

SAFETY DATA SHEET

BDF-610

SDS according to Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex II-EU

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

Date issued	25.01.2013
Revision date	26.05.2015

1.1. Product identifier

Product name	BDF-610
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation	Fluid Loss Additive
Relevant identified uses	SU2a Mining, (without offshore industries) SU2b Offshore industries PC20 Products such as pH-regulators, flocculants, precipitants, neutralization agents, other other unspecified PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

1.3. Details of the supplier of the safety data sheet

Company name	Halliburton AS / Halliburton Denmark APS
Office address	Eldfiskvegen 1, 4056 Tananger (No)
Postal address	P.O. Box 200 (No) / Storstrømsvej 6 (Dk)
Postcode	NO-4065/DK-6715
City	Stavanger (No) / Esbjerg N (Dk)
Country	Norway / Denmark
Tel	+47 51837000 (No) / +4579145422 (Dk)
Fax	+47 51838383 (No) / +4579145410 (Dk)
E-mail	sds.sca@halliburton.com
Website	http://www.Halliburton.com

1.4. Emergency telephone number

Emergency telephone	Tel: 22 59 13 00 Description: Toxic Information
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SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Skin Sens. 1; H317
Substance / mixture hazardous properties	Eye Irrit. 2; H319
	May cause sensitisation by skin contact. Causes serious eye irritation.

2.2. Label elements

Hazard Pictograms (CLP)



Composition on the label	Rosin; colophony 1 – 5 %
Signal word	Warning
Hazard statements	H317 May cause an allergic skin reaction. H319 Causes serious eye irritation.
Precautionary statements	P264 Wash face, hands and any exposed skin thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P333 + P313 If skin irritation or rash 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.

2.3. Other hazards

PBT / vPvB	The chemical contains no PBT or vPvB substances.
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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents
Triethylene glycol monobutyl ether	CAS no.: 143-22-6 EC no.: 205-592-6 REACH Reg. No.: 01-2119475107-38	Eye Dam. 1; H318	10 – 30 %
Rosin; colophony	CAS no.: 8050-09-7 EC no.: 232-475-7	Skin Sens. 1; H317	1 – 5 %
Substance comments	See section 16 for explanation of hazard statements (H) listed above.		

SECTION 4: First aid measures

4.1. Description of first aid measures

General	Emergency telephone number: see section 1.4. In case of unconsciousness or severe accidents, call 113.
Inhalation	Fresh air and rest. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing. Wash the skin immediately with soap and water. Consult a doctor if symptoms should occur.
Eye contact	Promptly rinse eyes with plenty of water (tempered at 20-30°C) for at least 15 minutes. Remove contact lenses and open eyes wide apart. Contact physician if irritation persists.

Ingestion	DO NOT induce vomiting. Get medical attention immediately. Do not give anything to drink.
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4.2. Most important symptoms and effects, both acute and delayed

Acute symptoms and effects	May cause sensitisation by skin contact. Allergic skin reactions: symptoms may include redness, swelling, blistering and itching. Irritating to eyes and may cause redness and burning.
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4.3. Indication of any immediate medical attention and special treatment needed

Other Information	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray, fog or mist. Carbon dioxide (CO ₂).
Improper extinguishing media	Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	The chemical is not classified as flammable.
Hazardous combustion products	May include, but is not limited to: Carbon dioxide (CO ₂). Carbon monoxide (CO).

5.3. Advice for firefighters

Personal protective equipment	Use compressed air equipment when the chemical is involved in fire. In case of evacuation, an approved protection mask should be used. See also section 8.
Other Information	Containers close to fire should be removed immediately or cooled with water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Provide adequate ventilation.
Personal protection measures	Use protective equipment as referred to in section 8. Avoid inhalation of vapours and contact with skin and eyes.

6.2. Environmental precautions

Environmental precautionary measures	Do not allow to enter into sewer, water system or soil.
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6.3. Methods and material for containment and cleaning up

Cleaning method	Absorb in vermiculite, dry sand or earth and place into containers. Collect in a suitable container and dispose as hazardous waste according to section 13.
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6.4. Reference to other sections

Other instructions	See also sections 8 and 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Provide adequate ventilation. Use protective equipment as referred to in section 8. Avoid contact with eyes and skin. Avoid inhalation of vapours and spray mists. Immediately change contaminated clothes.
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Protective Safety Measures

Advice on general occupational hygiene	Do not eat, drink or smoke during work. Wash hands at the end of each work shift and before eating, smoking and using the toilet.
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7.2. Conditions for safe storage, including any incompatibilities

Storage	Store in a cool and well-ventilated place. Store in a tightly closed container.
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Conditions for safe storage

Advice on storage compatability	Keep away from: Oxidizing agents.
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7.3. Specific end use(s)

Specific use(s)	See section 1.2.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Information about threshold limit values	Contains no substances with occupational exposure limit values.
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8.2. Exposure controls

Limitation of exposure on workplace	Provide adequate ventilation. The personal protective equipment must be CE-marked and the latest version of the standards shall be used. The protective equipment and the specified standards recommended below are only suggestions, and should be selected on advice from the supplier of such equipment. A risk assessment of the work place/work activities (the actual risk) may lead to other control measures. The protection equipments suitability and durability will depend on application.
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Respiratory protection

Respiratory protection	Normally not required. In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with combination filter (type A2/P2).
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Hand protection

Hand protection	Use chemical resistant gloves.
Suitable gloves type	Polyvinyl chloride (PVC). Viton rubber (fluor rubber).
Reference to relevant standard	BS-EN 374 (Protective gloves against chemicals and micro-organisms). BS-EN 420 (Protective gloves. General requirements and test methods).
Breakthrough time	Value: Not known.
Thickness of glove material	Value: Not known.

