

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier:

Product identifier Liquid extinguisher containing Zenova FX extinguishing agent

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

1.2.1 Relevant identified uses Fire extinguishing agent
 1.2.2 Uses advised against No additional information available

1.3 Details of the supplier of the safety data sheet

Company Zenova Limited
 Address 172 Arlington Road, London NW17HL, United Kingdom
 Phone number +44 (0)2030 393977
 Email info@zenovagroup.com

1.4 Emergency telephone number

Emergency number 999 (UK), 112 (EU)

SECTION 2) Hazards Identification

2.1 Classification of the substance or mixture

Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is not classified as dangerous according to Regulation (EC) No 1272/2008.

2.2 Label elements

None

2.3 Other hazards

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SECTION 3) Composition/Information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
CAS: 1066-33-7 EC: 213-911-5	ammonium bicarbonate	4-5	Acute Tox. 4, H302	
Index: 603-096-00-8 CAS: 112-34-5 EC: 203-961-6	2-(2-butoxyethoxy)ethanol	1-2	Eye Irrit. 2, H319	1, 2
Index: 603-027-00-1 CAS: 107-21-1 EC: 203-473-3	ethanediol	<1	Acute Tox. 4, H302	1

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 603-001-00-X CAS: 67-56-1 EC: 200-659-6	methanol	<0.01	Flam. Liq. 2, H225 Acute Tox. 3, H301+H311+H331 STOT SE 1 (**), H370 Specific concentration limit: STOT SE 1, H370: C ≥ 10 % STOT SE 2, H371: 3 % ≤ C < 10 %	1, 2

Notes

** another exposure route cannot be ruled out

1. A substance for which exposure limits are set.

2. The use of the substance is restricted by Annex XVII of REACH Regulation

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4) First-Aid Measures**4.1 Description of first aid measures**

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show them information from this safety data sheet.

First-aid measures after inhalation

Terminate the exposure immediately; move the affected person to fresh air.

First-aid measures after skin contact

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists.

First-aid measures after eye contact

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes. Provide medical treatment, specialized if possible.

First-aid measures after ingestion

Rinse out the mouth with water and provide 2-5 dL of water. Provide medical treatment if the person has any health problems.

4.2 Most important symptoms and effects, both acute and delayed**If inhaled**

Not expected.

After skin contact

Not expected.

After eye contact

Causes serious eye irritation.

If ingested

Irritation, nausea.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SECTION 5) Firefighting Measures**5.1 Extinguishing media****Suitable extinguishing media**

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water – full jet.

5.2 Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3 Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6) Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Prevent contact with skin and eyes.

6.2 Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3 Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4 Reference to other sections

See the Sections 7, 8 and 13.

SECTION 7) Handling and Storage**7.1 Precautions for safe handling**

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Prevent contact with skin and eyes. Wash hands and exposed parts of the body thoroughly after handling. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

7.2 Conditions for safe storage, including any incompatibilities

Do not expose to temperatures exceeding 60°C. Store in a dry and well-ventilated place. Keep in properly labelled, factory sealed containers, with a label which complies with current regulations.

7.3 Specific end use(s)

Fire extinguishing agent.

SECTION 8) Exposure Controls/Personal Protection**8.1 Control parameters**

The mixture contains substances for which occupational exposure limits are set.

European Union**Commission Directive 2000/39/EC**

Substance name (component)	Type	Value	Note
ethanediol (CAS: 107-21-1)	OEL 8 hours	52 mg/m ³	Skin
	OEL 8 hours	20 ppm	
	OEL 15 minutes	104 mg/m ³	
	OEL 15 minutes	40 ppm	

European Union

Commission Directive 2006/15/EC

Substance name (component)	Type	Value	Note
2-(2-butoxyethoxy)ethanol (CAS: 112-34-5)	OEL 8 hours	67.5 mg/m ³	
	OEL 8 hours	10 ppm	
	OEL 15 minutes	101.2 mg/m ³	
	OEL 15 minutes	15 ppm	
methanol (CAS: 67-56-1)	OEL 8 hours	260 mg/m ³	Skin
	OEL 8 hours	200 ppm	

DNEL

2-(2-butoxyethoxy)ethanol					
Workers/ consumers	Route of exposure	Value	Effect	Value determination	Source
Workers	Inhalation	67.5 mg/m ³	Chronic effects systemic		
Workers	Inhalation	67.5 mg/m ³	Chronic effects local		
Workers	Dermal	83 mg/kg bw/day	Chronic effects systemic		
Consumers	Inhalation	40.5 mg/m ³	Chronic effects systemic		
Consumers	Inhalation	40.5 mg/m ³	Chronic effects local		
Consumers	Inhalation	60.7 mg/m ³	Acute effects local		
Consumers	Dermal	50 mg/kg bw/day	Chronic effects systemic		
Consumers	Oral	5 mg/kg bw/day	Chronic effects systemic		
Workers	Inhalation	60.7 mg/m ³	Acute effects local		

PNEC

2-(2-butoxyethoxy)ethanol			
Route of exposure	Value	Value determination	Source
Drinking water	1.1 mg/l		
Marine water	0.11 mg/l		
Freshwater sediment	4.4 mg/kg of dry substance		
Sea sediments	0.44 mg/kg of dry substance		
Soil (agricultural)	0.32 mg/kg of dry substance		
Microorganisms in sewage treatment	200 mg/l		
Secondary poisoning	11 mg/l		
Oral	56 mg/kg		

8.2 Exposure controls

Exposure controls

Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye and face protection

Protective goggles.

