

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

BARABRINE® DEFOAM

Revision Date: 24-Jul-2014

Revision Number: 14

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

1.1. Product Identifier

Product Name BARABRINE® DEFOAM

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

Recommended Use	Defoamer
Sector of use	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 Manufacturing Services, Ltd.
Halliburton House, Howemoss Crescent
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 1224 795277 or +1 281 575 5000

Emergency telephone - §45 - (EC)1272/2008	
Europe	112
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
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

Acute Oral Toxicity	Category 4 - (H302)
Skin Corrosion / irritation	Category 2 - (H315)
Carcinogenicity	Category 2 - (H351)

Chronic Aquatic Toxicity

Chronic 3 - (H412)

Classification according to EU Directives 67/548/EEC or 1999/45/EC*For the full text of the R-phrases mentioned in this Section, see Section 16***Classification** Xn - Harmful.

Risk Phrases

R22 Harmful if swallowed.
 R38 Irritating to skin.
 R40 Limited evidence of a carcinogenic effect.
 R53 May cause long-term adverse effects in the aquatic environment.

2.2. Label Elements**Hazard Pictograms****Signal Word****Warning****Hazard Statements**

H302 - Harmful if swallowed
 H315 - Causes skin irritation
 H351 - Suspected of causing cancer
 H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P281 - Use personal protective equipment as required
 P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 P330 - Rinse mouth
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P308 + P313 - IF exposed or concerned: Get medical advice/attention

Contains**Substances**

Tributyl phosphate

CAS Number

126-73-8

2.3. Other Hazards

None known

SECTION 3: Composition/information on Ingredients

Substances	EINECS	CAS Number	PERCENT (w/w)	EEC Classification	EU - CLP Substance Classification	REACH No.
Tributyl phosphate	204-800-2	126-73-8	30 - 60%	Carc.Cat.3; R40 Xn; R22 Xi; R38 R53	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Carc. 2 (H351) Aquatic Chronic 3 (H412)	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16**3.1. Substances**

Not applicable

3.2. Mixtures

Mixture

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get 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	Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

4.2. Most important symptoms and effects, both acute and delayed

May cause skin irritation. May be harmful if swallowed. Potential carcinogen.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically
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SECTION 5: Firefighting Measures**5.1. Extinguishing media****Suitable Extinguishing Media**

Carbon dioxide, dry chemical, foam.

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 toxic 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.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

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.

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.

7.3. Specific End Use(s)

Exposure Scenario	No information available
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Other Guidelines	No information available
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SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters**Exposure Limits**

Substances	CAS Number	EU	UK OEL	Netherlands	France OEL
Tributyl phosphate	126-73-8	Not applicable	STEL: 5 mg/m ³ TWA: 5 mg/m ³	5 mg/m ³	0.2 ppm

Substances	CAS Number	Germany MAK/TRK	Spain	Portugal	Finland
Tributyl phosphate	126-73-8	MAK: 1 ppm MAK: 11 mg/m ³	VLA-ED: 0.2 ppm VLA-ED: 2.2 mg/m ³	TWA: 0.2 ppm	STEL: 5 mg/m ³ STEL: 0.4 ppm TWA: 2.5 mg/m ³ TWA: 0.2 ppm

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Tributyl phosphate	126-73-8	Not applicable	Not applicable	Not applicable	STEL: 0.6 ppm STEL: 5 mg/m ³ TWA: 0.2 ppm TWA: 2.5 mg/m ³

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Tributyl phosphate	126-73-8	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark
Tributyl phosphate	126-73-8	TWA: 0.2 ppm TWA: 2.5 mg/m ³

**Derived No Effect Level (DNEL)
Worker**

No information available.

General Population**Predicted No Effect Concentration (PNEC)**

No information available.

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

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Hand Protection

In high concentrations, supplied air respirator or a self-contained breathing apparatus. Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Butyl rubber gloves. (>= 0.7 mm thickness)

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. Manufacturer's directions for use should be observed because of great diversity of types.

Skin Protection

Rubber apron.