Eye / face protection

Eye protection	Wear splash-proof eye goggles to prevent any possibility of eye contact. Wear face shield if there is risk of splashes.
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Skin protection

Skin protection (except hands)	Wear appropriate protective clothing to protect against skin contact. Wear rubber apron.
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Appropriate environmental exposure control

Environmental exposure controls	Do not allow to enter into sewer, water system or soil. See also section 12.
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Other Information

Other Information	Eye wash facilities and emergency shower should be available when handling this chemical.
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Fluid.
Colour	Dark brown.
Odour	Slight.
Odour limit	Comments: Not known.
pH	Status: In aqueous solution Value: 4,5 Comments: (5%) (80/20 IPA/H ₂ O)
Melting point / melting range	Value: < 0 °C
Boiling point / boiling range	Comments: Not known.
Flash point	Comments: Not known.
Evaporation rate	Comments: Not known.
Flammability (solid, gas)	Not relevant.
Explosion limit	Comments: Not known.
Vapour pressure	Comments: Not known.
Vapour density	Comments: Not known.
Specific gravity	Value: 0,98 – 1,02 Comments: Specific gravity. Water = 1
Solubility in water	Insoluble.
Partition coefficient: n-octanol/water	Comments: Not relevant for a mixture.
Spontaneous combustability	Comments: Not known.
Decomposition temperature	Comments: Not known.
Viscosity	Comments: Not known.
Properties	Not explosive.
Oxidising properties	Does not meet the criteria for oxidising.

9.2. Other information

Other physical and chemical properties

Comments	Not known.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No expected reactivity hazard.
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10.2. Chemical stability

Stability	Stable under normal temperature conditions and recommended use.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No hazardous reactions known.
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10.4. Conditions to avoid

Conditions to avoid	None known.
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10.5. Incompatible materials

Materials to avoid	Strong oxidizing agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products	None under normal conditions. See also section 5.2.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological data for substances

Substance	Triethylene glycol monobutyl ether
Acute toxicity	Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Oral Value: 5170 – 5300 mg/kg Animal test species: Rat Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Dermal Value: ~ 3500 mg/kg Animal test species: Rabbit Type of toxicity: Acute Effect Tested: LC50 Route of exposure: Inhalation. Value: > saturatet conc. Animal test species: Rat
Assessment of skin corrosion /	Non-irritating to the skin. (rabbit)

irritation, classification	
Mutagenicity	Not mutagenic in AMES Test. In vitro tests did not show mutagenic effects. (Similar substances)
Reproductive toxicity	No significant toxicity observed in animal studies at concentration requiring classification. (Similar substances)
STOT-single exposure	No significant toxicity observed in animal studies at concentration requiring classification. (Similar substances)
STOT-repeated exposure	No significant toxicity observed in animal studies at concentration requiring classification. (Similar substances)
Assessment eye damage or irritation, classification	Causes serious eye damage. (rabbit)
Assessment skin sensitisation, classification	Did not cause sensitization on laboratory animals (guinea pig). (Similar substances)
Substance	Rosin; colophony
Acute toxicity	Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Oral Value: 2800 mg/kg Animal test species: Rat Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Dermal Value: 2500 mg/kg Animal test species: Rabbit Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Dermal Value: > 2000 mg/kg Animal test species: Rat
Assessment of skin corrosion / irritation, classification	Non-irritating to the skin. (rabbit)
Mutagenicity	In vitro tests did not show mutagenic effects.
Reproductive toxicity	Animal testing did not show any effects on fertility.
STOT-single exposure	No significant toxicity observed in animal studies at concentration requiring classification.
STOT-repeated exposure	No significant toxicity observed in animal studies at concentration requiring classification.
Assessment eye damage or irritation, classification	Non-irritating to the eye. (rabbit)
Assessment skin sensitisation, classification	May cause sensitisation by skin contact.

Acute toxicity, Mixture estimate

Assessment of acute toxicity classification	Based on available data, the classification criteria are not met.
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Potential acute effects

Inhalation	No specific health warnings noted.
Skin contact	May cause sensitisation by skin contact. Allergic reactions: symptoms may include redness, swelling, blistering and itching Prolonged or repeated contact may cause irritation.

Eye contact	Irritating to eyes and may cause redness, watering and stinging.
Ingestion	May cause discomfort if swallowed.
Irritation	Irritant to eyes.
Corrosivity	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

Delayed effects / repeated exposure

Sensitisation	May cause sensitisation by skin contact.
STOT-single exposure	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Based on available data the classification criteria are not met.

