

## MATERIAL SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

#### 1.1 Product Identification EXPANDOL

#### 1.2 Application and Use

Fire Fighting Foam Concentrate. **NOT FOR RECREATIONAL USE.**

#### 1.3 Manufacturer/Supplier

Angus Fire\*, Thame Park Road, Thame, Oxfordshire, OX9 3RT

Telephone: (01844) 265000 Fax: (01844) 265156

#### Emergency Telephone Number (24 hours)

For information and supply: Angus Fire (015242) 61166

\*(Angus Fire is a trading brand of Kidde Products Ltd, registered in England No. 462271)

#### 1.4 Product Description

Hydrocarbon surfactants, glycol solvents and foam stabiliser.

### 2. COMPOSITION

Substance	Synonyms	Concentration %	Health class	Cas-No.
Ethylene glycol monobutyl ether	Butoxyethanol	20-30	X <sub>n</sub> ,R20,21,22,36,38	111-76-2
Primary alcohol ether sulphates		20-40	X <sub>i</sub> ,R38,41	
Sulphosuccinate		10-20	X <sub>i</sub> ,R36,38	
Primary alcohol blend		<5	N, R50	
Water		Balance		

### 3. HAZARDS IDENTIFICATION

Human health hazards: Irritating to the skin. Risk of serious damage to eyes.

### 4. FIRST AID MEASURES

#### 4. 5.1 General

First aiders should know and take the precautions appropriate to avoid danger to themselves and the casualty.

Take casualty together with material safety data sheet of this product to hospital or doctor, if necessary.

First Aid - Skin: Remove contaminated clothing. If there is skin contact, wash immediately with plenty of clean, gently flowing water. If persistent irritation occurs, obtain medical attention.

First Aid - Eye: If there is eye contact, wash immediately with plenty of clean, gently flowing water for 10 minutes.

First Aid - Ingestion: If ingestion is suspected, do not induce vomiting, send casualty to hospital immediately.

First Aid - Inhalation: Remove casualty from exposure. If there is breathing difficulty or cough keep patient at rest seated in position of maximum comfort.

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## 5. FIRE FIGHTING MEASURES

### General Hazards

Fire Fighting Measures Fire fighting measures are not applicable as Expandol is a fire extinguishing medium. If product containers are involved in fire, then a suitable extinguishing agent should be applied.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid contact with skin, eyes and clothing. Do not breathe mists, aerosols.
Personal protection:	Wear protective clothing specified for normal operations.
Environmental precautions:	SPILLAGE: The practice of washing spills into drains should be avoided if at all possible and should under no circumstances be allowed without first consulting the local Water Authority and the Environment Agency.

Clean-up methods - small spillage:	Absorb or contain liquid with sand, earth or spill control material. Shovel up and place in a labelled, sealable container for subsequent safe disposal.
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## 7. HANDLING AND STORAGE

No special handling techniques required. For best results, the product should be stored in sealed, original containers above -7°C and below 40°C. Freezing and thawing do not affect the substance properties but care must be taken to avoid freezing the container and its contents since the expansion of the container contents may cause cracking of a completely rigid container as ice forms.

### Personal Protective Equipment - Fire Fighting

Angus Fire Foam Concentrates will be used by professional fire-fighters to control and extinguish flammable liquid fires. The nature of this process may involve exposure to heat, flame and possibly toxic vapours and fumes. It is normal procedure to wear appropriately designed personal protective equipment designed for use in firefighting situations. Angus Fire advises that this form of personal protective equipment should be used if the packaging materials become involved in fire.

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## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering control measures: Use only in well ventilated areas

### **Occupational Exposure Limit:**

Pure ethylene glycol monobutyl ether: Maximum Exposure Limit (MEL):

Long term exposure limit (8 hour time weighted average ): 25 ppm

### **Personal Protective Equipment - Other Handling**

Avoid prolonged, extensive or repeated inhalation or contact to eyes and skin.

Hand Protection Wear impervious gloves of an approved type (e.g. neoprene).

Eye Protection Wear safety goggles of an approved type (BS 2092).

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid	pH at 20°C:	7
Colour: Pale yellow	Boiling point:	100°C at 760 mm Hg
Odour: Solvent odour	Freeze point:	-6.5°C
	Flash point:	>98°C
	Flammability:	Not flammable
	Solubility:	Miscible with water in all proportions
	Viscosity at 20°C:	7cs

Specific Gravity: 1.0

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## 10. STABILITY/REACTIVITY

### Stability

Generally stable. As with all aqueous solutions Expandol should be excluded from contact with any materials which have violent reactions with water.

