HALLIBURTON

SAFETY DATA SHEET

SuperFlo 2000

Revision Date: 16-Feb-2015 **Revision Number:** 6

1. Product Identifier & Identity for the Chemical

Statement of Hazardous Nature Hazardous according to the criteria of NOHSC, Dangerous Goods according to the criteria of ADG.

1.1. Product Identifier

Product Name SuperFlo 2000

Other means of Identification

Synonyms: None

Product Code: HM006792

Recommended use of the chemical and restrictions on use

Recommended Use Surfactant

Uses Advised Against No information available

Supplier's name, address and phone number

Manufacturer/Supplier

Halliburton Australia Pty. Ltd.
15 Marriott Road
Jandakot
WA 6164
Australia

ACN Number: 009 000 775
Telephone Number: 61 (08) 9455 8300
Fax Number: 61 (08) 9455 5300

E-Mail address: fdunexchem@halliburton.com

Emergency phone number

61 (08) 9455 8300

Australian Poisons Information Centre

24 Hour Service: - 13 11 26
Police or Fire Brigade: - 000 (exchange): - 1100

2. Hazard Identification

Statement of Hazardous Nature Hazardous according to the criteria of NOHSC, Dangerous Goods according to the criteria of ADG.

Classification of the hazardous chemical

Aspiration Category	Category 1 - H304
Acute Oral Toxicity	Category 4 - H302
Skin Corrosion / irritation	Category 1 - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317
Reproductive Toxicity	Category 1 - H360
Specific Target Organ Toxicity - (Single Exposure)	Category 2 - H371
Flammable liquids.	Category 3 - H226

Label elements, including precautionary statements

Hazard Pictograms

Signal Word
Danger

Hazard Statements
H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H360 - May damage fertility or the unborn child
H371 - May cause damage to organs

Precautionary Statements

Prevention

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting/equipment
P243 - Take precautionary measures against static discharge
P242 - Use only non-sparking tools
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/eye protection/face protection
P281 - Use personal protective equipment as required

Response

P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P363 - Wash contaminated clothing before reuse
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P370 + P378 - In case of fire: Use water spray for extinction

Storage

P403 + P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up

Disposal

P501 - Dispose of contents/container to an approved incineration plant

Contains

Substances	**CAS Number**
Terpene hydrocarbon by-products	68956-56-9
Methanol	67-56-1
Coco diethanolamide	Proprietary
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5
Nonylphenol ethoxylate	Proprietary
Linanool	Proprietary
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1
Citronellol	106-22-9
Isopropanol	67-63-0

Other hazards which do not result in classification

None known

Australia Classification

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

Classification

Xn - Harmful.
C - Corrosive.

Risk Phrases

R10 Flammable.
R22 Harmful if swallowed.
R34 Causes burns.
R43 May cause sensitization by skin contact.
R61 May cause harm to the unborn child.
R68/20/22 Harmful: possible risk of irreversible effects through inhalation and if swallowed.

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia

Terpene hydrocarbon by-products	68956-56-9	10 - 30%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Asp. Tox. 1 (H304) Flam. Liq. 2 (H225) Aquatic Chronic 2 (H411)
Methanol	67-56-1	5 - 10%	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Repr. 1A (H360) STOT-SE 1 (H370) Flam. Liq. 2 (H225)
Coco diethanolamide	Proprietary	5 - 10%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	5 - 10%	Acute Tox. 4 (H302) Acute Tox4 (H312) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Nonylphenol ethoxylate	Proprietary	5 - 10%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Chronic 2 (H411)
Linanool	Proprietary	1 - 5%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	1 - 5%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) STOT SE 3 (H335)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	1 - 5%	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) STOT SE 3 (H335)
Citronellol	106-22-9	1 - 5%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317)
Isopropanol	67-63-0	1 - 5%	Flam. Liq. 2 (H225) Eye Irrit. 2A (H319) STOT SE 3 (H336)

4. First aid measures

Description of necessary 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 Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and launder before reuse.

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.

Symptoms caused by exposure

May cause severe eye irritation. May cause severe skin irritation. May cause allergic skin reaction. May be harmful if swallowed. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. May cause headache, dizziness, and other central nervous system effects. May cause birth defects.

Medical Attention and Special Treatment

Notes to Physician Treat symptomatically

5. Fire Fighting Measures

Suitable extinguishing equipment

Suitable Extinguishing Media

Carbon dioxide, dry chemical, foam.