Carcinogenic, Mutagenic or Reprotoxic

Carcinogenicity	Based on available data, the classification criteria are not met.
Mutagenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	The chemical is not classified as harmful to the environment.
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12.2. Persistence and degradability

Substance	Triethylene glycol monobutyl ether
Acute aquatic, fish	Comments: LC50(96h): 2200-4600 mg/l (Leuciscus idus) LC50(96h) = 2400 mg/l (Pimephales promelas)
Acute aquatic, algae	Comments: EC50(72h) >500 mg/l (Desmodesmus subspicatus) EC50(72h) >612,6 mg/l (Desmodesmus subspicatus) NOEC(72h) 62,5 mg/l (Desmodesmus subspicatus) (Growth rate, biomass)
Acute aquatic, Daphnia	Comments: EC50(48h) >500 mg/l (Daphnia magna) EC100(48h) >5000 mg/l (Daphnia magna) LC50(48h) = 2210 mg/l (Daphnia magna)
Impact on sewage treatment	Akute toxicity – Microorganisms EC10(30 min) > 1995 mg/l (Activated sludge, industrial) IC50(16h) > 5000 mg/l for (Activated sludge)
Biodegradability	Value: 85 % Test period: 28d
PBT assessment results	Not PBT / vPvB
Substance	Rosin; colophony
Acute aquatic, fish	Value: 60,3 mg/l Test duration: 96h Species: Brachydanio rerio Method: LC50
Acute aquatic, Daphnia	Value: 911 mg/l Test duration: 48h Species: Daphnia magna

	Method: EL50
Impact on sewage treatment	Akute toxicity – Microorganisms EC50 (3h) >10,000 mg/l (Activated sludge, domestic)
Biodegradability	Value: 71 % Test period: 28d
PBT assessment results	Not PBT / vPvB
Persistence and degradability	The components contained in the chemical are readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential	Information on bioaccumulation is not available for the chemical.
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12.4. Mobility in soil

Mobility	Insoluble in water.
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12.5. Results of PBT and vPvB assessment

PBT assessment results	The chemical contains no PBT-substances.
vPvB evaluation results	The chemical contains no vPvB substances.

12.6. Other adverse effects

Other adverse effects / Remarks	The chemical does not contain any known or suspected endocrine disruptors.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal	Disposed of as hazardous waste by approved contractor. The waste code (EWC-Code) is intended as a guide. The code must be chosen by the user, if the use differs from the one mentioned below.
Product classified as hazardous waste	Yes
EWC waste code	EWC: 16 03 05 organic wastes containing dangerous substances
NORSAS	7152 Non-halogenated organic wastes

SECTION 14: Transport information

14.1. UN number

Comments	Not considered as dangerous goods under UN, IMO, ADR/RID or IATA/ICAO regulations.
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14.2. UN proper shipping name

Comments	Not relevant.
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14.3. Transport hazard class(es)

Comments	Not relevant.
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14.4. Packing group

Comments	Not relevant.
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14.5. Environmental hazards

Comments	Not relevant.
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14.6. Special precautions for user

Special safety precautions for user	Not relevant.
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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category	Not relevant.
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SECTION 15: Regulatory information

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

References (laws/regulations)	Regulation on classification, labeling and packaging of substances and mixtures (CLP) dated 16.06.2012. Regulation (EC) No 1907/2006 on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with later amendments. FOR 2011-12-06 nr 1358, Regulation of indicative and binding occupational exposure limit values, from Norwegian labour inspection authority. Norwegian regulations on waste, no. 930/2004, from Ministry of the Environment. Dangerous Goods regulations
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15.2. Chemical safety assessment

Chemical safety assessment performed	No
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SECTION 16: Other information

Supplier's notes	The information contained in this SDS must be made available to all those who handle the product.
Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Skin Sens. 1; H317; Eye Irrit. 2; H319;
List of relevant H-phrases (Section 2 and 3).	H318 Causes Serious eye damage. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation.
Abbreviations and acronyms used	EC10: The effective concentration of a substance that causes 10% response. EC50: The effective concentration of substance that causes 50% of the maximum response EL50: The effective concentration of substance (slightly soluble) that causes 50% of the maximum response. IC50: The concentration of compound that results in 50% inhibition of a biological or biochemical function. LC50: Median concentration lethal to 50% of a test population. LD50: Lethal dose, is the amount of a substance given to a group of test animals, which causes the death of 50%. NOEC: No observed effect concentration PBT: Persistent, Bioaccumulative and Toxic

	vPvB: very Persistent and very Bioaccumulative
Key literature references and sources for data	Suppliers Safety data sheet dated: 10.04.2015. Halliburton AS.
Information which has been added, deleted or revised	Sections being revised since previous version: 1-4,6,8-12,15,16.
Checking quality of information	This SDS is quality controlled by National Institute of Technology in Norway, certified according to the Quality Management System requirements specified in ISO 9001:2008.
Prepared by	National Institute of Technology as, Norway, by Bente Frogner