### Hazardous Decomposition Products

Do not expose containers to heat or flame, since the containers are made from high density polyethylene and will burn. Thermal decomposition of containers and/or products may generate acrid smoke and fumes and traces of  $\text{Na}_2\text{O}$ ,  $\text{Cl}^-$ ,  $\text{SO}_x$ ,  $\text{NO}_x$ .

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## 11. TOXICOLOGICAL INFORMATION

### Inhalation

Inhalation of hazardous amounts is unlikely when used as intended. Is irritant to respiratory tract when inhaled.

### Ingestion

Low oral risk when used as intended. May cause nausea, vomiting and diarrhoea when ingested.

### Contact to eyes or skin

Low risk if appropriate precaution measures are taken (see section 6). Can cause eye damage and skin irritation when in contact with eyes or skin.

### Aquatoxicity

Rainbow Trout (*Oncorhynchus mykiss*)

LC<sub>50</sub> (3hrs) >180 ppm

LC<sub>50</sub> (6hrs) >180 ppm

LC<sub>50</sub> (24hrs) 89 ppm

LC<sub>50</sub> (48hrs) 60 ppm

LC<sub>50</sub> (72hrs) 45 ppm

LC<sub>50</sub> (96hrs) 45 ppm

Water Flea (*Daphnia magna*)

EC<sub>50</sub> (24hrs) 37 ppm

EC<sub>50</sub> (48hrs) 10 ppm

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## 12. ECOLOGICAL INFORMATION

Persistence/degradability:

Biodegradable.

Bioaccumulation:

Bioaccumulation is unlikely to occur due to metabolism and excretion.

### Biodegradation

Biodegradable:

COD	0.62 gg <sup>-1</sup>	
BOD (5 day)	0.087 gg <sup>-1</sup>	(14%)
BOD (15 day)	0.30 gg <sup>-1</sup>	(49%)
BOD (28 day)	0.33 gg <sup>-1</sup>	(53%)

Sewage treatment:

Data not available.

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### 13. DISPOSAL CONSIDERATIONS

#### Disposal

Waste should be disposed via local authority waste collection service or registered waste carrier. Ensure the destination is a licensed facility.

Local legislation: Control of Pollution Act 1974  
Hazardous Waste Regulations 2005  
Environmental Protection Act 1990

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### 14. TRANSPORT INFORMATION

#### Label for conveyance: No Transport Warning Sign Required

Road:

UN No: N/C

Rail:

Rail Transport Class No: N/C

Sea:

Sea Transport Class No: N/C

EmS No: N/C

MFAG Table No: N/C

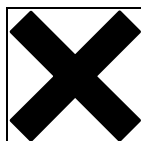
Air:

Air Transport Class No: N/C

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### 15. REGULATORY INFORMATION

Label For Supply:



Irritant

Risk Phrases: R-38, 41

Safety Phrases: S-24, 25, 26, 28, 36

Irritating to the skin. Risk of serious damage to the eyes. Avoid contact with skin and eyes. In case of contact With eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Wear suitable protective clothing.



Label for supply:

Dangerous to the environment

Risk Phrases: R-51/53

Toxic to aquatic organisms, may cause long-term

Safety Phrases: S-61 adverse effects in the aquatic environment.  
Avoid release to the environment.

EEC-Label: 203-905-0  
CHIP classification and Harmful substance  
label for carriage:  
Substance identification no: 2369  
Packing group: III

UK Regulatory References:

Health and Safety at work Act 1974.

Chemicals (Hazard Information & Packaging for Supply) Regulations 1994 / Amendment  
Regulations 1996.

EC Directives: Substances Directive 67/548/EEC as amended by 69/81/EEC, 70/189/EEC, 73/146/EEC,  
75/409/EEC, 79/831/EEC General Preparations Directive 88/379/EEC.

Statutory Instruments: Chemicals (Hazard Information and Packaging for Supply) Regulations.  
Approved Code of Practice:

Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes: Occupational Exposure Limits EH40.

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## 16. OTHER INFORMATION

Uses and restrictions:

### Sources of Information

Clayton, G.D. and F.E. Clayton: Patty's Industrial Hygiene and Toxicology. Fourth edition volumes I - III (1991).

Sax, N.I. and R.J. Lewis, Sr: Dangerous Properties of Industrial Materials. Seventh edition volumes I - III (1991).

Health & Safety Executive: Occupational Exposure Limits (EH 40/96).

Note: EH40 is revised on an annual basis and newest issue should be applied.

Huntingdon Research Centre: AFA 13(a)/91123

Acer Environmental: RT-ESV-020-01/R3a

Acer Environmental: RT-ESV-003-01

Other information:

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**DISCLAIMER:** This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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