

# SAFETY DATA SHEET

**Product Trade Name:** MC C-6027

**Revision Date:** 09-May-2017

**Revision Number:** 4

## 1. Identification

### 1.1. Product Identifier

**Product Trade Name:** MC C-6027  
**Synonyms:** None  
**Chemical Family:** Blend  
**Internal ID Code:** MC000665

### 1.2 Recommended use and restrictions on use

**Application:** Corrosion Inhibitor  
**Uses advised against:** Consumer use

### 1.3 Manufacturer's Name and Contact Details

**Manufacturer/Supplier:**  
 Multi-Chem Group LLC  
 3000 N. Sam Houston Pkwy E., Houston, TX 77032  
 Phone: 1 281 871 4000

Halliburton Energy Services, Inc.  
 645 - 7th Ave SW Suite 1800  
 Calgary, AB  
 T2P 4G8  
 Canada

**Prepared By:** Chemical Stewardship  
 Telephone: 1-281-871-6107  
 e-mail: fdunexchem@halliburton.com

### 1.4. Emergency telephone number

**Emergency Telephone Number:** 1-866-519-4752 or 1-760-476-3962  
 Global Incident Response Access Code: 334305  
 Contract Number: 14012

## 2. Hazards Identification

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

Aspiration Toxicity	Category 1 - H304
Acute Oral Toxicity	Category 4 - H302
Skin Corrosion / Irritation	Category 1 - H314
Serious Eye Damage/Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317
Germ Cell Mutagenicity	Category 1B - H340
Carcinogenicity	Category 1B - H350

Reproductive Toxicity	Category 1B - H360
Specific Target Organ Toxicity - (Single Exposure)	Category 1 - H370; Category 3 - H336
Acute Aquatic Toxicity	Category 1 - H400
Chronic Aquatic Toxicity	Category 2 - H411
Flammable liquids.	Category 2 - H225

## 2.2. Label Elements

### Hazard Pictograms



### Signal Word:

Danger

### Hazard Statements

H225 - Highly 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  
 H336 - May cause drowsiness or dizziness  
 H340 - May cause genetic defects  
 H350 - May cause cancer  
 H360 - May damage fertility or the unborn child  
 H370 - Causes damage to organs  
 H400 - Very toxic to aquatic life  
 H411 - Toxic to aquatic life with long lasting effects

### 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  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
 P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P240 - Ground/Bond container and receiving equipment  
 P241 - Use explosion-proof electrical/ventilating/lighting/equipment  
 P242 - Use only non-sparking tools  
 P243 - Take precautionary measures against static discharge  
 P270 - Do not eat, drink or smoke when using this product  
 P271 - Use only outdoors or in a well-ventilated area  
 P272 - Contaminated work clothing should not be allowed out of the workplace  
 P273 - Avoid release to the environment

#### Response

P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

	P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
	P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
	P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
	P363 - Wash contaminated clothing before reuse
	P310 - Immediately call a POISON CENTER or doctor/physician
	P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
	P391 - Collect spillage
	P370 + P378 - In case of fire: Use CO2, dry chemical, or foam
<b>Storage</b>	P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
	P403 + P235 - Store in a well-ventilated place. Keep cool
	P405 - Store locked up
<b>Disposal</b>	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

### 2.3 Hazards not otherwise classified

None known

## 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Light aromatic solvent	64742-95-6	30 - 60%	Skin Irrit. 2 (H315) Muta. 1 (H340) Carc. 1B (H350) STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412) Flam. Liq. 3 (H226)
Methanol	67-56-1	10 - 30%	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Repr. 1B (H360) STOT SE 1 (H370) Flam. Liq. 2 (H225)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	5 - 10%	Skin Corr. 1C (H314) Eye Corr. 1 (H318) STOT SE 3 (H335)
Fatty acids, tall-oil, maleated	68139-89-9	5 - 10%	Eye Irrit. 2B (H320) Skin Sens. 1 (H317)
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	5 - 10%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Corr. 1C (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412)
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	1 - 5%	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Skin Corr. 1B (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-,	127087-87-0	1 - 5%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318)

