

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

DUAL SPACER SURFACTANT B

Revision Date: 30-Sep-2015

Revision Number: 23

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product Identifier**

Product Name DUAL SPACER SURFACTANT B
Internal ID Code HM000470

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

Recommended Use Cement Additive

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)
Chronic Aquatic Toxicity	Chronic 2 - H411

2.2. Label Elements

Hazard Pictograms

**Signal Word****Warning****Hazard Statements**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H411 - Toxic to aquatic life with long lasting effects

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

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

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

Contains**Substances**

Ethoxylated nonylphenol

CAS Number

Proprietary

2.3. Other Hazards

None known

SECTION 3: Composition/information on Ingredients
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3.1. Substances

Substance

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Ethoxylated nonylphenol	Listed	Proprietary	60 - 100%	Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Aquatic Chronic 2 (H411)	No data available

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

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.

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.

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

Wear appropriate respirator when opening containers. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse.

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. Product has a shelf life of 12 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
Ethoxylated nonylphenol	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Ethoxylated nonylphenol	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Ethoxylated nonylphenol	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Ethoxylated nonylphenol	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
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Ethoxylated nonylphenol	Proprietary	Not applicable	Not applicable	Not applicable	Not applicable
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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

Not normally needed. But if significant exposures are possible then the following respirator is recommended:
Organic vapor respirator.
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

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): Nitrile gloves. (>= 0.4 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.

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 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 colorless to pale yellow
Odor: Slight phenolic **Odor Threshold:** No information available

Property

Values

Remarks/ - Method

pH:

5-7

Freezing Point/Range

-18 °C

Melting Point/Range

No data available

Boiling Point/Range

> 250 °C / > 482 °F

Flash Point

> 172 °C / 200 °F PMCC

Flammability (solid, gas)

No data available

upper flammability limit

No data available

lower flammability limit

No data available

Evaporation rate

< 0.01 (BuAc = 1)

Vapor Pressure

< 0.1 mmHg @ 20 C

Vapor Density

> 1

Specific Gravity

1.02

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
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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

None anticipated

10.5. Incompatible Materials

Strong oxidizers. Strong acids. Strong alkalis.

10.6. Hazardous Decomposition Products

Toxic fumes. Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects**Acute Toxicity****Inhalation**

May cause mild 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

May contain ethylene oxide in the headspace of the drum. Ethylene oxide is a cancer and reproductive hazard.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethoxylated nonylphenol	Proprietary	1310 mg/kg (Rat) 4290-5000 mg/kg (Rat) 4290 mg/kg (Mouse) (similar substance) 510 mg/kg (Rat) > 2500 mg/kg (Rat)	2 mg/kg (Rabbit) 2500 mg/kg (Rabbit) 2830 mg/kg (Rabbit)	> 0.0213 mg/L (Rat)

Substances	CAS Number	Skin corrosion/irritation
Ethoxylated nonylphenol		Causes skin irritation. (Rabbit)

Substances	CAS Number	Eye damage/irritation
Ethoxylated nonylphenol		Causes moderate eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Ethoxylated nonylphenol		Patch test on human volunteers did not demonstrate sensitization properties

Substances	CAS Number	Respiratory Sensitization
Ethoxylated nonylphenol		No information available

Substances	CAS Number	Mutagenic Effects
Ethoxylated nonylphenol		In vivo tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)

Substances	CAS	Carcinogenic Effects
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	Number	
Ethoxylated nonylphenol		Did not show carcinogenic effects in animal experiments (similar substances)
Substances	CAS Number	Reproductive toxicity
Ethoxylated nonylphenol		No data of sufficient quality are available.
Substances	CAS Number	STOT - single exposure
Ethoxylated nonylphenol		No information available
Substances	CAS Number	STOT - repeated exposure
Ethoxylated nonylphenol		No significant toxicity observed in animal studies at concentration requiring classification.
Substances	CAS Number	Aspiration hazard
Ethoxylated nonylphenol		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
Ethoxylated nonylphenol	Proprietary	EC50 (48h) 20 mg/L (growth inhibition) (Pseudokirchnerella subcapitata) EC50 (48h) 50 mg/L (growth rate) (Pseudokirchnerella subcapitata)	LC50 (96h) 5.6 mg/L (Brachydanio rerio) LC50 (96h) 1.3 mg/L (Lepomis macrochirus) LC50 (96h) 5 mg/L (Danio rerio)	No information available	EC50 (48h) 1.821 mg/L (Daphnia sp.) (QSAR)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Ethoxylated nonylphenol	Proprietary	Readily biodegradable (98-99% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Ethoxylated nonylphenol	Proprietary	3.7 @ 25°C

12.4. Mobility in soil

Substances	CAS Number	Mobility
Ethoxylated nonylphenol	Proprietary	No information available

12.5. Results of PBT and vPvB assessment

No information available.

Substances	PBT and vPvB assessment
Ethoxylated nonylphenol	PBT & vPvB

12.6. Other adverse effects Endocrine Disruptor Information

Substances	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances
Ethoxylated nonylphenol	Group III	Cat. 1

SECTION 13: Disposal Considerations

13.1. Waste treatment methods**Disposal Method**

Disposal should be made in accordance with federal, state, and local regulations.
Follow all applicable national or local regulations.

Contaminated Packaging**SECTION 14: Transport Information****IMDG/IMO**

UN Number: UN3082
UN Proper Shipping Name: Not restricted Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Ethoxylated Nonylphenol)
Transport Hazard Class(es): 9
Packing Group: III
Environmental Hazards: Marine Pollutant

RID

UN Number: UN3082
UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Ethoxylated Nonylphenol)
Transport Hazard Class(es): 9
Packing Group: III
Environmental Hazards: Marine Pollutant

ADR

UN Number: UN3082
UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Ethoxylated Nonylphenol)
Transport Hazard Class(es): 9
Packing Group: III
Environmental Hazards: Marine Pollutant

IATA/ICAO

UN Number: UN3082
UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Ethoxylated Nonylphenol)
Transport Hazard Class(es): 9
Packing Group: III
Environmental Hazards: Marine Pollutant

14.1. UN Number: UN3082

14.2. UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Ethoxylated Nonylphenol)

14.3. Transport Hazard Class(es): 9

14.4. Packing Group: III

14.5. Environmental Hazards: Marine Pollutant

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.

Substances	CAS Number	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization
Ethoxylated nonylphenol		Use restricted. See item 46[b].	Not applicable

15.2. Chemical Safety Assessment

No information available

SECTION 16: Other Information**Full text of H-Statements referred to under sections 2 and 3**

None

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 datawww.ChemADVISOR.com/**Revision Date:** 30-Sep-2015**Revision Note**

SDS sections updated: 14

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