

SAFETY DATA SHEET

Section 1: Identification of the substance/mixture and of the company/undertaking

Product identifier	
Trade name or designation of the mixture	Alcoseal 3/6 LT
Registration number	-
Synonyms	None.
SDS number	-
Product code	70-10
Date of first issue	16-September-2011
Version number	02
Revision date	03-December-2014
Supersedes date	16-September-2011
Relevant identified uses of the s	ubstance or mixture and uses advised against
Identified uses	Fire fighting foam concentrate.
Uses advised against	None known.
Details of the supplier of the safe	ety data sheet
Supplier	
Company name	Angus Fire Ltd
Address	Station Road
	Bentham, Lancashire, LA2 7NA
Phone number:	0044 (0)15 2426 4000
e-mail	general.enquiries@angusuk.co.uk
Contact person	EH&S Manager
Emergency telephone number	0044 (0)15 2426 4000 (Standard office hours: Monday to Friday 8:30am - 4:30pm GMT)

Section 2: Hazards identification

Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification

The full text for all R-phrases is displayed in section 16.

Classification according to Regulation (EC) No 1272/2008 as amended

R43

Health hazards		
Skin sensitisation	Category 1	May cause an allergic skin reaction.
Hazard summary		
Physical hazards	Not classified for physical hazards.	
Health hazards	May cause sensitisation by skin contact. Occup cause adverse health effects.	pational exposure to the substance or mixture may
Environmental hazards	Not classified for hazards to the environment.	
Specific hazards	May cause skin and eye irritation. May cause ir May cause central nervous system effects. May	rritation of nose, throat and mucous membranes. y cause damage to the kidneys.
Main symptoms	Contact may cause irritation and redness. Syn dizziness, tiredness, nausea and vomiting. Ser	
Label elements		
Label according to Regulation	(EC) No. 1272/2008 as amended	

Label according to Regulation (EC) No. 1272/2008 as amend

Contains: 1,3,5-tris(2-hydroxyethyl)hexahydro-1,3,5-triazine



Signal word	Warning
Hazard statements	May cause an allergic skin reaction.
Precautionary statements	
Prevention	Avoid breathing mist/vapours/spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves.
Response	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Supplemental label information	None.
Other hazards	Not a PBT or vPvB substance or mixture.

Section 3: Composition/information on ingredients

ixture						
eneral information						
Chemical name		%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Ethylene glycol		10 - 17	107-21-1 203-473-3	-	603-027-00-1	#
Classification:	DSD:	Xn;R22				
	CLP:	Acute Tox. 4;H3	302			
2-Methylpentane-2,4-d	iol	1 - 5	107-41-5 203-489-0	-	603-053-00-3	#
Classification:	DSD:	Xi;R36/38				
	CLP:	Skin Irrit. 2;H31	5, Eye Irrit. 2;H319			
1,3,5-tris(2-hydroxyethy -1,3,5-triazine	/l)hexahy	dro 0,1 - 0,5	4719-04-4 225-208-0	-	613-114-00-6	
Classification:	DSD:	Xn;R22, R43				
	CLP:	Acute Tox. 4;H3	302, Skin Sens. 1;H3	17		
#: This substance has DSD: Directive 67/548/ CLP: Regulation No. 12	EEC.	•).			
mposition comments	F	percent by volume	э.	ight unless ingredient is a ga	as. Gas concentra	tions are ir
ection 4: First aid m	easure	S				

Description of first aid measures

Inhalation	Move injured person into fresh air and keep person calm under observation. Get medical attention, if needed.
Skin contact	Wash the skin immediately with soap and water. Get medical attention if irritation develops and persists. If skin rash or an allergic skin reaction develops, get medical attention.
Eye contact	Immediately flush eye(s) with plenty of water. Remove any contact lenses. Get medical attention if irritation develops or persists.
Ingestion	Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable take to hospital along with these instructions. Only induce vomiting at the instruction of medical personnel.
Most important symptoms and effects, both acute and delayed	Contact may cause irritation and redness. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Sensitisation.
Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.

Section 5: Firefighting measures

General fire hazards	Product is an extinguishing medium. It does not burn or support combustion.
Extinguishing media	
Suitable extinguishing media	No specific measures are required as this product is a fire extinguishing medium.
Unsuitable extinguishing media	Not applicable.
Special hazards arising from the substance or mixture	Not a fire hazard.
Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.
Special firefighting procedures	No specific precautions.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Avoid contact with skin and eyes. Avoid inhalation of mists or aerosols. Provide adequate ventilation. Wear protective clothing as described in section 8 of this safety data sheet.
For emergency responders	Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	Prevent entry into waterways, sewer, basements or confined areas.
Methods and material for containment and cleaning up	Absorb spillage with suitable absorbent material. Collect and dispose of spillage as indicated in Section 13.
Reference to other sections	For personal protection, see section 8. For waste disposal, see section 13.