branched			STOT SE 2 (H371) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Isopropanol	67-63-0	1 - 5%	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225)
Naphthalene	91-20-3	0.1 - 1%	Acute Tox. 4 (H302) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Flam. Sol. 2 (H228)
Sulfuric acid	7664-93-9	0.1 - 1%	Skin Corr. 1A (H314) Eye Corr. 1 (H318) Carc. 1 (H350) STOT SE 3 (H335) Aquatic Acute 3 (H402)

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

## 4. First Aid Measures

### 4.1. Description of first aid measures

<b>Inhalation</b>	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.
<b>Eyes</b>	In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Seek immediate medical attention/advice. Suitable emergency eye wash facility should be immediately available
<b>Skin</b>	In case of contact, immediately flush skin with plenty of soap and water for at least 30 minutes and remove contaminated clothing, shoes and leather goods immediately. Get medical attention immediately.
<b>Ingestion</b>	Following ingestion, onset of symptoms may be delayed by 12 to 24 hours. Admission to hospital should be the first priority even if symptoms are absent. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Obtain immediate medical attention.

### 4.2 Most important symptoms/effects, acute and delayed

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. Causes severe skin irritation with tissue destruction. Causes severe eye irritation which may damage tissue. May cause allergic skin reaction. May cause heritable genetic damage. Carcinogen. Potential reproductive hazard. May cause birth defects. May cause damage to internal organs. May cause headache, dizziness, and other central nervous system effects.

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

<b>Notes to Physician</b>	Gastric lavage or emesis should be performed as soon as possible to minimize absorption, and is recommended within 4 hours of ingestion. Ethanol may be given intravenously to prevent build-up of toxic effects of methanol metabolites. Visual disturbances and metabolic acidosis may occur and dialysis, preferably hemodialysis may be employed to treat these complications. Aspiration may cause severe lung damage. Evacuate stomach in a way which avoids aspiration.
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## 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

Do NOT spray pool fires directly with water. A solid stream of water directed into hot burning liquid can cause splattering.

### **5.2 Specific hazards arising from the substance or mixture**

#### **Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations.

### **5.3 Special protective equipment and precautions for fire-fighters**

#### **Special protective equipment for firefighters**

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**

Ensure adequate ventilation. Use appropriate protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Remove sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid contact with skin, eyes and clothing. Use only competent persons for cleanup.

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**

Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Remove ignition sources and work with non-sparking tools.

## **7. Handling and storage**

### **7.1. Precautions for safe handling**

#### **Handling Precautions**

Do not breathe dust/fume/gas/mist/vapors/spray. Ensure adequate ventilation. Use appropriate protective equipment. Remove sources of ignition. Ground and bond containers when transferring from one container to another. Avoid contact with eyes, skin, or clothing.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

### **7.2. Conditions for safe storage, including any incompatibilities**

#### **Storage Information**

Store in a cool well ventilated area. Keep from heat, sparks, and open flames.

## **8. Exposure Controls/Personal Protection**

### **8.1 Occupational Exposure Limits**

<b>Substances</b>	<b>CAS Number</b>	<b>OSHA PEL-TWA</b>	<b>ACGIH TLV-TWA</b>
Light aromatic solvent	64742-95-6	Not applicable	Not applicable
Methanol	67-56-1	TWA: 200 ppm TWA: 260 mg/m <sup>3</sup>	TWA: 200 ppm STEL: 250 ppm
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable	Not applicable
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Not applicable	Not applicable
n-Benzyl dimethyl cocoamine,	61789-71-7	Not applicable	Not applicable

C12-C18 quaternary salt			
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not applicable	Not applicable
Isopropanol	67-63-0	TWA: 400 ppm TWA: 980 mg/m <sup>3</sup>	TWA: 200 ppm STEL: 400 ppm
Naphthalene	91-20-3	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup>	TWA: 10 ppm
Sulfuric acid	7664-93-9	TWA: 1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>

## 8.2 Appropriate engineering controls

### Engineering Controls

Ensure adequate ventilation, especially in confined areas Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

## 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

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

Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

### Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact.

