APPROVED
By Olivia Yu at 4:16 pm, Jun 27, 2017

Halliburton Energy Services

Geronimo FED COM 11H
Report

NMOCD approves 1RP-4699 for closure.

Section 19, Township 19S, Range 33E
Lea County, New Mexico

June 26, 2017

Prepared for:

Halliburton Energy Services
2311 S. First
Artesia, NM 88210

By:

Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, New Mexico 88240
(575) 397-0510

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I. Company Contacts

Representative	Company	Telephone	E-mail
Bob Heltzel	Halliburton Energy Services	432-683-0286	Robert.Heltzel@halliburton.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Halliburton Energy Services to assess a spill area on the Geronimo FED COM 11H, concerning a three hundred fifty (350) bbls. non-hazardous polymer blend release. This site is situated in Lea County, Section 19, Township 19S, and Range 33E.

According to the C-141: approximately three hundred fifty (350) barrels of a non hazardous chemical, DCA-23003 Friction Reducer (FR) polymer blend, was released when a transfer process was left unattended. Accoriding to the SDS, this chemical is non-hazardsous and non-regulated by the DOT. A remediation contractor was contacted and a vacuum truck recovered an estimated three hundred forty five (345) bbls. was suctioned and hauled off to a state-licensed oilfield waste facility.

III. Surface and Ground Water

There is no record of groundwater in the immediate vicinity of the site location. Further research of the New Mexico Office of the State Engineer records indicates the average depth to groundwater for the area to be 185' bgs.

IV. Characterization

**The spill referenced above is a non-hazardous spill, and the depth to groundwater cleanup levels for TPH do not apply. However, as a point of information, the characterization chart is presented below:*

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 5,000 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 250 mg/kg (PPM) is also required.

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	
	>100 feet	0 points	**X**
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	
	No	0 points	**X**
Distance to Surface Water:			
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	**X**
RANKING SCORE (TOTAL POINTS)			**0**

V. Work Performed

On May 1, 2017, SESI personnel was onsite with Custom Welding Backhoe operator and one 12 yard dump truck to move in trucks and begin fracing the well. The operator scraped up the spill and sand while the backhoe scraped up approximately seventy yards of sand and polymer to solidify the polymer. A total of twenty four yards of impacted material was excavated and transported to an approved disposal facility.

On May 2, 2016, SESI personnel was onsite with Custom Welding backhoe operator and one 12 yard dump truck to continue loading and hauling of the polymer spill. All remaining thirty (30) yards of impacted soils were transported to an approved disposal facility.

On May 23, 2017 and May 24, 2017, SESI personnel was onsite with Custom Welding to complete scraping of the spill area. The polymer was completely removed without the need to excavate the area. All impacted soils were transported to an approved disposal facility. Photos were taken of the completed project.

Due to the fact that material was non-hazardous, no soil samples were taken. The area was excavated until soil was no longer stained. All contaminated soil was transported an approved disposal facility.

VI. Figures & Appendices

Figure 1 - Vicinity Map
Appendix A – C-141
Appendix B – Groundwater
Appendix C – Safety Data Sheet
Appendix D – Photo Documentation

Figure 1
Vicinity Map


Geronimo FED COM 11H
Sample Point 1
Survey
© 2017 Google
Google Earth
1996
Imagery Date: 2/1/2017 32°38'24.70" N 103°42'35.50" W elev 3604 ft eye alt 4352 ft

Appendix A
C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company **Halliburton Energy Services**	Contact **Bob Heltzel**
Address **2311 S. First, Artesia, NM 88210**	Telephone No. **Office - (432) 571-8627** **Mobile - (432) 208-7052**
Facility Name **Geronimo FED COM 11H**	Facility Type **Oil & Gas Well Site Location**

Surface Owner	Mineral Owner **COG Operating**	API No. 30-025-43503

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	**19**	**195**	**33E**					**Lea**