Extinguishing media which must not be used for safety reasons

None known.

Specific hazards arising from the chemical

Special Exposure Hazards

May be ignited by heat, sparks or flames. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases. Runoff to sewer may cause fire or explosion hazard.

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. Wear self-contained breathing apparatus in enclosed areas.

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. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove.

7. Handling and storage

7.1. Precautions for Safe Handling

Handling Precautions

Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another. 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. Keep from heat, sparks, and open flames. Keep container closed when not in use.

Other Guidelines

No information available

8. Exposure Controls/Personal Protection

Control parameters - exposure standards, biological monitoring

Exposure Limits

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Terpene hydrocarbon by-products	68956-56-9	Not applicable	Not applicable
Methanol	67-56-1	TWA: 200 ppm TWA: 262 mg/m^3 STEL: 250 ppm STEL: 328 mg/m^3	TWA: 200 ppm STEL: 250 ppm Skin
Coco diethanolamide	Proprietary	Not applicable	Not applicable
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	Not applicable	Not applicable
Nonylphenol ethoxylate	Proprietary	Not applicable	Not applicable

Linanool	Proprietary	Not applicable	Not applicable
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	Not applicable	Not applicable
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	Not applicable	Not applicable
Citronellol	106-22-9	Not applicable	Not applicable
Isopropanol	67-63-0	TWA: 400 ppm TWA: 983 mg/m^3 STEL: 500 ppm STEL: 1230 mg/m^3	TWA: 200 ppm STEL: 400 ppm

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.
Organic vapor respirators have a short service life.
Positive pressure self-contained breathing apparatus if methanol is released.

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.
Environmental Exposure Controls No information available

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid **Color:** Straw
Odor: Alcohol **Odor Threshold:** No information available

Property Remarks/ - Method	Values
pH:	No data available
Freezing Point/Range	-29 °C
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	30 °C PMCC
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	0.99
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

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
Carbon monoxide and carbon dioxide.

11. Toxicological Information

Information on routes of exposure
Principle Route of Exposure Eye or skin contact, inhalation.

Sympotoms related to exposure
Most Important Symptoms/Effects
May cause severe eye irritation. May cause severe skin irritation. May cause allergic skin reaction. May be harmful if swallowed. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. May cause headache, dizziness, and other central nervous system effects. May cause birth defects.

Numerical measures of toxicity

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Terpene hydrocarbon by-products	68956-56-9	4400 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rat)	No data available
Methanol	67-56-1	> 1187 - 2769 mg/kg (Rat) 3000 mg/kg (Monkey) 300 mg/kg (Human)	15800 mg/kg (Rabbit) 393 mg/kg (Primate)	87.5 mg/L (Rat) 6h vapour 128.2 mg/L (Rat) 4h vapour 83.2 mg/L (Rat) 4 h 64000 ppm (Rat) 4 h 10 mg/L (Human)
Coco diethanolamide	Proprietary	12400 µL/kg (Rat)	> 2000 mg/kg (Rabbit) (similar substance)	No data available
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	340.5 mg/kg (Rat)	1420 mg/kg (Rat)	No data available
Nonylphenol ethoxylate	Proprietary	1310 mg/kg (Rat)	> 2000 mg/kg (Rabbit) (similar substance)	No data available
Linanool	Proprietary	2790 mg/kg (Rat)	5610 mg/kg (Rat)	> 3.2 mg/L (Mouse, 90M, Vapor)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	4500 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	No data available
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	3600 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	No data available
Citronellol	106-22-9	3450 mg/kg (Rat)	2650 mg/kg (Rabbit)	No data available
Isopropanol	67-63-0	4396 mg/kg (Rat) 5840 mg/kg (Rat) 3600 mg/kg (Mouse)	12800 mg/kg (Rat) 12870 mg/kg (Rabbit) 16.4 mL/kg (Rabbit) 6280 mg/kg (Rabbit)	72.6 mg/L (Rat) 4h >10000 ppm (Rat) 6h

Immediate, delayed and chronic health 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 Causes severe eye irritation.

Skin Contact May cause severe skin irritation. May be absorbed through the skin and contribute to the symptoms listed under ingestion. May cause skin defatting with prolonged exposure. May cause an allergic skin reaction.

