

SAFETY DATA SHEET

AQF-2 FOAMING AGENT

Revision Date: 21-Jun-2016

Revision Number: 30

1. Product Identifier & Identity for the Chemical

Statement of Hazardous Nature Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

1.1. Product Identifier

Product Name AQF-2 FOAMING AGENT

Other means of Identification

Synonyms None
Hazardous Material Number: HM000071

Recommended use of the chemical and restrictions on use

Recommended Use Foaming Agent
Uses advised against No information available

Supplier's name, address and phone number

Manufacturer/Supplier Halliburton Australia Pty. Ltd.
15 Marriott Road
Jandakot
WA 6164
Australia

ACN Number: 009 000 775
Telephone Number: + 61 1 800 686 951
Fax Number: 61 (08) 9455 5300
E-mail Address fdunexchem@halliburton.com

Emergency phone number

+ 61 1 800 686 951

Australian Poisons Information Centre

24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

2. Hazard Identification

Statement of Hazardous Nature Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

Classification of the hazardous chemical

Skin Corrosion/Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 2 - H319
Acute Aquatic Toxicity	Category 2 - H401
Flammable liquids.	Category 4 - H227

Label elements, including precautionary statements

Hazard pictograms



Signal Word Warning

Hazard Statements: H227 - Combustible liquid
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H401 - Toxic to aquatic life

Precautionary Statements

Prevention P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P273 - Avoid release to the environment
 P280 - Wear protective gloves/eye protection/face protection

Response P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P362 - Take off contaminated clothing and wash before reuse
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P370 + P378 - In case of fire: Use water spray for extinction

Storage P403 + P235 - Store in a well-ventilated place. Keep cool

Disposal P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains

Substances	CAS Number
Salts of aliphatic sulfonic acids	Proprietary
Ethylene glycol monobutyl ether	111-76-2
Diethylene glycol	111-46-6

Other hazards which do not result in classification

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
 This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Salts of aliphatic sulfonic acids	Proprietary	30 - 60%	Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Aquatic Acute 2 (H401)
Ethylene glycol monobutyl ether	111-76-2	10 - 30%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Flam. Liq. 4 (H227)
Diethylene glycol	111-46-6	5 - 10%	Acute Tox. 4 (H302) STOT RE 2 (H373)

4. First aid measures

Description of necessary first aid measures

Inhalation	If inhaled, move victim to fresh air and seek medical attention.
Eyes	In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
Skin	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

Symptoms caused by exposure

Causes eye irritation Causes skin irritation.

Medical Attention and Special Treatment

Notes to Physician Treat symptomatically

5. Fire Fighting Measures

Suitable extinguishing equipment

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

Specific hazards arising from the chemical

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases.

Special protective equipment and precautions for fire fighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas. Consult local authorities.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove. Do NOT spread spilled product with water.

7. Handling and storage

7.1. Precautions for safe handling

Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Keep from freezing. Product has a shelf life of 36 months.

Other Guidelines

No information available

8. Exposure Controls/Personal Protection

Control parameters - exposure standards, biological monitoring

Exposure Limits

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Salts of aliphatic sulfonic acids	Proprietary	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 96.9 mg/m ³ STEL: 50 ppm STEL: 242 mg/m ³	TWA: 20 ppm Skin
Diethylene glycol	111-46-6	TWA: 23 ppm TWA: 100 mg/m ³	Not applicable

Appropriate engineering controls

Engineering Controls

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment (PPE)

Personal Protective Equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

When the potential exists for vapors of this product to be present, use a respirator with an organic-vapor filter or a supplied-air respirator as needed for adequate protection.

Hand Protection

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact.

Eye Protection

Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions

None known.

