

## MATERIAL SAFETY DATA SHEET

**Product Trade Name:** DUAL SPACER SURFACTANT A

**Revision Date:** 14-Apr-2015

**Revision Number:** 20

### SECTION 1. Product and Company Identification

**Product Identifier**

**Product Trade Name:** DUAL SPACER SURFACTANT A  
**Synonyms:** None  
**Chemical Family:** Ethoxylated nonylphenol  
**Internal ID Code:** HM000469

**Product Use**

**Application:** Cement Additive

**Manufacturer's Name and Contact Details**

**Name and Address** Halliburton Energy Services  
645 - 7th Ave SW Suite 2200  
Calgary, AB  
T2P 4G8  
Canada

**Emergency Telephone Number** (281) 575-5000

**Prepared By**

Chemical Stewardship  
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### SECTION 2. Hazard(s) Identification

**WHMIS Classification**

**WHMIS Hazard Class** D2B Toxic Materials

**WHMIS Symbol(s)**



**Summary of hazards of the product**

**Hazard Overview** May cause eye, skin, and respiratory irritation. May be harmful if swallowed. May be absorbed through the skin.

### SECTION 3: Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	HMIRA Registry Number	Decision Granted Date
Ethoxylated nonylphenol	Proprietary	60 - 100%	9199	August 17, 2015

### SECTION 4. First aid measures

**Description of first aid measures**

**Inhalation** If inhaled, remove to fresh air. If not breathing give artificial respiration (AR),

	preferably mouth-to-mouth. If breathing is difficult, oxygen should be given by trained personnel. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Get medical attention immediately.
<b>Eyes</b>	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.
<b>Skin</b>	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.
<b>Ingestion</b>	Do not induce vomiting. Never give anything by mouth to an unconscious person. If breathing has stopped, trained personnel should begin rescue breathing / artificial respiration (AR) immediately. If the heart has stopped, trained personnel should begin CPR immediately. Obtain medical attention immediately.

**Most important symptoms and effects, both acute and delayed**

Causes skin irritation. Causes eye irritation

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically

## SECTION 5. Fire Fighting Measures

**Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Special hazards arising from the substance or mixture****Special Exposure Hazards**

Decomposition in fire may produce harmful gases.

**Advice for firefighters****Special Protective Equipment for Fire-Fighters**

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

**Hazardous combustion products**

Toxic fumes. Carbon monoxide and carbon dioxide.

## SECTION 6. Accidental release measures

**Personal precautions and emergency procedures****Protective Equipment**

Use appropriate protective equipment.

**Environmental Precautionary Measures**

Prevent from entering sewers, waterways, or low areas.

**Procedure for Cleaning / Absorption**

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

## SECTION 7. Handling and Storage

**Precautions for safe handling**

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

**Conditions for safe storage and Incompatible materials for storage**

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.

## SECTION 8: Exposure Controls/Personal Protection

### Occupational Exposure Limits

#### Exposure Limits

Substances	CAS Number	ACGIH TLV-TWA	OSHA PEL-TWA
Ethoxylated nonylphenol	Proprietary	Not available	Not available

### 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)

#### 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

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. 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.

## SECTION 9. Physical and Chemical Properties

### 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

**pH Concentration of Solution:**

No information available.

**Freezing Point/Range**

-18 °C

**Melting Point/Range**

No information available

**Boiling Point/Range (C):**

> 250 °C / > 482 °F

**Flash Point/Range (°C):**

> 172 °C

**Flash Point Method:**

PMCC

**Autoignition Temperature (°C):**

No information available.

**Flammability Limits in Air - Lower (%):**

No information available.

**Flammability Limits in Air - Upper (%):**

No information available.

**Evaporation Rate (Butyl Acetate=1):**

< 0.01

**Vapor Pressure @ 20 C (mmHg):**

< 0.1 mmHg

**Vapor Density (Air=1):**

> 1

**Specific Gravity @ 20 C (Water=1):**

1.02

**Solubility in Water (g/100ml):**

Soluble

<b>Solubility in other solvents</b>	No information available.
<b>Partition Coefficient/n-Octanol/Water:</b>	No information available.
<b>Decomposition Temperature (C):</b>	No information available.
<b>Viscosity</b>	No information available.
<b>Explosive Properties</b>	No information available.
<b>Oxidizing Properties</b>	No information available.

**Other Information**

<b>Molecular Weight (g/mole):</b>	No information available.
<b>VOC Content (%)</b>	No information available.

<b>SECTION 10. Stability and Reactivity</b>
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**Conditions of Reactivity**

<b>Remarks</b>	Not expected to be reactive.
<b>Conditions to Avoid</b>	None anticipated
<b>Hazardous Polymerization:</b>	Will Not Occur

**Chemical Stability**

Stable

**Sensitivity to Static Discharge**

Not available

**Sensitivity to Mechanical Impact**

Not available

**Incompatible materials**

Strong oxidizers. Strong acids. Strong alkalis.

**Hazardous Decomposition Products**

Toxic fumes. Carbon monoxide and carbon dioxide.

<b>SECTION 11. Toxicological Information</b>
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**Routes of entry**

Eye or skin contact, inhalation.

**Information on Toxicological Effects****Acute effects from exposure****Inhalation**

May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

**Eye Contact**

May cause severe eye irritation.

**Skin Contact**

May cause moderate skin irritation. May cause an allergic skin reaction. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion. Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.

**Ingestion****Chronic effects from exposure****Chronic Effects/Carcinogenicity**

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

**Irritancy of product****Irritation**

Irritating to eyes and skin

**Sensitization of product****Sensitization**

Did not cause sensitization on laboratory animals (guinea pig)

**Mutagenicity****Mutagenic Effects**

In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects

**Carcinogenicity**

Carcinogenic Effects Did not show carcinogenic effects in animal experiments

**Reproductive toxicity**

Reproductive Toxicity Not a confirmed reproductive toxicant.

**Teratogenicity/embryotoxicity**

Teratogenic Not a confirmed teratogen or embryotoxin.

**Toxicologically synergistic material** Not available**Acute Toxicity**

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)

**SECTION 12. Ecological Information****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)

**Persistence and Degradability****Bioaccumulation potential**

No information available

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

**Mobility in soil****Results of PBT and vPvB assessment**

No information available.

Substances	PBT and vPvB assessment
Ethoxylated nonylphenol	PBT & vPvB

**Other adverse effects****Endocrine Disruptor Information**

This product contains ethoxylated nonylphenols

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

**SECTION 13. Disposal Considerations**

**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

### Canadian TDG

**UN Number:** UN3082  
**UN Proper Shipping Name:** Environmentally Hazardous Substance, Liquid, N.O.S.  
**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.  
**Transport Hazard Class(es):** 9  
**Packing Group:** III

### IMDG/IMO

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

**Special Precautions for User:** None

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

## SECTION 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### Canadian Regulations

**Canadian DSL Inventory** All components listed on inventory or are exempt.

**WHMIS Hazard Class** D2B Toxic Materials

**WHMIS Symbol(s)**



### US Regulations

**US TSCA Inventory** All components listed on inventory or are exempt.

## SECTION 16. Other Information

### Preparation Information

**Prepared By** Chemical Stewardship  
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**Revision Date:** 14-Apr-2015

Update to Format SECTION: 2

**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 or legend to abbreviations and acronyms**

WHMIS: Workplace Hazardous Materials Information System

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Disclaimer Statement**

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**\*\*\*END OF MSDS\*\*\***