Class A fuel fires.

TYPICAL PROPERTIES	
Specific Gravity, g/cm ³	1.000 - 1.040
pH @ 20°C	7.0 - 8.0
Viscosity, mPa.s/cPs at 375s-1* @ 20°C	105
Viscosity, mPa.s/cPs (LV-4 Spindle @30 rpm),† 20°C	2900-3500
Freezing Point, °C	-4°C
Lowest Temperature for Use, °C	0°C

* Brookfield cone/plate

† Brookfield LVT

FOAM PROPERTIES	
Dilution Rate	3%
Surface tens. at 20°C, mN/m (Demineralised water)	21
Interfacial tens. with cyclohexane at 20°C, mN/m	5
Low Expansion Foam (UNI-86)	
Foam Expansion Index	>7

INSPECTION

SOLBERG VERSAGARD AS-100 or a premix solution should be tested annually per National Fire protection Association (NFPA 11) and EN-13565-2 standards. A sample of the foam concentrate should be sent to the manufacturer or qualified third party lab to confirm physical properties and foam quality meet the specifications of the foam as originally supplied as per the requirements of NFPA 11 and EN-13565-2.

PACKAGING

The product is supplied in 20 or 25 L PE prismatic containers, 200 L PE cylindrical drums and, 1,000 L IBC containers.

STORAGE/MATERIAL COMPATIBILITY

SOLBERG VERSAGARD AS-100 should be stored between 0°C and +50°C, preferably in the original containers. It is compatible with multiple materials of construction found in firefighting equipment. For questions about material of construction compatibility consult Perimeter Solutions technical services.

**CAUTIONS**

Foams should not be used in contact with electrical equipment or with chemical products that can react with water. It is recommended to avoid contact of the foam concentrate with skin. In case of eye splashes, wash with plenty of water. In case of ingestion do not induce vomiting, drink water and seek medical advice.

Contains no intentionally added PFAS.

**Solutions That Save.****FOR MORE INFORMATION**

Contact any of our worldwide Perimeter Solutions Fire Safety offices or visit:
www.Perimeter-Solutions.com

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