Ingestion May be fatal or cause blindness if swallowed. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression. Aspiration can be a hazard if this material is swallowed.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause eye, blood, lung, liver, kidney, heart, central nervous system and spleen damage.

Exposure Levels
No data available

Interactive effects
Eye ailments. Skin disorders.

Data limitations
No data available

Substances	CAS Number	Skin corrosion/irritation
Terpene hydrocarbon by-products	68956-56-9	Causes moderate skin irritation. (rabbit)
Methanol	67-56-1	Non-irritating to the skin (rabbit)
Coco diethanolamide		Irritating to skin. (rabbit)
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	Causes severe skin irritation with tissue destruction. (rabbit)
Nonylphenol ethoxylate		Irritating to skin. (similar substances)
Linanool		Causes moderate skin irritation. (rabbit)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	Causes skin irritation.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	Causes moderate skin irritation.
Citronellol	106-22-9	Causes moderate skin irritation. (rabbit)
Isopropanol	67-63-0	Non-irritating to the skin (rabbit)

Substances	CAS Number	Eye damage/irritation
Terpene hydrocarbon by-products	68956-56-9	Causes moderate eye irritation. (rabbit) (similar substances)
Methanol	67-56-1	Non-irritating to the eye (rabbit)
Coco diethanolamide		Irritating to eyes. (rabbit)
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	Causes severe eye irritation which may damage tissue. (rabbit)
Nonylphenol ethoxylate		Irritating to eyes. (similar substances)
Linanool		Causes moderate eye irritation. (rabbit)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	Causes severe eye irritation.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	Causes severe eye irritation which may damage tissue.
Citronellol	106-22-9	Causes moderate eye irritation. (rabbit)
Isopropanol	67-63-0	Causes severe eye irritation. (rabbit)

Substances	CAS Number	Skin Sensitization
Terpene hydrocarbon by-products	68956-56-9	May cause an allergic skin reaction. (mouse) (similar substances)
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)
Coco diethanolamide		Did not cause sensitization on laboratory animals (guinea pig)

Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Nonylphenol ethoxylate		Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Linanool		Patch test on human volunteers did not demonstrate irritating properties
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	May cause sensitization by skin contact (guinea pig) (mouse)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	May cause sensitization by skin contact (mouse)
Citronellol	106-22-9	May cause sensitization by skin contact (mouse)
Isopropanol	67-63-0	Did not cause sensitization on laboratory animals (guinea pig)

Substances	**CAS Number**	**Respiratory Sensitization**
Terpene hydrocarbon by-products	68956-56-9	No information available
Methanol	67-56-1	No information available
Coco diethanolamide		No information available
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	No information available
Nonylphenol ethoxylate		No information available
Linanool		No information available
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	No information available
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	No information available
Citronellol	106-22-9	No information available
Isopropanol	67-63-0	No information available

Substances	**CAS Number**	**Mutagenic Effects**
Terpene hydrocarbon by-products	68956-56-9	In vitro tests did not show mutagenic effects
Methanol	67-56-1	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
Coco diethanolamide		In vitro tests did not show mutagenic effects
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	In vitro tests did not show mutagenic effects (similar substances)
Nonylphenol ethoxylate		In vitro tests did not show mutagenic effects (similar substances)
Linanool		In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
Citronellol	106-22-9	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
Isopropanol	67-63-0	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.

Substances	**CAS Number**	**Carcinogenic Effects**
Terpene hydrocarbon by-products	68956-56-9	Did not show carcinogenic effects in animal experiments (similar substances)
Methanol	67-56-1	Did not show carcinogenic effects in animal experiments
Coco diethanolamide		Did not show carcinogenic effects in animal experiments
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	Did not show carcinogenic effects in animal experiments (similar substances)
Nonylphenol ethoxylate		Did not show carcinogenic effects in animal experiments (similar substances)
Linanool		No data of sufficient quality are available.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	Did not show carcinogenic effects in animal experiments (similar substances)

2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	Did not show carcinogenic effects in animal experiments (similar substances)
Citronellol	106-22-9	Did not show carcinogenic effects in animal experiments (similar substances)
Isopropanol	67-63-0	Did not show carcinogenic effects in animal experiments