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 No information available**SECTION 9: Physical and Chemical Properties**

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Odor: Fatty
Color: Clear colorless
Odor Threshold: No information available

Property	Values
Remarks/ - Method	
pH:	4
Freezing Point/Range	-12 °C
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	160 °C PMCC
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	0.91
Water Solubility	Insoluble 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 applicable

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 phosphorus. Acid fumes. Toxic fumes. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological Information**11.1. Information on Toxicological Effects****Acute Toxicity**

Inhalation	Excessive inhalation causes headache, dizziness, nausea and incoordination. May cause respiratory irritation.
Eye Contact	May cause eye irritation
Skin Contact	May cause severe skin irritation.
Ingestion	May cause pulmonary edema. A burning feeling in the Stomach May cause weakness, dyspnea, or coma.

Chronic Effects/Carcinogenicity

Prolonged or repeated exposure may cause inhibition of cholinesterase. This product contains a potential carcinogen.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tributyl phosphate	126-73-8	1552 mg/kg (Rat)	> 3100 mg/kg (Rabbit)	> 4.242 mg/L (R, 4h)

Substances	CAS Number	Skin corrosion/irritation
Tributyl phosphate	126-73-8	Irritating to skin. (rabbit)

Substances	CAS Number	Eye damage/irritation
Tributyl phosphate	126-73-8	May cause mild eye irritation. (rabbit)
Substances	CAS Number	Skin Sensitization
Tributyl phosphate	126-73-8	Did not cause sensitization on laboratory animals (guinea pig)
Substances	CAS Number	Respiratory Sensitization
Tributyl phosphate	126-73-8	No information available
Substances	CAS Number	Mutagenic Effects
Tributyl phosphate	126-73-8	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
Substances	CAS Number	Carcinogenic Effects
Tributyl phosphate	126-73-8	This product contains a potential carcinogen.
Substances	CAS Number	Reproductive toxicity
Tributyl phosphate	126-73-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Substances	CAS Number	STOT - single exposure
Tributyl phosphate	126-73-8	No significant toxicity observed in animal studies at concentration requiring classification.
Substances	CAS Number	STOT - repeated exposure
Tributyl phosphate	126-73-8	No significant toxicity observed in animal studies at concentration requiring classification.
Substances	CAS Number	Aspiration hazard
Tributyl phosphate	126-73-8	Not applicable

SECTION 12: Ecological Information

12.1. Toxicity Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Tributyl phosphate	126-73-8	EC50(72h): 4.4 mg/L (Pseudokirchneriella subcapitata) EC50(72h): 1.1 mg/L (Desmodesmus subspicatus) EC50(2d): 5 - 10 mg/L (Chlorella emersonii)	LC50(96h): 13 mg/L (Oncorhynchus mykiss) LC50(96h): 7.66-8.74 mg/L (Pimephales promelas) NOEC(10d): 13.5 mg/L (Danio Rerio)	EC50(3h): 300 mg/L (activated sludge) (respiration rate) EC50(3h): 100 mg/L (activated sludge, mainly domestic sewage)	EC50: 1.58 - 8.43 mg/L (Daphnia magna) EC50(24h): 35 mg/L Daphnia magna NOEC(21d) 1.3 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Tributyl phosphate	126-73-8	Readily biodegradable (100 @ 14d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Tributyl phosphate	126-73-8	BCF: >= 21 <= 35

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

Substances	PBT and vPvB assessment
Tributyl phosphate	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.

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 hazard:	Not applicable

ADR

UN Number:	Not restricted.
UN Proper Shipping Name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental hazard:	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 hazard:	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/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK)

WGK 2: Hazard to waters.

15.2. Chemical Safety Assessment

No information available

SECTION 16: Other Information

Full text of R-phrases referred to under Sections 2 and 3

R22 Harmful if swallowed.

R38 Irritating to skin.

R40 Limited evidence of a carcinogenic effect.

R53 May cause long-term adverse effects in the aquatic environment.

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date:

24-Jul-2014

Revision Note

Update to Format SECTION: 8

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

Disclaimer Statement

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End of Safety Data Sheet