HALLIBURTON

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

AQF-2 FOAMING AGENT

Revision Date: 15-Sep-2015 **Revision Number:** 28

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

1.1. Product Identifier

Product Name AQF-2 FOAMING AGENT
Internal ID Code HM000071

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

Recommended Use Foaming Agent
Sector of use SU3 - Industrial Manufacturing (all)
SU2 - Mining, (including offshore industries)
Product category PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific
Process categories PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

1.3. Details of the supplier of the safety data sheet

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

www.halliburton.com

For further information, please contact
E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961

Emergency telephone - §45 - (EC)1272/2008	
Europe	**112**
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	+210 7793777
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Romania	+40 21 318 36 06
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin Corrosion / irritation	Category 2 - H315

Serious Eye Damage / Eye Irritation	Category 2 - H319

2.2. Label Elements

Hazard Pictograms

Signal Word **Warning**

Hazard Statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary Statements - EU (§28, 1272/2008)
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
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

Contains

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

2.3. Other Hazards

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).

SECTION 3: Composition/information on Ingredients

3.2. Mixtures

Mixture

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Salts of aliphatic sulfonic acids	Listed	Proprietary	30 - 60%	Skin Irrit. 2 (H315) Eye Irrit. 2A (H319)	No data available
Ethylene glycol monobutyl ether	203-905-0	111-76-2	10 - 30%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	01-2119475108-36
Diethylene glycol	203-872-2	111-46-6	5 - 10%	Acute Tox. 4 (H302) STOT RE 2 (H373)	No data available

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

ACN No.	18-0000000337-77-0000

SECTION 4: First aid measures

4.1. Description of 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.

4.2. Most Important symptoms and effects, both acute and delayed
Causes skin irritation. Causes eye irritation May cause damage to internal organs.

4.3. Indication of any immediate medical attention and special treatment needed
Notes to Physician Treat symptomatically

SECTION 5: Firefighting Measures

5.1. Extinguishing media
Suitable Extinguishing Media
Water fog, carbon dioxide, foam, dry chemical.
Extinguishing media which must not be used for safety reasons
None known.

5.2. Special hazards arising from the substance or mixture
Special Exposure Hazards
Decomposition in fire may produce harmful gases.

5.3. Advice for firefighters
Special Protective Equipment for Fire-Fighters
Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 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.
See Section 8 for additional information

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.

6.4. Reference to other sections
See Section 8 and 13 for additional information.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling
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
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.