Substances	CAS Number	Reproductive toxicity
Terpene hydrocarbon by-products	68956-56-9	Did not show teratogenic effects in animal experiments. (similar substances)
Methanol	67-56-1	Fetotoxic and teratogenic effects observed in experimental animals at concentrations that did not produce maternal toxicity.
Coco diethanolamide		Did not show teratogenic effects in animal experiments.
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Nonylphenol ethoxylate		Not a confirmed teratogen or embryotoxin. (similar substances)
Linanool		Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	Animal testing did not show any effects on fertility.
Citronellol	106-22-9	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Isopropanol	67-63-0	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Terpene hydrocarbon by-products	68956-56-9	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Methanol	67-56-1	May cause disorder and damage to the Central Nervous System (CNS) EYES
Coco diethanolamide		No significant toxicity observed in animal studies at concentration requiring classification.
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	No data of sufficient quality are available.
Nonylphenol ethoxylate		No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Linanool		No data of sufficient quality are available.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	May cause respiratory irritation.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	May cause respiratory irritation.
Citronellol	106-22-9	No information available
Isopropanol	67-63-0	May cause headache, dizziness, and other central nervous system effects.

Substances	CAS Number	STOT - repeated exposure
Terpene hydrocarbon by-products	68956-56-9	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Methanol	67-56-1	No significant toxicity observed in animal studies at concentration requiring classification.
Coco diethanolamide		No significant toxicity observed in animal studies at concentration requiring classification.
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	No data of sufficient quality are available.
Nonylphenol ethoxylate		No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Linanool		No significant toxicity observed in animal studies at concentration requiring classification.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	No significant toxicity observed in animal studies at concentration requiring classification.
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	No significant toxicity observed in animal studies at concentration requiring classification.
Citronellol	106-22-9	No significant toxicity observed in animal studies at concentration requiring classification.

Isopropanol	67-63-0	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Terpene hydrocarbon by-products	68956-56-9	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
Methanol	67-56-1	Not applicable
Coco diethanolamide		Not applicable
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	Not applicable
Nonylphenol ethoxylate		Not applicable
Linanool		Not applicable
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	Not applicable
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	Not applicable
Citronellol	106-22-9	Not applicable
Isopropanol	67-63-0	Not applicable

12. Ecological Information

Ecotoxicity

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Terpene hydrocarbon by-products	68956-56-9	ErC50(72h): 4.779 mg/L (Pseudokirchnerella subcapitata) EC50(72h): 63.59 mg/L (Skeletonema costatum)	LC50(96h): 5.07 mg/L (Danio rerio) LC50(96h): > 65 mg/L (Cyprinodon variegatus)	No information available	EL50(48h): 1.4 - 2.7 mg/L (Daphnia magna) EC50(48h): 155 mg/L (Acartia tonsa)
Methanol	67-56-1	EC50(96h): ca. 22000 mg/L (Pseudokirchnerella subcapitata, Growth rate)	LC50: 28200 mg/l (Pimephales promelas) LC50(96h): 12700 – 15400 mg/L (Lepomis macrochirus) 200 hr NOEC for % Embryo-cardiovascular for stage 2 = 15800 mg/L	IC50(3h): > 1000 mg/L (activated sludge)	EC50(96h): 18260 mg/L (Daphnia magna) NOEC(21d): 122 mg/L (Daphnia magna, Reproduction)
Coco diethanolamide	Proprietary	No information available	No information available	No information available	No information available
Quaternary ammonium compounds, benzyl-C12-18-alkyldi methyl, chlorides	68391-01-5	No information available	LC50(96h): 0.28 mg/L (Pimephales promelas)	No information available	EC50(48h): 0.0059 mg/L (Daphnia magna) NOEC(34d): 0.032 mg/L (Daphnia magna)
Nonylphenol ethoxylate	Proprietary	EC50(48h): 15 mg/L (Lemna minor) EC50(48h): 17 mg/L (Scenedesmus quadricauda)	LC50(48h): 16.4 mg/L (Poecilia reticulata)	No information available	LC50(48h): 18.2 mg/L (Daphnia magna)
Linanool	Proprietary	EC50(96h): 88.3 mg/L (Desmodesmus subspicatus)	LC50(96h): 27.8 mg/L (Oncorhynchus mykiss)	EC50(3h): > 100 mg/L (activated sludge, domestic)	No information available
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	ErC50(72h): 9.54 mg/L (Pseudokirchnerella subcapitata)	LC50(96h): 20.3 mg/L (Danio rerio)	EC50(3h): 241 mg/L (activated sludge)	EC50(48h): 32.4 mg/L (Daphnia magna)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	EC50(72h): 13.1 mg/L (Desmodesmus subspicatus)	LC50(96h): 22 mg/L (Danio rerio)	EC50(30m): 70 mg/L (Activated sludge)	EC50(48h): 10.8 mg/L (Daphnia magna)