Environmental Exposure Controls

Do not allow material to contaminate ground water system

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Odor: Bland

Color: Clear light yellow
Odor Threshold: No information available

Property
Remarks/ - Method

Values

pH:
Freezing Point / Range
Melting Point / Range
Boiling Point / Range
Flash Point
Evaporation rate
Vapor Pressure
Vapor Density
Specific Gravity
Water Solubility

6.5-8.5 (10%)
-16 °C
No data available
> 100 °C / 212 °F
61 °C / 142 °F PMCC
No data available
< 1 mmHg
No data available
1.038
Soluble in water

Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%) No data available

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

Keep away from heat, sparks and flame.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of sulfur. Carbon monoxide and carbon dioxide.

11. Toxicological Information

Information on routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

Symptoms related to exposure**Most Important Symptoms/Effects**

Causes eye irritation Causes skin irritation.

Numerical measures of toxicity**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Salts of aliphatic sulfonic acids	Proprietary	2310 mg/kg (Rat) 2079 mg/kg (Rat) 6314 mg/kg (Rat) 4000 mg/kg (Rat)	6300 mg/kg (Rabbit) > 6000 mg/kg	> 52 mg/L (Rat) 4h
Ethylene glycol monobutyl ether	111-76-2	1414 mg/kg-bw (guinea pig)	>2000 mg/kg (Rabbit)	No data available
Diethylene glycol	111-46-6	12565 - 19600 mg/kg (Rat)	11890 - 13300 mg/kg (Rabbit)	> 4.6 mg/L (Rat) 4h

Immediate, delayed and chronic health effects from exposure**Inhalation**

May cause respiratory irritation.

Eye Contact

Causes eye irritation.

Skin Contact

Causes skin irritation.

Ingestion

Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure can cause delayed kidney damage.

Exposure Levels

No data available

Interactive effects

Skin disorders.

Data limitations

No data available

Substances	CAS Number	Skin corrosion/irritation
Salts of aliphatic sulfonic acids	Proprietary	Irritating to skin. (Rabbit)
Ethylene glycol monobutyl ether	111-76-2	Causes moderate skin irritation. (Rabbit)
Diethylene glycol	111-46-6	Non-irritating to the skin (Rabbit)

Substances	CAS Number	Serious eye damage/irritation
Salts of aliphatic sulfonic acids	Proprietary	Irritating to eyes (Rabbit)
Ethylene glycol monobutyl ether	111-76-2	Causes moderate eye irritation (Rabbit)
Diethylene glycol	111-46-6	Non-irritating to the eye (Rabbit)

Substances	CAS Number	Skin Sensitization
Salts of aliphatic sulfonic acids	Proprietary	Did not cause sensitization on laboratory animals (guinea pig)
Ethylene glycol monobutyl ether	111-76-2	Did not cause sensitization on laboratory animals (guinea pig)
Diethylene glycol	111-46-6	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Salts of aliphatic sulfonic acids	Proprietary	No information available
Ethylene glycol monobutyl ether	111-76-2	No information available
Diethylene glycol	111-46-6	No information available

Substances	CAS Number	Mutagenic Effects
Salts of aliphatic sulfonic acids	Proprietary	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Ethylene glycol monobutyl ether	111-76-2	In vivo tests did not show mutagenic effects.
Diethylene glycol	111-46-6	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Salts of aliphatic sulfonic acids	Proprietary	Did not show carcinogenic effects in animal experiments (Rat)
Ethylene glycol monobutyl ether	111-76-2	Not regarded as carcinogenic.
Diethylene glycol	111-46-6	Did not show carcinogenic effects in animal experiments (Rat)

Substances	CAS Number	Reproductive toxicity
Salts of aliphatic sulfonic acids	Proprietary	No significant toxicity observed in animal studies at concentration requiring classification.
Ethylene glycol monobutyl ether	111-76-2	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Diethylene glycol	111-46-6	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Salts of aliphatic sulfonic acids	Proprietary	No significant toxicity observed in animal studies at concentration requiring classification.
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.
Diethylene glycol	111-46-6	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Salts of aliphatic sulfonic acids	Proprietary	No significant toxicity observed in animal studies at concentration requiring classification.
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.