7.3. Specific End Use(s)
Exposure Scenario No information available
Other Guidelines No information available

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK	Netherlands	France
Salts of aliphatic sulfonic acids	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	Not applicable	TWA: 25 ppm TWA: 123 mg/m³ STEL: 50 ppm STEL: 246 mg/m³	TWA: 100 mg/m³ STEL: 246 mg/m³	2 ppm
Diethylene glycol	111-46-6	Not applicable	TWA: 23 ppm TWA: 101 mg/m³ STEL: 69 ppm STEL: 303 mg/m³	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Salts of aliphatic sulfonic acids	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 10 ppm TWA: 49 mg/m³	TWA: 20 ppm TWA: 98 mg/m³ 50 ppm STEL [VLA-EC]; 245 mg/m³ STEL [VLA-EC]	TWA: 20 ppm TWA: 98 mg/m³ STEL: 50 ppm STEL: 246 mg/m³	TWA: 20 ppm TWA: 98 mg/m³ STEL: 50 ppm STEL: 250 mg/m³
Diethylene glycol	111-46-6	TWA: 10 ppm TWA: 44 mg/m³	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Salts of aliphatic sulfonic acids	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m³ STEL" 40 ppm STEL" 200 mg/m³	20 ppm TWA; 98 mg/m³ TWA 50 ppm STEL; 246 mg/m³ STEL	TWA: 10 ppm TWA: 49 mg/m³ STEL: 20 ppm STEL: 98 mg/m³	TWA: 10 ppm TWA: 50 mg/m³ STEL: 20 ppm STEL: 75 mg/m³
Diethylene glycol	111-46-6	TWA: 10 ppm TWA: 44 mg/m³ STEL" 40 ppm STEL" 176 mg/m³	23 ppm TWA; 100 mg/m³ TWA 69 ppm STEL (calculated); 300 mg/m³ STEL (calculated)	TWA: 10 ppm TWA: 44 mg/m³ STEL: 40 ppm STEL: 176 mg/m³	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Salts of aliphatic sulfonic acids	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m³ STEL: 50 ppm STEL: 246 mg/m³	TWA: 98 mg/m³ STEL: 200 mg/m³	TWA: 98 mg/m³ STEL: 246 mg/m³	TWA: 100 mg/m³
Diethylene glycol	111-46-6	Not applicable	TWA: 10 mg/m³	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Salts of aliphatic sulfonic acids	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m³	TWA: 30 ppm TWA: 150 mg/m³ STEL: 50 ppm STEL: 250 mg/m³ STEL: 246 mg/m³	TWA: 20 ppm TWA: 98 mg/m³ STEL: 50 ppm STEL: 246 mg/m³	TWA: 20 ppm TWA: 98 mg/m³ STEL: 50 ppm STEL: 246 mg/m³
Diethylene glycol	111-46-6	TWA: 2.5 ppm TWA: 11 mg/m³	TWA: 115 ppm TWA: 500 mg/m³ STEL: 184 ppm STEL: 800 mg/m³	TWA: 23 ppm TWA: 101 mg/m³	Not applicable

Derived No Effect Level (DNEL)

Worker

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Hazards for the eyes - local effects
Ethylene glycol	98 mg/m³	663 mg/m³	Not available	246 mg/m³	75 mg/kg	89 mg/kg	Not available	Not available	Not available

monobutyl ether					bw/day	bw/day			
Diethylene glycol	Not available	Not available	60 mg/m³	Not available	106 mg/kg bw/day	Not available	Not available	Not available	Not available

General Population

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Long-term exposure - systemic effects, Oral	Acute / short term exposure - local effects, Oral	Hazards for the eyes - local effects
Ethylene glycol monobutyl ether	49 mg/m³	426 mg/m³	Not available	123 mg/m³	38 mg/kg bw/day	44.5 mg/kg bw/day	Not available	Not available	3.2 mg/kg bw/day	13.4 mg/kg bw/day	Not available
Diethylene glycol	Not available	Not available	12 mg/m³	Not available	53 mg/kg bw/day	Not available	Not available	Not available	Not available	Not available	Not available

Predicted No Effect Concentration (PNEC)

Substances	Freshwater	Marine water	Intermittent release	Sewage treatment plant	Sediment (freshwater)	Sediment (marine water)	Air	Soil	Secondary poisoning
Ethylene glycol monobutyl ether	8.8 mg/L	0.88 kg/L	9.1 mg/L	463 mg/L	34.6 mg/kg	3.46 mg/kg	Not available	3.13 mg/kg soil dw	0.02 g/kg food
Diethylene glycol	10 mg/L	1 mg/L	10 mg/L	199.5 mg/L	20.9 mg/kg sediment dw	2.09 mg/kg sediment dw	Not available	1.53 mg/kg soil dw	No potential for bioaccumulation

8.2. Exposure controls

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

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 Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls Do not allow material to contaminate ground water system

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Color: Clear light yellow
Odor: Bland
Odor Threshold: No information available

Property Remarks/ - Method	Values
pH:	6.5-8.5 (10%)
Freezing Point/Range	-16 °C
Melting Point/Range	No data available
Boiling Point/Range	> 100 °C / 212 °F
Flash Point	61 °C / 142 °F PMCC
Flammability (solid, gas)	No data available
upper flammability limit	No data available

lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	< 1 mmHg
Vapor Density	No data available
Specific Gravity	1.038
Water Solubility	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

SECTION 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.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

Inhalation	May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness. May be harmful if inhaled.
Eye Contact	Causes eye irritation.
Skin Contact	Causes skin irritation. May be absorbed through the skin.
Ingestion	Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause fetal damage and testicular effects.