Citronellol	106-22-9	EC50(72h): 2.4 mg/L (Scenedesmus subspicatus)	LC50(96h): 14.66 mg/L (Leuciscus idus)	No information available	EC50(48h): 17.48 mg/L (Daphnia magna)
Isopropanol	67-63-0	EC50 (72h) > 1000 mg/l(Desmodesmus subspicatus) EC50 (7d) 1800 mg/L (mean extinction value) (Scenedesmus quadricauda)	LC50 (96h) 9640 mg/l (Pimephales promelas) LC50 (7d) 7060 mg/L (Poecilia reticulata)	TT (16h) 1050 mg/L (Pseudomonas putida)	EC50 (48h) 13,299 mg/l (Daphnia magna) EC50 (24h) > 10,000 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Terpene hydrocarbon by-products	68956-56-9	Readily biodegradable (83% @ 28d)
Methanol	67-56-1	Readily biodegradable (95-97% @ 20d)
Coco diethanolamide	Proprietary	Readily biodegradable (71 - 96% @ 28d)
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	Readily biodegradable (60% @ 15d)
Nonylphenol ethoxylate	Proprietary	No information available
Linanool	Proprietary	Readily biodegradable (62.4% @ 28d)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	Readily biodegradable (90% @ 28d)
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	Readily biodegradable (94% @ 28d)
Citronellol	106-22-9	Readily biodegradable (80 - 90% @ 28d)
Isopropanol	67-63-0	Readily biodegradable (53% @ 5d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Terpene hydrocarbon by-products	68956-56-9	5.7
Methanol	67-56-1	-0.77 BCF 1.0 – 4.5 (Cyprinus carpio) BCF < 10 (Leuciscus idus melanotus)
Coco diethanolamide	Proprietary	3.52
Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	68391-01-5	3.91
Nonylphenol ethoxylate	Proprietary	3.93 BCF: 7.6 - 16 (Oryzias latipes)
Linanool	Proprietary	2.84
2,6-Octadien-1-ol, 3,7-dimethyl-, (2Z)-	106-25-2	2.76
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	2.6
Citronellol	106-22-9	3.41
Isopropanol	67-63-0	0.05 @ 25°C

12.4. Mobility in soil
No information available

12.6. Other adverse effects
Endocrine Disruptor Information
This product contains ethoxylated nonylphenols

13. Disposal Considerations

Safe handling and disposal methods
Disposal should be made in accordance with federal, state, and local regulations.

Disposal of any contaminated packaging
Follow all applicable national or local regulations.

Environmental regulations
Not applicable

14. Transport Information

Transportation Information

UN Number:	UN1993
UN Proper Shipping Name:	Flammable Liquid, N.O.S. (Contains Methanol, Terpenes)
Transport Hazard Class(es):	3
Packing Group:	III
Environmental Hazards:	Not applicable

Special precautions during transport
None

HazChem Code
3[Y]E

15. Regulatory Information

Safety, health and environmental regulations specific for the product

International Inventories

Australian AICS Inventory	All components listed on inventory or are exempt.
New Zealand Inventory of Chemicals	All components listed on inventory or are exempt.
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.

Poisons Schedule number
S6

16. Other information

Date of preparation or review

Revision Date: 16-Feb-2015

Revision Note
Update to Format SECTION: 2

Full text of R-phrases referred to under Sections 2 and 3
R10 Flammable.
R22 Harmful if swallowed.
R34 Causes burns.
R43 May cause sensitization by skin contact.
R61 May cause harm to the unborn child.
R68/20/22 Harmful: possible risk of irreversible effects through inhalation and if swallowed.

Full text of H-Statements referred to under sections 2 and 3
H225 - Highly flammable liquid and vapor
H226 - Flammable liquid and vapor
H301 - Toxic if swallowed
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H311 - Toxic in contact with skin
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H331 - Toxic if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H360 - May damage fertility or the unborn child
H370 - Causes damage to organs
H371 - May cause damage to organs
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects

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 abreviations or acronyms used
Not applicable

Key literature references and sources for data
www.ChemADVISOR.com/

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End of Safety Data Sheet