

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form : Mixture
Product name : TF90 Training Foam
Product code : FC 99 15

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : Training foam

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ANGUS FIRE Ltd
Station Road
LA2 7NA Bentham - United Kingdom
T +44(0) 1524 264000 - F +44(0)1524 264180
general.enquiries@angus.co.uk - www.angusfire.co.uk

1.4. Emergency telephone number

Emergency number : +44(0) 1524 264000 (Standard office hours: Monday to Friday 8:30am - 4:30pm GMT)
Contact person: EH&S Manager

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin sensitisation, Category 1 H317

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) : Warning
Hazardous ingredients : 2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol
Hazard statements (CLP) : H317 - May cause an allergic skin reaction.
Precautionary statements (CLP) : P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear eye protection, protective clothing, protective gloves
P302+P352 - IF ON SKIN: Wash with plenty of water
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose in a safe manner in accordance with local/national regulations

2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

TF90 Training Foam

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-methyl-2,4-pentanediol	(CAS-No.) 107-41-5 (EC-No.) 203-489-0 (EC Index-No.) 603-053-00-3 (REACH-no) 01-2119539582-35	1 - 4	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Iron(II) sulphate, heptahydrate substance with national workplace exposure limit(s) (BE, GB)	(CAS-No.) 7782-63-0 (EC-No.) 231-753-5 (EC Index-No.) 026-003-01-4 (REACH-no) 01-2119513203-57	0.1 - 1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	(CAS-No.) 4719-04-4 (EC-No.) 225-208-0 (EC Index-No.) 613-114-00-6 (REACH-no) 01-2119529226-41	0.1 - 1	Acute Tox. 4 (Oral), H302 Acute Tox. 2 (Inhalation:dust,mist), H330 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT RE 1, H372

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Iron(II) sulphate, heptahydrate	(CAS-No.) 7782-63-0 (EC-No.) 231-753-5 (EC Index-No.) 026-003-01-4 (REACH-no) 01-2119513203-57	(25 =<C < 100) Skin Irrit. 2, H315
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	(CAS-No.) 4719-04-4 (EC-No.) 225-208-0 (EC Index-No.) 613-114-00-6 (REACH-no) 01-2119529226-41	(0.1 =<C <= 100) Skin Sens. 1, H317

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: No specific measures are necessary.
Unsuitable extinguishing media	: Not applicable.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.

5.3. Advice for firefighters

Firefighting instructions	: Not applicable.
Protection during firefighting	: Not applicable.

TF90 Training Foam

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

8. Exposure controls/personal protection. 13. Disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Wear recommended personal protective equipment. Read and follow manufacturer's recommendations. Handle in accordance with good industrial hygiene and safety procedures. Read and follow the Safety Data Sheet (SDS) before use. Avoid breathing vapours.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep container tightly closed. Store at temperatures not exceeding 60°C (140°F) (intermittent). Protect from sunlight. Protect from freezing. Keep/Store away from incompatible materials.

7.3. Specific end use(s)

Training foam.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Iron(II) sulphate, heptahydrate (7782-63-0)		
Belgium	Limit value (mg/m ³)	1 mg/m ³
United Kingdom	WEL TWA (mg/m ³)	1 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	2 mg/m ³
USA - ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
2-methyl-2,4-pentanediol (107-41-5)		
Belgium	Limit value (mg/m ³)	123 mg/m ³
Belgium	Limit value (ppm)	25 ppm
France	VLE (mg/m ³)	125 mg/m ³
France	VLE (ppm)	25 ppm
United Kingdom	WEL TWA (mg/m ³)	123 mg/m ³
United Kingdom	WEL TWA (ppm)	25 ppm
United Kingdom	WEL STEL (mg/m ³)	123 mg/m ³
United Kingdom	WEL STEL (ppm)	25 ppm
USA - ACGIH	ACGIH TWA (ppm)	25 ppm (Vapor fraction)
USA - ACGIH	ACGIH STEL (mg/m ³)	10 mg/m ³ (Inhalable fraction, Aerosol only)
USA - ACGIH	ACGIH STEL (ppm)	50 ppm (Vapor fraction)

8.2. Exposure controls

Appropriate engineering controls:

Ensure adequate ventilation. Follow the exposure limits given on this material safety data sheet.

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

TF90 Training Foam

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Wear protective gloves (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): nitrile rubber (NBR) - 0.2 mm coating thickness

Eye protection:

Sealed safety goggles

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment (recommended filter type A2/P2)

Thermal hazard protection:

Wear thermal protective clothing, when necessary.

Environmental exposure controls:

Contain spills. Prevent releases. Observe national regulations on emissions. Ensure all national/local regulations are observed.

Other information:

Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Dark brown.
Odour	: Characteristic.
Odour threshold	: No data available
pH	: 6.6 - 7.6
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: -3 °C
Boiling point	: No data available
Flash point	: > 100 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: >= 1.05
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: 2 mm ² /s
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable and non reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Incompatible materials. Extremely high or low temperatures.