Latitude 32.640597 **Longitude** -103.709875 NAD83

NATURE OF RELEASE

Type of Release **Minor**	Volume of Release **350 gal**	Volume Recovered **est ~345 gal**
Source of Release **ISO Container in chemical blending area**	Date/Hr of Occurrence **4/27/17 @ 16:15**	Date/Hr of Discovery **4/27/17 @ 16:45**
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? **N/A**	
By Whom? **N/A**	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By Olivia Yu at 1:51 pm, May 12, 2017

Describe Cause of Problem and Remedial Action Taken.*
While transferring non-hazardous chemical, DCA-23003 Friction Reducer (FR) polymer blend from ISO container to a tote, employee left process unattended. Upon realizing his error, employee returned to close valve and stop release. The substance involved is a high-viscosity liquid, therefore it did not spread beyond the immediate area. Oil diapers/spill pigs from the spill kit were placed around exterior of the spill to prevent it from spreading. SESI Inc., a spill remediation company out of Hobbs, NM, was contacted to remediate the non-hazardous substance spill.

Describe Area Affected and Cleanup Action Taken.*
Area affected was a compacted caliche well pad. SESI Inc. dispatched a vacuum truck to suction up the FR chemical *(SDS attached)* and haul it off to a state-licensed oilfield waste facility. SESI Inc. assessed the soil-saturation aspects of the event. Operator dispatched a grader/blade to remove any FR-saturated soil. Fresh caliche was used to replace FR-saturated caliche.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: CC Gatjanis	OIL CONSERVATION DIVISION
Printed Name: Chris Gatjanis	Approved by Environmental Specialist: DJ
Title: Vice President US Southern Region	Approval Date: 5/12/2017 Expiration Date:
E-mail Address: chris.gatjanis@halliburton.com	Conditions of Approval: Attached ☐
Date: 5/11/2017 Phone: (432) 683-0286	

* Attach Additional Sheets If Necessary

nOY1713250153

Appendix B
Groundwater

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00658 POD1	CP	LE	2	2	4	26	19S	33E	628857	3611125*	100		
CP 00805 POD1	CP	LE		3	1	18	19S	33E	621057	3614563*	450		
CP 00809 POD1	CP	LE		2	1	05	19S	33E	623048	3618206*	300		
CP 00810 POD1	CP	LE		3	3	08	19S	33E	622675	3615385*	110		
L 07023	L	LE	2	3	3	32	19S	33E	622840	3609047*	262	185	77

Average Depth to Water: **185 feet**

Minimum Depth: **185 feet**

Maximum Depth: **185 feet**

Record Count: 5

PLSS Search:

Township: 19S **Range:** 33E

***UTM location was derived from PLSS - see Help**

Appendix C
Safety Data Sheet

HALLIBURTON

SAFETY DATA SHEET

Product Trade Name: **DCA-23003**

Revision Date: 12-Jun-2015 **Revision Number:** 3

1. Identification

1.1. Product Identifier

Product Trade Name: DCA-23003
Synonyms: None
Chemical Family: Polymer Blend
Internal ID Code HM008080

1.2 Recommended use and restrictions on use

Application: Friction Reducer
Uses Advised Against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier
Halliburton Energy Services, Inc.
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Emergency Telephone: (1-866-519-4752 (US, Canada, Mexico) or 1-760-476-3962

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

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

1.4. Emergency telephone number

Emergency Telephone Number (281) 575-5000

2. Hazard(s) Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

As adopted by the competent authority, this product does not require an SDS or hazard warning label.

Not classified

2.2. Label Elements

Hazard Pictograms

Signal Word Not Classified

Hazard Statements Not Hazardous

Precautionary Statements

Prevention	None
Response	None
Storage	None
Disposal	None

Contains

Substances	**CAS Number**
Ethoxylated branched C13 alcohol	78330-21-9
Hydrotreated light petroleum distillate	64742-47-8

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Ethoxylated branched C13 alcohol	78330-21-9	1 - 5%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Corr. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412)
Hydrotreated light petroleum distillate	64742-47-8	10 - 30%	STOT SE 3 (H336) Asp. Tox. 1 (H304)

The exact percentage (concentration) of the composition has been withheld as proprietary.

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, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and launder before reuse.
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention. Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

No significant hazards expected.

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

Notes to Physician	Treat symptomatically.