Section 7: Handling and storage

Precautions for safe handling	Avoid contact with skin and eyes. Wear appropriate personal protective equipment. Wash hands after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store at temperature below 40°C. Store above freezing. Store away from incompatible materials.
Specific end use(s)	Fire fighting foam concentrate.

Section 8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

Austria. MAK List Components	Туре	Value	
2-Methylpentane-2,4-diol (107-41-5)	Ceiling	10 ppm	
(101 11 0)	MAK	10 ppm	
		49 mg/m3	
	Ceiling	49 mg/m3	
Ethylene glycol (107-21-1)	MAK	10 ppm	
	Ceiling	20 ppm	
	MAK	26 mg/m3	
	Ceiling	52 mg/m3	
Belgium. Exposure Limit Values.	5	5	
Components	Туре	Value	Form
2-Methylpentane-2,4-diol (107-41-5)	TWA	123 mg/m3	
		25 ppm	
Ethylene glycol (107-21-1)	STEL	104 mg/m3	Aerosol
	TWA	20 ppm	Aerosol
	STEL	40 ppm	Aerosol
	TWA	52 mg/m3	Aerosol
Czech Republic. OELs. Governme	ent Decree 361		
Components	Туре	Value	
Ethylene glycol (107-21-1)	Ceiling	100 mg/m3	
, , ,	TWA	50 mg/m3	

2:Methylpentane-2,4-diol VLE 125 mg/m3 (107-41-5) 25 ppm 104 mg/m3 Va UNE 0.00 mg/m3 Va 0.00 mg/m3 Va Germany, DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Cl 0.00 ppm Va Germany, DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Cl 0.00 ppm Va Components Type Value 20 mg/m3 10 ppm 2:Methylpentane-2,4-diol TWA 10 ppm 26 mg/m3 Germany, TRGS 900, Limit Values in the Amblent Air at the Workplace 20 mg/m3 26 mg/m3 Germany, TRGS 900, Limit Values in the Amblent Air at the Workplace 10 ppm 26 mg/m3 Greece. OELs (Decree No. 90/1999, as amended) 26 mg/m3 107.41.5) Components Type Value Fo 2:Methylpentane-2,4-diol STEL 125 mg/m3 Va 107.41-5) TWA 125 mg/m3 Va STEL 125 mg/m3 Va STEL 25 ppm Ethylene glycol (107-21-1) TWA 125 mg/m3 Va<	ce. Threshold Limit Values (VLEP) ponents	Туре	Value	Form
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Hygiene Norm GN 2.2.5.2439-09. Maximum allowable concentration (MAC) of harmful substances in the air of working zones. Executive No. 76 of 30 april 2006. Including Appendixes No.1, 2, 3 and 4. Components Value Form Туре Ethylene glycol (107-21-1) Ceiling 10 mg/m3 Vapor and aerosol. TWA 5 mg/m3 Vapor and aerosol. Spain. Occupational Exposure Limits Components Value Туре 2-Methylpentane-2,4-diol STEL 123 mg/m3 (107 - 41 - 5)25 ppm Ethylene glycol (107-21-1) STEL 104 mg/m3 20 ppm TWA STEL 40 ppm TWA 52 mg/m3 Sweden. Occupational Exposure Limit Values Value Components Type 2-Methylpentane-2,4-diol Ceiling 120 mg/m3 (107 - 41 - 5)25 ppm Ethylene glycol (107-21-1) TWA 10 ppm STEL 20 ppm 25 mg/m3 TWA STEL 50 mg/m3 Switzerland. SUVA Grenzwerte am Arbeitsplatz Components Value Type 2-Methylpentane-2,4-diol TWA 10 ppm (107 - 41 - 5)STEL 20 ppm TWA 49 mg/m3 STEL 98 mg/m3 Ethylene glycol (107-21-1) TWA 10 ppm STEL 20 ppm TWA 26 mg/m3 STEL 52 mg/m3 UK. EH40 Workplace Exposure Limits (WELs) Components Type Value Form 2-Methylpentane-2,4-diol TWA 123 mg/m3 (107 - 41 - 5)STEL 123 mg/m3 25 ppm TWA 25 ppm Ethylene glycol (107-21-1) TWA 10 mg/m3 Particulate. STEL 104 mg/m3 Vapor. TW/A 20 ppm Vapor. STEL 40 ppm Vapor. TWA 52 mg/m3 Vapor. **Recommended monitoring** Follow standard monitoring procedures. procedures DNEL Not available. PNEC Not available. **Exposure controls** Appropriate engineering Ensure adequate ventilation, especially in confined areas. Observe occupational exposure limits controls and minimise the risk of exposure. Individual protection measures, such as personal protective equipment **General information** Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Eye/face protection Wear approved safety goggles. Skin protection - Hand protection Hand protection should be provided by gloves conforming to EN374. Suitable materials include Neoprene rubber and nitrile rubber with breakthrough times of up to 480 mins. - Other Wear suitable protective clothing. **Respiratory protection** In case of inadequate ventilation: Use respiratory equipment with combination filter, type A2/P2. **Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