TF90 Training Foam

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

10.5. Incompatible materials

Alkali metals. Oxidizing agent. Water reactive substances.

10.6. Hazardous decomposition products

Carbon oxides. Sulphur oxides. Nitrogen oxides (NOx). Sodium oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Iron(II) sulphate, heptahydrate (7782-63-0)	
LD50 oral rat	1480 mg/kg (Rat, Oral)
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol (4719-04-4)	
LD50 oral rat	763 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, Rat, Male / female, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	0.371 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol))
2-methyl-2,4-pentanediol (107-41-5)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 420: Acute Oral toxicity – Acute Toxic Class Method, Rat, Male / female, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	> 55 g/m ³ (Equivalent or similar to OECD 403, 8 h, Rat, Male, Experimental value, Inhalation (vapours))

Skin corrosion/irritation : Not classified
pH: 6.6 - 7.6

Serious eye damage/irritation : Not classified
pH: 6.6 - 7.6

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

TF90 Training Foam	
Viscosity, kinematic	2 mm ² /s

SECTION 12: Ecological information

12.1. Toxicity

Iron(II) sulphate, heptahydrate (7782-63-0)	
LC50 fish 1	925 mg/l (96 h, Poecilia reticulata, Static system)
EC50 Daphnia 1	152 mg/l (48 h, Daphnia magna, Anhydrous form)
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol (4719-04-4)	
LC50 fish 1	16.07 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Static system, Fresh water, Experimental value, GLP)
EC50 Daphnia 1	11.9 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 72h algae (1)	6.66 mg/l (OECD 201: Alga, Growth Inhibition Test, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)
2-methyl-2,4-pentanediol (107-41-5)	
LC50 fish 1	9450 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value)
EC50 Daphnia 1	5410 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
ErC50 (algae)	> 429 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value)

TF90 Training Foam

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

12.2. Persistence and degradability

TF90 Training Foam	
Biochemical oxygen demand (BOD)	0.065 (5 days)
Chemical oxygen demand (COD)	0.19
Iron(II) sulphate, heptahydrate (7782-63-0)	
Persistence and degradability	Biodegradability in soil: no data available. Biodegradability in water: no data available.
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol (4719-04-4)	
Persistence and degradability	Readily biodegradable in water.
2-methyl-2,4-pentanediol (107-41-5)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.02 g O ₂ /g substance
Chemical oxygen demand (COD)	2.2 g O ₂ /g substance
ThOD	2.3 g O ₂ /g substance
BOD (% of ThOD)	0.01

12.3. Bioaccumulative potential

TF90 Training Foam	
Bioaccumulative potential	The product is not expected to bioaccumulate.
Iron(II) sulphate, heptahydrate (7782-63-0)	
Bioaccumulative potential	Not bioaccumulative.
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol (4719-04-4)	
Log Pow	-4.67 (Calculated)
Bioaccumulative potential	Not bioaccumulative.
2-methyl-2,4-pentanediol (107-41-5)	
Log Pow	0.58 (QSAR)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

Iron(II) sulphate, heptahydrate (7782-63-0)	
Ecology - soil	Adsorbs into the soil.
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol (4719-04-4)	
Log Koc	1 (log Koc, PCKOCWIN v1.66, Calculated value)
2-methyl-2,4-pentanediol (107-41-5)	
Surface tension	0.033 N/m
Ecology - soil	Highly mobile in soil.

12.5. Results of PBT and vPvB assessment

TF90 Training Foam	
PBT: not relevant – no registration required	
vPvB: not relevant – no registration required	
Component	
2-methyl-2,4-pentanediol (107-41-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

TF90 Training Foam

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Concentrate

Prevent foam concentrate from entering ground water, surface water or storm drains. Small quantities of foam concentrate may be collected on absorbents which can then be disposed of. Disposal should be made in accordance with local, state and federal regulations.

Foam/Foam Solution

Prevent foam/foam solution from entering ground water, surface water or storm drains. Small quantities of foam solution may be collected on absorbents which can then be disposed of. Disposal should be made in accordance with local, state and federal regulations.

NOTE: Please consult Angus Fire for additional information regarding the disposal of foam concentrates and foam solutions or visit <https://angusfire.co.uk/use-discharge-and-disposal-of-firefighting-foam-products/>.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

European List of Waste (LoW) code : 16 03 05* - organic wastes containing dangerous substances

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

TF90 Training Foam

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10

TF90 Training Foam - 2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol - 2-methyl-2,4-pentanediol

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

France

Occupational diseases : RG 84 - Affections engendrées par les solvants organiques liquides à usage professionnel

Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : 2-methyl-2,4-pentanediol is listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:	
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.

SDS EU (REACH Annex II) - Angus Fire

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.