FlameStop

SAFETY DATA SHEET

REVISED EDITION NO: **5**
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FlameStop NSW (Head Office)
16 Davis Road, WETHERILL PARK, NSW. 2164. AUSTRALIA
Phone: 02 9725 3322 I **Fax:** 02 9725 1262 I **Email:** sales@flamestop.com.au

SECTION 1 - IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

PRODUCT IDENTIFIER:

FLAMESTOP FLUORINE FREE & ALCOHOL RESISTANT CONCENTRATE

OTHER MEANS OF IDENTIFICATION:

EKFF-20 ECO FOAM FLUORINE FREE CONCENTRATE 20L DRUM
EKFF-200 ECO FOAM FLUORINE FREE CONCENTRATE 20L DRUM
EKFF-1000 ECO FOAM FLUORINE FREE CONCENTRATE 20L DRUM
EKFF-20 ECO FOAM FLUORINE FREE CONCENTRATE 20L DRUM
EFECO900 ECO FOAM FLUORINE FREE BOTTLE
ECO FOAM FF CONCENTRATE
MULTI-PURPOSE FOAM FLUORINE FREE & ALCOHOL RESISTANT
ECO FOAM FLUORINE FREE
ECO FOAM F3
ECO FOAM-FF

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

Use of substance / mixture: fire extinguishing agent

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

Supplier:	FlameStop
Street:	16 Davis Road
Postal code/city:	Wetherill Park, NSW. 2164
Country:	Australia
Telephone:	+61 2 9725 3322 - 7am-4:30pm AET Mon-Fri
Telefax:	+61 2 9725 1262 - 7am-4:30pm AET Mon-Fri
E-mail:	sales@flamestop.com.au
Website:	http://www.flamestop.com.au
Dept. responsible for information:	Compliance

EMERGENCY CONTACT NUMBER: +61 425 342 729

PREPARED IN ACCORDANCE WITH THE NATIONAL CODE OF PRACTICE FOR THE PREPARATION OF MATERIAL SAFETY DATA SHEETS 2ND EDITION [NOHSC:2011(2003)]

SECTION 2 - HAZARD(S) IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

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

Eye Irrit. 2 - STOT RE 2; H319-H373.8

Classification according to the the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th Edition)

Not classified

LABEL ELEMENTS (ACCORDING TO REGULATION (EC) NO. 1272/2008 [CLP]):

Hazard pictograms	
Pictogram code	GHS07: Harmful, GHS08: Health Hazard
Signal word	**WARNING**
Hazard statements	
Physical Hazards	**H319** Causes serious eye irritation **H373.8** May cause damage to kidneys through prolonged or repeated exposure if swallowed.
Health Hazards	
Environmental Hazards	
Combinations	
Precautionary statements	
General	
Prevention	**P262** Do not get in eyes, on skin, or on clothing. **P280** Wear protective gloves/protective clothing/eye protection/face protection.
Response	**P301+P330+P331** IF SWALLOWED: rinse mouth. Do NOT induce vomiting. **P303+P361+P353** IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. **P305** + **P351** + **P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	
Disposal	

OTHER HAZARDS:

Can harm the aquatic fauna when entering surface waters.

Can harm the bacteria population in waste water treatment plants when entering the sewerage system.

Breathing is not possible whilst submerged in the foam. Take care when spraying people!

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

MIXTURES

Ingredient (Designation)	CAS No.	Concentration	Classification according to Regulation (EC) No. 1272/2008 [CLP]		
1,2-Ethandiol	107-21-1	< 15%		Acute Tox. 4 STOT RE 2	H302 H373.8
2-(2-Butoxyethoxy)ethanol	112-34-5	< 10%		Eye Irrit. 2	H319
Triethanolammonium-laurylsulfate	85665-45-8	< 10%		Skin Irrit. 2 Eye Irrit. 2 Aquatic Chronic 3	H315 H319 H412
Alkylamidobetaine	147170-44-3	< 5%		Eye Dam. 1 Aquatic Chronic 3	H318 H412

SECTION 4: FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES:

General information

Remove contaminated, saturated clothing immediately.