Hygiene measures	Handle in accordance with good industrial hygiene and safety practices. Routinely wash work clothing and protective equipment to remove contaminants.
Environmental exposure	Contain spills and prevent releases and observe national regulations on emissions.
controls	Environmental manager must be informed of all major spillages.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Information on basic physical a	nd chemical properties
Physical state	Liquid.
Form	Liquid.
Colour	Dark brown.
Odour	Organic.
Odour threshold	Not available.
рН	6,5 - 7,5 at 20°C
Melting point/freezing point	-15 °C (5 °F)
Boiling point, initial boiling point, and boiling range	100 °C (212 °F) at 760 mmHg
Flash point	> 54 °C (> 129,2 °F)
Auto-ignition temperature	Not applicable.
Flammability (solid, gas)	Not applicable.
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Oxidising properties	Not applicable.
Explosive properties	Not applicable.
Explosive limit	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Evaporation rate	Not applicable.
Relative density	1,09 at 20°C
Solubility (water)	Completely soluble in water.
Partition coefficient (n-octanol/water)	No data available.
Decomposition temperature	Not available.
Viscosity	
Percent volatile	Not available.
Other data	Not available.
Flammability	Neterslieckle
Other information	Not applicable.
	No relevant additional information available.

Section 10: Stability and reactivity

Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Contact with incompatible materials. Excessive heat. Freezing (Product properties are unaffected).
Incompatible materials	Alkali metals. Strong oxidising agents. Water reactive materials.
Hazardous decomposition products	Carbon oxides. Chlorine. Sulphur oxides. Metal oxides. Nitrogen oxides (NOx).

Section 11: Toxicological information

General information	The information in this section is for the individual ingredients that are expected to contribute to
	the potential health effects of this product.

Information on likely routes of exposure		
Ingestion	May cause discomfort if swallowed.	
Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.	
Skin contact	May cause skin irritation. May cause an allergic skin reaction.	
Eye contact	May cause eye irritation on direct contact.	
Symptoms	Skin sensitization, characterized by redness, inflammation, itching and/or burning may result from prolonged or repeated contact with this material.	
Information on toxicological effe	ects	
Acute toxicity	May cause skin and eye irritation. May cause an allergic skin reaction.	
Components	Test results	
Ethylene glycol (107-21-1)	Acute Dermal LD50 Rabbit: 9530 mg/kg	
	Acute Oral LD50 Rat: 5,89 g/kg	
2-Methylpentane-2,4-diol (107-41-	5) Acute Oral LD50 Rat: 4,79 g/kg	
Skin corrosion/irritation	Prolonged skin contact may cause dermatitis.	
Serious eye damage/eye irritation	May cause eye irritation.	
Respiratory sensitisation	No data available.	
Skin sensitisation	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available.	
Carcinogenicity	No data available.	
Reproductive toxicity	No data available.	
Specific target organ toxicity - single exposure	No data available.	
Specific target organ toxicity - repeated exposure	No data available.	
Aspiration hazard	No data available.	
Mixture versus substance information	None known.	
Other information	Persons with pre-existing skin disorders may be more susceptible to the effects of the product. May cause central nervous system effects. May cause damage to the kidneys.	