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	470 mg/kg (Rat) 1414 mg/kg (Guinea pig) 1746 mg/kg (Rat) 320 mg/kg (Rabbit) 530 mg/kg (Rat) 560 mg/kg (Rat) 3000 mg/kg (Rat) 2400 mg/kg (Rat)	220 mg/kg (Rabbit) 2270 mg/kg (Rat) 200 mg/kg (Guinea pig) >2000 mg/kg (Rabbit) 841 mg/kg (Rabbit) 435 mg/kg (Rabbit) >2000 mg/kg (Guinea pig) >2000 mg/kg (Rat) 100 mg/kg (Rabbit) 207 mg/kg (Guinea pig) 400-500 mg/kg (Rabbit)	450 mg/L (Rat) 4h 2.174 mg/L (Rat) 4h 2.21 mg/L (Rat) 4h 450-486 mg/L (Rat) 4h 925 mg/L (Rat) 4h >633 mg/L (Guinea pig) 1h
Diethylene glycol	111-46-6	12565 - 19600 mg/kg (Rat)	11890 - 13300 mg/kg (Rabbit)	> 4.6 mg/L (Rat) 4h

Substances	CAS Number	Skin corrosion/irritation
Salts of aliphatic sulfonic acids		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	Eye damage/irritation
Salts of aliphatic sulfonic acids		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		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		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		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. In vitro 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		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		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		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		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	Causes damage to organs through prolonged or repeated exposure: (Kidney)

Substances	CAS Number	Aspiration hazard
Salts of aliphatic sulfonic acids		No information available
Ethylene glycol monobutyl ether	111-76-2	No adverse health effects are expected from swallowing.
Diethylene glycol	111-46-6	No information available

SECTION 12: Ecological Information

12.1. Toxicity

Ecotoxicity Effects

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 839.56 mg/L (Skeletonema costatum) EbC50 (72h) 911 mg/L EC50 > 500 mg/L (Scenedesmus subspicatus) NOEC (72h) 88 mg/L (biomass)(Pseudokirchnerella subcapitata)	LC50 > 1000 mg/L (Scophthalmus maximus, juvenile) LC50 (96h) 1474 mg/L (Oncorhynchus mykiss) NOEC (21d) > 100mg/L (Danio rerio)	TT/EC3 (48h) 463 mg/L (Uronema parduzci) TT/EC3 (72h) 73 mg/L (Entosiphon sulcatum) TT/EC3 (16h) 700 mg/L (Pseudomonas putida)	No information available
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	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

12.5. Results of PBT and vPvB assessment

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).

Substances	PBT and vPvB assessment
Salts of aliphatic sulfonic acids	Not PBT/vPvB
Ethylene glycol monobutyl ether	Not PBT/vPvB
Diethylene glycol	Not PBT/vPvB

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

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

Contaminated Packaging Follow all applicable national or local regulations.

SECTION 14: Transport Information

IMDG/IMO

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

RID

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

ADR

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

IATA/ICAO

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

14.1. UN Number: Not restricted

14.2. UN Proper Shipping Name: Not restricted

14.3. Transport Hazard Class(es): Not applicable

14.4. Packing Group: Not applicable

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User: None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: Regulatory Information

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

International Inventories

EINECS Inventory This product, and all its components, complies with EINECS
US TSCA Inventory All components listed on inventory or are exempt.
Canadian DSL Inventory All components listed on inventory or are exempt.

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

15.2. Chemical Safety Assessment
No information available

SECTION 16: Other Information

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

Key or legend to abbreviations and acronyms
bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category
PEL – Permissible Exposure Limit
ppm – parts per million
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category

Key literature references and sources for data
www.ChemADVISOR.com/

Revision Date: 15-Sep-2015
Revision Note
SDS sections updated: 1

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010

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End of Safety Data Sheet