5. Fire-fighting 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 Specific hazards arising from the substance or mixture

Special Exposure Hazards

Product is not expected to burn unless all the water is boiled away. Decomposition in fire may produce harmful gases. Use water spray to cool fire exposed surfaces.

5.3 Special protective equipment and precautions for fire-fighters

Special Protective Equipment for Fire-Fighters

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

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Spills of this product are very slippery.
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. Do NOT spread spilled product with water.

7. Handling and storage

7.1. Precautions for Safe Handling

Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Avoid breathing mist.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Information

Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Store at temperatures between 40 and 90 F (5 and 35 C). Keep from freezing. Product has a shelf life of 6 months.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Ethoxylated branched C13 alcohol	78330-21-9	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

8.3 Individual protection measures, such as personal protective equipment

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 with a dust/mist filter. (A2P2/P3)
Hand Protection	Impervious rubber gloves. Polyvinylchloride gloves.
Skin Protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact. Launder contaminated clothing before reuse.
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

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	**Color:**	Off white
Odor:	Hydrocarbon	**Odor Threshold:**	No information available

Property Remarks/ - Method	Values
pH:	5 - 8
Freezing Point/Range	No data available
Melting Point/Range	< 5 °C / < 41 °F
Boiling Point/Range	> 100 °C / 212 °F
Flash Point	No data available
Flammability (solid, gas)	No data available
upper flammability limit	No data available
lower flammability limit	No data available
Evaporation rate	No data available
Vapor Pressure	17.25 mmHg
Vapor Density	No data available
Specific Gravity	1.0 - 1.1
Water Solubility	Miscible with 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	> 20.5 mm2/s
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%)	No data available

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

Freezing conditions.
Extremes of temperature and direct sunlight

10.5. Incompatible Materials

Strong oxidizers.

10.6. Hazardous Decomposition Products

Carbon monoxide and carbon dioxide. Oxides of nitrogen. Hydrogen cyanide.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation If heated: May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact In vitro tests indicate that the product is not an eye irritant.

Skin Contact Prolonged or repeated contact may cause skin irritation.

Ingestion Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. May act as obstruction if swallowed.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethoxylated branched C13 alcohol	78330-21-9	1700 mg/kg (Rat) 1650 mg/kg (Dog) 1100 mg/kg (Rat) (similar substance) 2850 mg/kg (Rat)	> 2000 mg/kg (Rabbit) (similar substance)	> saturated concentration (similar substance)
Hydrotreated light petroleum distillate	64742-47-8	> 5000 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rabbit) (similar substance)	> 5.28 mg/L (Rat) 4h (similar substance)

Substances	CAS Number	Skin corrosion/irritation
Ethoxylated branched C13 alcohol	78330-21-9	Causes moderate skin irritation. (Rabbit) (similar substances)
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to the skin (similar substances)

Substances	CAS Number	Eye damage/irritation
Ethoxylated branched C13 alcohol	78330-21-9	Causes severe eye irritation which may damage tissue. (Rabbit) (similar substances)
Hydrotreated light petroleum distillate	64742-47-8	Non-irritating to rabbit's eye

Substances	CAS Number	Skin Sensitization
Ethoxylated branched C13 alcohol	78330-21-9	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Hydrotreated light petroleum distillate	64742-47-8	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)

Substances	CAS Number	Respiratory Sensitization
Ethoxylated branched C13 alcohol	78330-21-9	No information available
Hydrotreated light petroleum distillate	64742-47-8	No information available

Substances	CAS Number	Mutagenic Effects

Ethoxylated branched C13 alcohol	78330-21-9	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
Hydrotreated light petroleum distillate	64742-47-8	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)

Substances	CAS Number	Carcinogenic Effects
Ethoxylated branched C13 alcohol	78330-21-9	Did not show carcinogenic or teratogenic effects in animal experiments (similar substances)
Hydrotreated light petroleum distillate	64742-47-8	Did not show carcinogenic effects in animal experiments

Substances	CAS Number	Reproductive toxicity
Ethoxylated branched C13 alcohol	78330-21-9	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Hydrotreated light petroleum distillate	64742-47-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)

