

MATERIAL SAFETY DATA SHEET

Product Trade Name: DUAL SPACER SURFACTANT B

Revision Date: 06-Jan-2014

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: DUAL SPACER SURFACTANT B
Synonyms: None
Chemical Family: Ethoxylated nonylphenol
Application: Cement Additive

Manufacturer/Supplier Halliburton Energy Services
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Emergency Telephone: (281) 575-5000

Prepared By Chemical Compliance
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	ACGIH TLV-TWA	OSHA PEL-TWA
Ethoxylated nonylphenol	Proprietary	60 - 100%	Not applicable	Not applicable

3. HAZARDS IDENTIFICATION

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

4. 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.

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.

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.

Ingestion Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Notes to Physician Not Applicable

5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	200 Min: > 341
Flash Point/Range (C):	> 172 Min: > 172
Flash Point Method:	PMCC
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined

Fire Extinguishing Media Water fog, carbon dioxide, foam, dry chemical.

Special Exposure Hazards Decomposition in fire may produce toxic gases.

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

NFPA Ratings: Health 2, Flammability 1, Reactivity 0
HMIS Ratings: Health 2, Flammability 1, Reactivity 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures 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.

7. HANDLING AND STORAGE

Handling Precautions 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.

Storage Information 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

Hand Protection Impervious rubber gloves.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Clear colorless to pale yellow
Odor:	Mild aromatic
pH:	5-7
Specific Gravity @ 20 C (Water=1):	1.02
Density @ 20 C (lbs./gallon):	8.50
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	Not Determined Min: > 482
Boiling Point/Range (C):	> 250 Min: > 250
Freezing Point/Range (F):	0
Freezing Point/Range (C):	-18
Vapor Pressure @ 20 C (mmHg):	< 0.1 mmHg
Vapor Density (Air=1):	> 1
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	< 0.01
Solubility in Water (g/100ml):	Soluble
Solubility in Solvents (g/100ml):	Not Determined
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	Not Determined

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	Strong oxidizers. Strong acids. Strong alkalis.
Hazardous Decomposition Products	Toxic fumes. Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
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Symptoms related to exposure

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.

Eye Contact

Causes severe eye irritation which may damage tissue.

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/Carcinogenicity

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

LD50 Oral: > 2500 mg/kg; (rat)

LD50 Dermal: 2830 mg/kg; (rabbit)

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)	2 mL/kg (Rabbit) 2500 mg/kg (Rabbit)	> 0.0213 mL/L (Rat)

12. ECOLOGICAL INFORMATION**Ecotoxicological Information****Ecotoxicity Product**

Acute Fish Toxicity: Not determined

Acute Crustaceans Toxicity: Not determined

Acute Algae Toxicity: Not determined

Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
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

Product is biodegradable

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

12.3 Bioaccumulative potential

No information available

Substances	Log Pow
Ethoxylated nonylphenol	3.7 @ 25°C

12.4 Mobility in soil

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**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.

14. TRANSPORT INFORMATION

Land Transportation

DOT

Not restricted

Canadian TDG

Not restricted

ADR

Not restricted

Air Transportation

ICAO/IATA

Not restricted

Sea Transportation

IMDG

Not restricted

Other Transportation Information

Labels: None

15. REGULATORY INFORMATION

US Regulations

US TSCA Inventory	All components listed on inventory or are exempt.
EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	Acute Health Hazard
EPA SARA (313) Chemicals	This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372: Ethoxylated Nonylphenol (9016-45-9)
EPA CERCLA/Superfund Reportable Spill Quantity	Not applicable.
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.
California Proposition 65	All components listed do not apply to the California Proposition 65 Regulation.
MA Right-to-Know Law	Does not apply.
NJ Right-to-Know Law	Does not apply.
PA Right-to-Know Law	Does not apply.

Canadian Regulations

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

WHMIS Hazard Class D2B Toxic Materials

16. OTHER INFORMATION

The following sections have been revised since the last issue of this SDS

Not applicable

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 Compliance at 1-580-251-4335.

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