ether		
Diethylene glycol	111-46-6	Causes damage to organs through prolonged or repeated exposure: (Kidney)

Substances	CAS Number	Aspiration hazard
Salts of aliphatic sulfonic acids	Proprietary	No information available
Ethylene glycol monobutyl ether	111-76-2	No adverse health effects are expected from swallowing. Not applicable
Diethylene glycol	111-46-6	No information available

12. Ecological Information

Ecotoxicity

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Salts of aliphatic sulfonic acids	Proprietary	EC50 (72h) 5.2 mg/L (Skeletonema costatum)	LC50 (96h) 4.2 mg/L (Danio rerio)	No information available	EC50 (48h) 4.53 mg/L (Ceriodaphnia sp) NOEC (21d) 6.3 mg/L (Daphnia magna)
Ethylene glycol monobutyl ether	111-76-2	EC50 (72 h) =1840 mg/L (Pseudokirchneriella subcapitata)	LC50 (96 h) =1474 mg/L (Oncorhynchus mykiss) NOAEC (21 d) >100 mg/L (Danio rerio)	No information available	EC50 (48 h) =1800 mg/L (Daphnia magna) EC50 (21 d) =297 mg/L (Daphnia magna)
Diethylene glycol	111-46-6	TGK (8d) 2700 mg/L (Scenedesmus quadricauda)	LC50 75200 mg/L (Pimephales promelas)	EC20 (30m) > 1995 mg/L (domestic activated sludge)	EC50 84000 mg/L (Daphnia magna) EC50 >10000 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Salts of aliphatic sulfonic acids	Proprietary	Readily biodegradable (80-96% @ 28d)
Ethylene glycol monobutyl ether	111-76-2	Readily biodegradable (75-88% @ 28d)
Diethylene glycol	111-46-6	Readily biodegradable (90-100% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Salts of aliphatic sulfonic acids	Proprietary	- 1.3
Ethylene glycol monobutyl ether	111-76-2	LogPow 0.81
Diethylene glycol	111-46-6	BCF: 100 (Leuciscus idus melanotus)

12.4. Mobility in soil

Substances	CAS Number	Mobility
Salts of aliphatic sulfonic acids	Proprietary	No information available
Ethylene glycol monobutyl ether	111-76-2	No information available
Diethylene glycol	111-46-6	No information available

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

13. Disposal Considerations

Safe handling and disposal methods

Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations.

Disposal of any contaminated packaging

Follow all applicable national or local regulations.

Environmental regulations

Not applicable

14. Transport Information**Transportation Information**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

Special precautions during transport

None

HazChem Code

2X

15. Regulatory Information**Safety, health and environmental regulations specific for the product****International Inventories**

Australian AICS Inventory	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
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New Zealand Inventory of Chemicals	All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.
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EINECS (European Inventory of Existing Chemical Substances)	This product, and all its components, complies with EINECS
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US TSCA Inventory	All components listed on inventory or are exempt.
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Canadian Domestic Substances List (DSL)	All components listed on inventory or are exempt.
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Poisons Schedule number

S6

International Agreements

Montreal Protocol - Ozone Depleting Substances:	Does not apply
Stokholm Convention - Persistent Organic Pollutants:	Does not apply
Rotterdam Convention - Prior Informed Consent:	Does not apply
Basel Convention - Hazardous Waste:	Does not apply

16. Other information**Date of preparation or review**

Revision Date:	21-Jun-2016
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Revision Note

SDS sections updated: 2

Full text of H-Statements referred to under sections 2 and 3

H227 - Combustible liquid
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation

H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure
H401 - Toxic to aquatic life

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key abbreviations or acronyms used

bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NOEC – No Observed Effect Concentration
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
vPvB – very Persistent and very Bioaccumulative
h - hour
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data

www.ChemADVISOR.com/

Disclaimer Statement

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End of Safety Data Sheet