Skin protection

Hand protection: Protective gloves resistant to the product. Contaminated skin should be washed thoroughly.

Respiratory protection

Halfmask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of substances are exceeded or in a poorly ventilated environment.

Thermal hazards

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9) Physical and Chemical Properties**9.1 Information on basic physical and chemical properties**

Physical state	Liquid
Colour	Colourless
Odour	Delicate, barely noticeable
Melting point/freezing point	Not determined
Boiling point or initial boiling point and boiling range	Not determined
Flammability	Not applicable
Lower and upper explosion limit	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
pH	Data not available
Kinematic viscosity	Data not available
Solubility in water	Data not available
Partition coefficient n-octanol/water (log value)	Data not available
Vapour pressure	Data not available
Density and/or relative density	Data not available
Relative vapour density	Data not available
Particle characteristics	Data not available

9.2 Other information

Not available

SECTION 10) Stability and Reactivity**10.1 Reactivity**

Not available.

10.2 Chemical stability

The product is stable under normal conditions.

10.3 Possibility of hazardous reaction

Unknown.

10.4 Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5 Incompatible materials

Protect against strong acids, bases and oxidizing agents.

10.6 Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

SECTION 11) Toxicological Information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. No toxicological data is available for the mixture.

Acute toxicity	No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.
Skin corrosion/irritation	No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.
Serious eye damage/irritation	Causes serious eye irritation. Data for the components of the mixture are not available.
Respiratory or skin sensitisation	No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.
Germ cell mutagenicity	No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.
Carcinogenicity	No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.
Reproductive toxicity	No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.
Toxicity for specific target organ - single exposure	No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.
Toxicity for specific target organ - repeated exposure	No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.
Aspiration hazard	No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

11.2 Information on other hazards

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 12) ECOLOGICAL INFORMATION**12.1 Toxicity**

No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

12.2 Persistence and degradability

Data for the mixture are not available.

Biodegradability

2-(2-butoxyethoxy)ethanol					
Parameter	Method	Value	Exposure Time	Environment	Result
	OECD 301C	85 %	28 days		
Log Pow		1			

12.3 Bioaccumulative potential

No data are available for either the mixture or the components.

12.4 Mobility in soil

No data are available for either the mixture or the components.

12.5 Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6 Endocrine disrupting properties

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7 Other adverse effects

Not available.

SECTION 13) DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations.

Proceed in accordance with valid regulations on waste disposal.

Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity.

Do not empty unused product in drainage systems.

The product must not be disposed of with municipal waste.

Empty containers give for disposal in accordance with the local/national regulation.

SECTION 14) TRANSPORT INFORMATION

		ADR	RID	AND	ICAO TI	IMDG
14.1	UN number or ID number	Not applicable				UN 1044
14.2	UN proper shipping name	Not applicable				FIRE EXTINGUISHERS with compressed or liquefied gas
14.3	Transport hazard class(es)	Not applicable				2
14.4	Packing group	Not applicable				-
14.5	Environmental hazards	Does not meet the criteria of classification as dangerous for the environment				Not applicable
14.6	Special precautions for user	Personal protective equipment should be used when handling the load – see section 8.				
14.7	Maritime transport in bulk according to IMO instruments	Not specified				

SECTION 15) Regulatory Information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Restrictions pursuant to Annex XVII of Regulation (EC) No. 1907/2006 (REACH), as amended

2-(2-butoxyethoxy)ethanol

Restriction	Conditions of restriction
55	<p>1. Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of spray paints or spray cleaners in aerosol dispensers in concentrations equal to or greater than 3 % by weight.</p> <p>2. Spray paints and spray cleaners in aerosol dispensers containing DEGBE and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010.</p> <p>3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that paints other than spray paints containing DEGBE in concentrations equal to or greater than 3 % by weight of that are placed on the market for supply to the general public are visibly, legibly and indelibly marked by 27 December 2010 as follows: "Do not use in paint spraying equipment".</p>

methanol

Restriction	Conditions of restriction
69	Shall not be placed on the market to the general public after 9 May 2019 in windscreen washing or defrosting fluids, in a concentration equal to or greater than 0,6 % by weight.

15.2 Chemical safety assessment

Not available.

SECTION 16) OTHER INFORMATION**A list of standard risk phrases used in the safety data sheet**

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H370	Causes damage to organs.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.

Guidelines for safe handling used in the safety data sheet

P264	Wash hands and exposed parts of the body thoroughly after handling.
P280	Wear eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
log Kow	Octanol-water partition coefficient
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative
Acute tox.	Acute toxicity
Eye dam.	Serious eye damage
Flam. Liq.	Flammable liquid
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

Training Guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

Not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.