Substances	CAS Number	STOT - single exposure
Ethoxylated branched C13 alcohol	78330-21-9	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Hydrotreated light petroleum distillate	64742-47-8	May cause disorder and damage to the Central Nervous System (CNS) (similar substances)

Substances	CAS Number	STOT - repeated exposure
Ethoxylated branched C13 alcohol	78330-21-9	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Hydrotreated light petroleum distillate	64742-47-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	Aspiration hazard
Ethoxylated branched C13 alcohol	78330-21-9	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

12. Ecological Information

12.1. Toxicity

Ecotoxicity Effects

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Ethoxylated branched C13 alcohol	78330-21-9	EC50 (48h) 2-4 mg/L (Selenastrum capricornutum) (similar substance) ErC50 (72h) 0.282 mg/L (Selenastrum capricornutum) (similar substance) ErC10 0.137 mg/L (Scenedesmus subspicatus) (similar substance)	2.6 mg/L (Brachydanio rerio) (similar substance) LC50 (96h) 1.1 mg/L (Salmo gairdneri) (similar substance) NOEC 0.88 mg/L (reproduction) (Lepomis macrochirus) (similar substance)	No information available	EC50 (48h) 1.2 mg/L (Daphnia magna) (Similar substance) EC50 (48h) 0.6 mg/L (Daphnia magna) (Similar substance) NOEC (21d) 0.77 mg/L (reproduction) (Daphnia magna) (Similar substance)
Hydrotreated light petroleum distillate	64742-47-8	EC50 (72h) > 1,000 mg/L (Skeletonema costatum) ErL50 (72h) > 1000 mg/L (Pseudokirchneriella subcapitata) EbL50 (72h) > 1000 mg/L	LC50 (96h) > 10,000 mg/L (Scophthalmus maximus) LL50 (96h) > 1000 mg/L (Oncorhynchus mykiss)	No information available	LC50 (48h) > 10,000 mg/L (Acartia tonsa) EC50 (48h) 1100 mg/L (Daphnia pulex) LC50 (48h) 0.12 mg/L (Daphnia magna)

		(Pseudokirchneriella subcapitata) NOELR (72h) 1000 mg/L (Pseudokirchneriella subcapitata)			EL50 (48h) > 1000 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Ethoxylated branched C13 alcohol	78330-21-9	Readily biodegradable (85% @ 28d)
Hydrotreated light petroleum distillate	64742-47-8	Readily biodegradable (40% @ 28d)

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Substances	CAS Number	Log Pow
Ethoxylated branched C13 alcohol	78330-21-9	5.17
Hydrotreated light petroleum distillate	64742-47-8	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Ethoxylated branched C13 alcohol	78330-21-9	Kd = 3.07 L/kg Kd = 3.09 L/kg
Hydrotreated light petroleum distillate	64742-47-8	No information available

12.5 Other adverse effects

No information available

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.

14. Transport Information

US DOT

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

US DOT Bulk

DOT (Bulk) Not applicable

Canadian TDG

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

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

IATA/ICAO

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable
Special Precautions for User: None

15. Regulatory Information

US Regulations

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

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Ethoxylated branched C13 alcohol	78330-21-9	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable

EPA SARA (311,312) Hazard Class
None

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Ethoxylated branched C13 alcohol	78330-21-9	Not applicable	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Ethoxylated branched C13 alcohol	78330-21-9	Not applicable
Hydrotreated light petroleum distillate	64742-47-8	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 The California Proposition 65 regulations apply to this product.

MA Right-to-Know Law One or more components listed.

NJ Right-to-Know Law One or more components listed.

PA Right-to-Know Law One or more components listed.

Canadian Regulations

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

16. Other information

Preparation Information
Prepared By Chemical Stewardship

Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

Revision Date: 12-Jun-2015

Reason for Revision SDS sections updated:
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
bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
h - hour
mg/m^3 - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data
www.ChemADVISOR.com/
OSHA
ECHA C&L

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End of Safety Data Sheet

Appendix D
Site Photos

Halliburton

Geronimo FED COM 11H