Wash thoroughly the body (shower or bath).

Observe risk of aspiration if vomiting occurs.

When in doubt or if symptoms are observed, get medical advice.

In case of inhalation

Provide fresh air.

Consult a doctor immediately in the case of inhaling spray mist and show him packing or label.

In case of skin contact

Wash immediately with: Water

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Do NOT induce vomiting.

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

SECTION 4: FIRST AID MEASURES (CONTINUED)

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE, DELAYED AND AGGREVATED

Drowsiness

Nausea

Gastrointestinal complaints

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

If unconscious place in recovery position and seek medical advice.

IF SWALLOWED: Immediately call a POISON CENTER / doctor...

SECTION 5: FIREFIGHTING MEASURES

EXTINGUISHING MEDIA

The product itself does not burn.

Co-ordinate fire-fighting measures to the fire surroundings.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

The product itself does not burn.

ADVICE FOR FIRE FIGHTERS

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Appropriate personal protective equipment for fire fighters:

Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) and full protective clothing to prevent exposure to vapours, fumes or products of combustion. Avoid eye and skin contact.

Hazchem code:

No Hazchem Code issued to these articles. No HIN issued under RID and ADR.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

Provide adequate ventilation.

ENVIRONMENTAL PRECAUTIONS

Cover drains.

Do not allow to enter into soil/subsoil.

Do not allow to enter into surface water or drains.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Take up mechanically, placing in appropriate containers for disposal.

Treat the recovered material as prescribed in the section on waste disposal.

Suitable material for taking up

Sand

Sawdust

Chemical binding agents, containing acids

REFERENCE TO OTHER SECTIONS

Safe handling: see section 7

Personal protection equipment: see section 8

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Advice on safe use of product:

Maintain high standards of personal hygiene i.e. Washing hands prior to eating, drinking, smoking or using toilet facilities.

Advice on safe handling:

Avoid skin contact and eye contact. Wear personal protection equipment (see section 8).

Environmental precautions:

Shafts and sewers must be protected from entry of the product. See section 8.

Measures to prevent fire:

The product is **not** oxidising, combustible, flammable, explosive, highly flammable - no special fire protection measures are necessary.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATABILITIES

Technical measures and storage conditions:

Do not store at temperatures above: +50°C

Requirements for storage rooms and containers:

no information available.

Suitable container/equipment material:

High-grade steel, Polyethylene (PE), Glass fibre reinforced polyester

Unsuitable container/equipment material:

Aluminium, Light metal, Copper, Zinc, Alloy containing copper, Alloy containing light metal, Iron, Steel

Information on combines storage:

Storage class 12: Non-combustible liquids

SPECIFIC END USE(S)

Fire-extinguishing foams based on synthetic surfactants

Do not use for cleaning purposes.

Recommendation

Observe technical data sheet.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

CONTROL PARAMETERS / OCCUPATIONAL EXPOSURE LIMIT VALUES

Substance name: 2-(2-Butoxyethoxy)ethanol

CAS No.: 112-34-5

EC No.: 203-961-6

United Kingdom

long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin) TWA (EN)

short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin) STEL (EN)

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

peak limitation: ---; Limit value type (country of origin) Ceil (EN)

European Union

long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin) TWA (EC)

short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin) STEL (EC)

peak limitation: ---; Limit value type (country of origin) Ceil (EC)

CONTROL PARAMETERS / OCCUPATIONAL EXPOSURE LIMIT VALUES

Germany

long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin) AGW (DE)
short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin) Peak (DE)
peak limitation: ---; Limit value type (country of origin) Ceil (DE)

Substance name: 1,2-Ethandiol

CAS No.: 107-21-1
EC No.: 203-473-3

United Kingdom

long-term occupational exposure limit value: 20 ppm; Limit value type (country of origin) TWA (EN)
short-term occupational exposure limit value: 40 ppm; Limit value type (country of origin) STEL (EN)
peak limitation: ---; Limit value type (country of origin) Ceil (EN)

European Union

long-term occupational exposure limit value: 20 ppm; Limit value type (country of origin) TWA (EC)
short-term occupational exposure limit value: 40 ppm; Limit value type (country of origin) STEL (EC)
peak limitation: ---; Limit value type (country of origin) Ceil (EC)

Germany

long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin) AGW (DE)
short-term occupational exposure limit value: 20 ppm; Limit value type (country of origin) Peak (DE)
peak limitation: ---; Limit value type (country of origin) Ceil (DE)

EXPOSURE CONTROLS

Appropriate engineering controls:

Use with good general ventilation.