### Eye Protection

Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles, Face-shield.

### 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**

Clear to Slightly Hazy , Light Amber to Dark Amber

**Odor:** Slight

**Odor**

No information available

**Threshold:**

Property

Values

Remarks/ - Method

**pH:**

5.00-9.00 (10% in 1:1 IPA:H<sub>2</sub>O)

**Freezing Point / Range**

No data available

**Melting Point / Range**

No data available

**Boiling Point / Range**

No data available

**Flash Point**

22.2 °C / 72 °F (SFCC)

**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**

No data available

**Vapor Density**

No data available

**Specific Gravity**

0.8921-0.9171 (20 °C/68 °F)

**Water Solubility**

No data available

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
Liquid Density	7.44-7.64 lbs/gal

**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**

Keep away from heat, sparks and flame.

**10.5. Incompatible materials**

Strong oxidizers. Strong acids. Strong alkalis.

**10.6. Hazardous decomposition products**

Carbon oxides. Oxides of nitrogen. Oxides of sulfur.

**11. Toxicological Information****11.1 Information on likely routes of exposure**

Principle Route of Exposure Eye contact. Ingestion. Skin contact. Inhalation.

**11.2 Symptoms related to the physical, chemical and toxicological characteristics****Acute Toxicity****Inhalation**

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

**Eye Contact**

Causes serious eye damage.

**Skin Contact**

Causes severe burns. May cause an allergic skin reaction.

**Ingestion**

Ingestion of this product may cause blindness due to the presence of methanol. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes burns of the mouth, throat and stomach.

**Chronic Effects/Carcinogenicity** May cause heritable genetic damage. Contains known or suspected carcinogens. May cause birth defects. Contains known or suspected reproductive toxins.

**11.3 Toxicity data****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Light aromatic solvent	64742-95-6	8400 mg/kg (Rat)	>2000 mg/kg (Rabbit)	5.2 mg/L (Rat) 4h

		>5000 mg/kg (Rat)		3400 ppm (Rat) 4h >8.53 mg/L (Rat) 4h
Methanol	67-56-1	300 mg/kg-bw (human) < 790 to 13,000 mg/kg (rat)	1000 mg/kg-bw (human) 17,100 mg/kg (rabbit)	10 mg/L (human, vapor, 4h)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	>4000 mg/kg (Rat)	No data available	No data available
Fatty acids, tall-oil, maleated	68139-89-9	>2000 mg/kg-bw (rat) (similar substance)	No data available	No data available
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	530 mg/kg (Rat) 775 mg/kg (Rat) 1350 mg/kg (Rat) 1470 mg/kg (Rat) (similar substance)	530 mg/kg (Rat) 2000 mg/kg (Rabbit)	No data available
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	304.5 mg/kg (Rat)	930 mg/kg (rat)	No data available
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	2000 - 5000 mg/kg (Rat) (Similar substance)	> 2000 mg/kg (Rabbit) (similar substance)	No data available
Isopropanol	67-63-0	5840 mg/kg-bw (rat)	12870 mg/kg-bw (rabbit)	72.6 mg/L (Rat, 4h, vapor)
Naphthalene	91-20-3	490 mg/kg ( Rat ) 1110 mg/kg ( Rat )	1120 mg/kg ( Rabbit ) 20 g/kg ( Rabbit )	340 mg/m <sup>3</sup> ( Rat ) 1 h
Sulfuric acid	7664-93-9	2140 mg/kg-bw (rat)	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Light aromatic solvent	64742-95-6	Causes moderate skin irritation. (Rabbit)
Methanol	67-56-1	Non-irritating to the skin (Rabbit)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Causes severe skin irritation with tissue destruction.
Fatty acids, tall-oil, maleated	68139-89-9	Not irritating to skin in rabbits.
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Skin, rabbit: Causes burns
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Causes burns (Rabbit)
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Causes moderate skin irritation. (Rabbit)
Isopropanol	67-63-0	Non-irritating to the skin (Rabbit)
Naphthalene	91-20-3	Non-irritating to the skin (Rabbit)
Sulfuric acid	7664-93-9	Causes severe burns