Section 12: Ecological information

Toxicity

Product	Test results
Alcoseal 3/6 LT (Mixture)	EC50 Daphnia magna: 48200 ppm 2 Hours
	EC50 Daphnia magna: 14300 ppm 24 hours
	EC50 Daphnia magna: 13400 ppm 48 hours
	LC50 Rainbow trout, donaldson trout (Oncorhynhus mykiss): 4200 ppm 24 Hours
	LC50 Rainbow trout, donaldson trout (Oncorhynhus mykiss): 9100 ppm 3 Hours
	LC50 Rainbow trout, donaldson trout (Oncorhynhus mykiss): 4200 ppm 48 Hours
	LC50 Rainbow trout, donaldson trout (Oncorhynhus mykiss): 7500 ppm 6 Hours
	LC50 Rainbow trout, donaldson trout (Oncorhynhus mykiss): 4200 ppm 72 Hours
	LC50 Rainbow trout, donaldson trout (Oncorhynhus mykiss): 4200 ppm 96 Hours
Components	Test results
Ethylene glycol (107-21-1)	LC50 Fathead minnow (Pimephales promelas): 8050 mg/l 96 hours
2-Methylpentane-2,4-diol (107-41-5)	EC50 Water flea (Ceriodaphnia reticulata): 2400 - 3200 mg/l 48 hours
	LC50 Bleak (Alburnus alburnus): 7000 - 9100 mg/l 96 hours

Persistence and degradability	The product is biodegradable. COD: 0,52 gg-1. BOD: 0,19 gg-1 / 5 days. BOD: 0,23 gg-1/ 15 days. BOD: 0,36 gg-1/ 28 days.
Bioaccumulative potential	The product is not expected to bioaccumulate.
Mobility	The product is water soluble and may spread in water systems.
Environmental fate - Partition coefficient	No data available.
Mobility in soil	No data available.
Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13: Disposal considerations

Waste treatment methods	
Residual waste	Dispose of waste and residues in accordance with local authority requirements.
1 0 0	Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.
	16 03 05* Waste codes should be assigned by the user based on the application for which the product was used.
Disposal methods/information	Dispose of waste and residues in accordance with local authority requirements.

Section 14: Transport information

ADR

The product is not covered by international regulation on the transport of dangerous goods.

RID

The product is not covered by international regulation on the transport of dangerous goods.

ADN

The product is not covered by international regulation on the transport of dangerous goods.

ΙΑΤΑ

The product is not covered by international regulation on the transport of dangerous goods.

IMDG

The product is not covered by international regulation on the transport of dangerous goods.

Transport in bulk according to No information available. Annex II of MARPOL73/78 and

the IBC Code

Section 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulations

Regulation (EC) No. 2037/2	000 on substances that deplete the ozone layer, Annex I
Not listed.	
Regulation (EC) No. 2037/2	000 on substances that deplete the ozone layer, Annex II
Not listed.	
Regulation (EC) No. 850/20	04 on persistent organic pollutants, Annex I
Not listed.	
Regulation (EC) No. 689/20	08 concerning the export and import of dangerous chemicals, Annex I, part 1
Not listed.	
Regulation (EC) No. 689/20	08 concerning the export and import of dangerous chemicals, Annex I, part 2
Not listed.	
Regulation (EC) No. 689/20	08 concerning the export and import of dangerous chemicals, Annex I, part 3
Not listed.	
Regulation (EC) No. 689/20	08 concerning the export and import of dangerous chemicals, Annex V
Not listed.	
Directive 96/61/EC concern	ing integrated pollution prevention and control (IPPC): Article 15, European Pollution
Emission Registery (EPER)	
Not listed.	
Regulation (EC) No. 1907/2	006, REACH Article 59(1). Candidate List
Not listed.	
her regulations	The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations	Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. Follow national regulation for work with chemical agents.	
Chemical safety assessment	No Chemical Safety Assessment has been carried out.	
Section 16: Other information		
List of abbreviations	DNEL: Derived No-Effect Level. PNEC: Predicted No-Effect Concentration. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent and very Bioaccumulative.	
References	HSDB® - Hazardous Substances Data Bank Registry of Toxic Effects of Chemical Substances (RTECS)	
Information on evaluation method leading to the classification of mixture	The mixture is classified based on test data for physical hazards. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.	
Full text of any statements or R-phrases and H-phrases under Sections 2 to 15	 R22 Harmful if swallowed. R36/38 Irritating to eyes and skin. R43 May cause sensitisation by skin contact. H302 - Harmful if swallowed. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. 	
Training information	Follow training instructions when handling this material.	
Disclaimer	This information is based on our current knowledge and is believed to be correct as of the date issued. The information is intended to describe the product for the purposes of health, safety and environmental requirements only and no warranty, express or implied, is made. It should also not be construed as guaranteeing any specific property of the product. In addition, information obtained from a database is subject to change and may not be as current as the information in the MSDS available directly from Angus Fire.	