Individual protective measures, e.g. Personal Protective Equipment:

Advices on general occupational hygiene:

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.
Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing. Wash contaminated clothing prior to re-use.
Wash hands before breaks and after work. Apply skin care products after work.

Eye/face protection

Suitable eye protection

- Eye glasses with side protection
- goggles
- Face protection shield

Recommended eye protection articles

- DIN EN 166

Hand protection

Suitable gloves type

- Gloves with long cuffs
- Suitable material
- NBR (Nitrile rubber)
- Butyl caoutchouc (butyl rubber)

Breakthrough time (maximum wearing time)

CONTROL PARAMETERS / OCCUPATIONAL EXPOSURE LIMIT VALUES

120 min.

Recommended glove articles

DIN EN 374

Breakthrough times and swelling properties of the material must be taken into consideration.

Body protection

Body protection: not required.

Respiratory protection

Usually no personal respirative protection necessary.

Environmental exposure controls

Store concentrate according to appropriate local, state or Commenwealth regulations.

Do not let the concentrate get into the environment.

If possible, hold back the application solution and dispose of after use.

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid		
Colour	Colourless / yellow		
pH	6.5 - 8.5 (at 20°C)	DIN 19268	
Density	1,020 - 1,060 g/ml (at 20°C)	DIN 12791	
Dynamic viscosity	(at 20°C) < 800(400) mPa*s @ 75(375) 1/s	DIN 53019	structure viscous.
Dynamic viscosity	(at -5°C) < 1500(750) mPa*s @ 75(375) 1/s	DIN 53019	structure viscous.
Solidification point	-5°C	DIN ISO 3016	
Initial boiling point and boiling range	> 100°C	DIN 51751	
Water solubility (g/L)	completely miscible	OECD 105	
Flas point	No flash point up to 100°C		

PHYSICAL HAZARDS

Breathing is not possible whilst submerged in the foam. Take care when spraying people!

OTHER INFORMATION

FlameStop Fluorine Free & Alcohol Resistant foam poses no health risk, provided it is used as intended as fire extinguishing foam. Fire fighting exercise and testing may have to be agreed with local authorities.

SECTION 10 - STABILITY AND REACTIVITY

REACTIVITY

Materials to avoid:

Alkali (lye), concentrated

Alkali metals

Acid, concentrated

Oxidising agent, strong

Reducing agent, strong

Acid halides

CHEMICAL STABILITY

No special measures are necessary.

POSSIBILITY OF HAZARDOUS REACTIONS

No special measures are necessary.

CONDITIONS TO AVOID

Do not store at temperatures above: +50°C

INCOMPATIBLE MATERIALS

See section 7. No additional measures necessary.

HAZARDOUS DECOMPOSITION PRODUCTS

None.

SECTION 11 - TOXILOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Acute oral toxicity:	
LD50 Species: Method:	>2000mg/kg GHS-category 5 Rat OECD 420
Acute dermal toxicity:	The product has not been tested
Acute inhalation toxicity:	The product has not been tested
Skin corrosion/irritation:	
Species: Method: Result:	Albino rabbit OECD 404 Not an irritant

INFORMATION ON TOXICOLOGICAL EFFECTS

Serious eye damage/irritation:	
Species: Method: Result:	Albino rabbit OECD 404 Irritant (Cat. 2A)
Respiratory or skin sensitisation:	The product has not been tested
Germ cell mutagenicity:	The product has not been tested
Carcinogenicity:	The product has not been tested
Reproductive toxicity:	The product has not been tested
Specific Target Organ Toxicity – single exposure:	The product has not been tested
Specific Target Organ Toxicity – repeated exposure:	The product has not been tested
Aspiration hazard:	The product has not been tested

INFORMATION ON POSSIBLE ROUTES OF EXPOSURE

No information available.

EARLY ONSET SYMPTOMS RELATING TO EXPOSURE

No information available.

DELAYED HEALTH EFFECTS FROM EXPOSURE

No information available.

EXPOSURE LEVELS AND HEALTH EFFECTS

No information available.

INTERACTIVE EFFECTS

No information available.

OTHER INFORMATION

No information available.

TOXICITY

Aquatic toxicity	
Acute (short term) fish toxicity	
Effective dose	LC50 ~240mg/L
Exposure time	96h
Species	Leuciscus idus (golden orfe)
Method	OECD 203
Acute (short-term) toxicity to crustacea	
Effective dose	EC50 ~ 210mg/L
Exposure time	48h
Species	Daphnia magna (Big water flea)
Method	OECD 202
Acute (short-term) toxicity to aquatic algae and cyanobacteria	
Effective dose	EC50 ~ 210mg/L
Exposure time	72h
Species	Scenedesmus subspicatus
Method	OECD 201
Effects in sewage plants	
Method	Respiratory inhibition of municipal activated sludge.
500mg/L	Concentration: 100% Dilution: >2000
16600 mg/L	Concentration: 3% Dilution: >60
Technically correct releases of minimal concentrations to adapted biological sewage plants, will not disturb the biodegradability of activated sludge. The product may lead to foaming in sewage plants	

Remark

Observe local regulations concerning effluent treatment.

Special pre-treatments are necessary.

PERSISTENCE AND DEGRADIBILITY

Biodegration	
Readily biodegradable (according to OECD criteria).	
Degradation rate (%)	~99%
Time (d)	28
Analytical method	BOD (% of COD)
Method	OECD 302B/ ISO 9888/ EEC 92/69/V, C.9
Type	Aerobic biological treatment

Chemical oyxgen demand (COD)
~ 488000 mg*O2/L Concentration: 100% Method: DIN EN 38409-H41-1
~ 14640mg*O2/L Concentration: 3% Method: DIN EN 38409-H41-1

Chemical oyxgen demand (COD)
~ 170000mg*O2/L Concentration: 100% Method: DIN EN 1899-1 Test durarion: 5d
~ 5100mg*O2/L Concentration: 3% Method: DIN EN 1899-1 Test durarion: 5d

BOD5/COD ratio
35%

SECTION 12 - ECOLOGICAL INFORMATION (CONTINUED)

BIOACCUMULATIVE POTENTIAL

1,2-ETHANDIOL: No indication of bioaccumulation potential.

2-(2-BUTOXYETHOXY)ETHANOL: No indication of bioaccumulation potential.

TRIETHANOLAMMONIUM-LAURYLSULFATE: No indication of bioaccumulation potential.

ALKYLAMIDOBETAINE: No indication of bioaccumulation potential.

MOBILITY IN SOIL

If product enters soil, it will be mobile and may contaminate groundwater.

RESULTS OF PBT AND VPVB ASSESSMENT

1,2-ETHANDIOL: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

2-(2-BUTOXYETHOXY)ETHANOL: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

TRIETHANOLAMMONIUM-LAURYLSULFATE: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

ALKYLAMIDOBETAINE: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

OTHER ADVERSE EFFECTS

None.

SECTION 13 - DISPOSABLE CONSIDERATIONS

DISPOSABLE METHODS

The disposal of the waste material and the empty containers must be done in accordance with applicable local and national regulations. 'Empty' containers retain residue (liquid and/or vapour) and can be dangerous. Do not attempt to clean since residue is difficult to remove. Do not pressurise, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks and other sources of ignition. They may explode and cause injury or death.

Delivery to an approved waste disposal company.

Send to a hazardous waste incinerator facility under observation of official regulations.

Dispose according to legislation.

PHYSICAL/CHEMICAL PROPERTIES THAT MAY AFFECT DISPOSAL OPTIONS

No information available.

EFFECTS OF SEWAGE DISPOSAL

No information available.

SPECIAL PRECAUTIONS FOR INCINERATION OR LANDFILL

All containers should be returned to the supplier. Privately owned containers no longer required, should be disposed of in an environmentally safe manner, and in accordance with applicable regulations.

SECTION 14 - TRANSPORT INFORMATION

UN number	Not applicable. The mixture is not classified as dangerous.
Proper shipping name or Technical Name	Not applicable.
Transport hazard class	**Road and Rail Transport** Not Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG) for transport by Road and Rail **Marine Transport** Not classified as Dangerous Goods by the criteria of the I nternational Maritime Dangerous Goods Code (IMDG Code) for transport by sea. **Air Transport** Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations
Packing Group	Not applicable.
Environmental hazards for Transport Purposes	Not applicable. Not a marine pollutant
Special Precautions for user	Not applicable.
Additional Information	No information available.
Hazchem or Emergency Action Code	Not applicable.

SECTION 15 - REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE

EU legislation

Regulation (EC) No. 2037/2000 concerning materials, which cause damage to the ozone layer.

not applicable

Regulation (EC) No. 304/2003 of the European parliament and of the council concerning the export and import of dangerous chemicals

not applicable

Directive 96/59/EC (PCB-guideline)

not applicable

Regulation (EC) No. 648/2004 (Detergents regulation)

The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.

Information according to 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline).

Volatile organic compounds (VOC) content in percent by weight: max. 10

Regulation (EC) No. 842/2006 on certain fluorinated greenhouse gases

not applicable

National regulations

Störfallverordnung

Not subject to StörfallVO.

Water hazard class (WGK)

slightly hazardous to water (WGK 1)

Self-classification according to AwSV (mixture).

annex Chemikalien-Verbotsverordnung (ChemVerbotsV)

not applicable

SECTION 15 - REGULATORY INFORMATION (CONTINUED)

CHEMICAL ASSESSMENT

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16 - OTHER INFORMATION

KEY LITERATURE REFERENCES AND SOURCES

Classification in accordance with the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)].

This Safety Data Sheet where necessary has been established in accordance with the applicable European Union legislation and has used calculation methods of regulation (EC) 1272/2008 CLP

Australian Inventory of Chemical Substances (AICS)

Australian Code for the Transport of Dangerous Goods by Road & Rail (2015, 7th Edition, 7.4)

Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Workplace exposure standards for airborne contaminants, Safe work Australia.

International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Relevant R-, H- and EUH-phrases (Number and full text)

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H373.8 May cause damage to kidneys through prolonged or repeated exposure if swallowed.

H412 Harmful to aquatic life with long lasting effects.

WGK	Wassergefährdungsklassen - German water hazard classes
EC	European Commision
PCB	Printed Circuit Board
VwVwS	Verwaltungsvorschrift wassergefährdende Stoffe (Administrative Regulation for Agents Hazardous to Waters)
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
DIN	Deutsches Institut für Normung (German Institute for Standardisation)
ISO	International Organization for Standardisation
EN	European Standard
LGK	Lagerklasse (storage class)
CAS	Chemical Abstracts Service
CLP	Classification, Labelling & Packaging (EU regulation)
NOHSC	National Standard for the Storage and Handling of Workplace Dangerous Goods

SECTION 16 - OTHER INFORMATION

DISCLAIMER

The information is based on the best knowledge of FlameStop Australia Pty Ltd and its advisors and is given in good faith, but we cannot guarantee its accuracy, reliability or completeness and therefore disclaim any liability for loss or damage arising out of use of this data. Since conditions of use are outside the control of the Company and its advisors we disclaim any liability for loss or damage when the product is used for purposes other than it is intended.

Please refer to our internet website for more information: www.flamestop.com.au

SDS sheets are available to download in the downloads section of our website.

For contact information please go to page 1 of this SDS.

END OF SDS.