Substances	CAS Number	Serious eye damage/irritation
Light aromatic solvent	64742-95-6	Non-irritating to rabbit's eye
Methanol	67-56-1	Non-irritating to the eye (Rabbit)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Causes severe eye irritation. Will damage tissue.
Fatty acids, tall-oil, maleated	68139-89-9	Causes mild eye irritation. (similar substances)
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Eye, rabbit: Causes eye burns
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Causes eye burns (Rabbit)
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Causes severe eye irritation which may damage tissue. (Rabbit)
Isopropanol	67-63-0	Causes moderate eye irritation (Rabbit)
Naphthalene	91-20-3	May cause mechanical irritation to eye. (human) Non-irritating to rabbit's eye
Sulfuric acid	7664-93-9	Causes serious eye damage

Substances	CAS Number	Skin Sensitization
Light aromatic solvent	64742-95-6	Did not cause sensitization on laboratory animals (guinea pig)
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)
Fatty acids, tall-oil, reaction	61790-69-0	As a precaution the product should be treated as a sensitizer



products with diethylenetriamine		
Fatty acids, tall-oil, maleated	68139-89-9	(mouse) May cause sensitization by skin contact
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Did not cause sensitization on laboratory animals (guinea pig)
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Did not cause sensitization on laboratory animals (guinea pig)
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Patch test on human volunteers did not demonstrate sensitization properties
Isopropanol	67-63-0	Did not cause sensitization on laboratory animals (guinea pig)
Naphthalene	91-20-3	Did not cause sensitization on laboratory animals (guinea pig)
Sulfuric acid	7664-93-9	Not regarded as a sensitizer.

Substances	CAS Number	Respiratory Sensitization
Light aromatic solvent	64742-95-6	No information available
Methanol	67-56-1	No information available
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Fatty acids, tall-oil, maleated	68139-89-9	No information available
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	No information available
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	No information available
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	No information available
Isopropanol	67-63-0	No information available
Naphthalene	91-20-3	No information available
Sulfuric acid	7664-93-9	No information available

Substances	CAS Number	Mutagenic Effects
Light aromatic solvent	64742-95-6	Some in vivo tests have shown mutagenic effects. In vitro tests have shown mutagenic effects
Methanol	67-56-1	The weight of evidence from available in vitro and in vivo studies indicates that this substance is not expected to be mutagenic.
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Fatty acids, tall-oil, maleated	68139-89-9	(similar substances) In vitro tests did not show mutagenic effects
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Did not show mutagenic effects in animal experiments
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	In vitro tests did not show mutagenic effects (similar substances)
Isopropanol	67-63-0	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Naphthalene	91-20-3	In vitro tests did not show mutagenic effects.
Sulfuric acid	7664-93-9	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Light aromatic solvent	64742-95-6	Contains a known or suspected carcinogen
Methanol	67-56-1	No data of sufficient quality are available.
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	No information available
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Did not show carcinogenic effects in animal experiments
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Did not show carcinogenic or teratogenic effects in animal experiments (similar substances)

Isopropanol	67-63-0	Did not show carcinogenic effects in animal experiments
Naphthalene	91-20-3	Substances which should be regarded as if they are carcinogenic to man
Sulfuric acid	7664-93-9	This substance is a potential carcinogen.

Substances	CAS Number	Reproductive toxicity
Light aromatic solvent	64742-95-6	No data of sufficient quality are available.
Methanol	67-56-1	Experiments have shown reproductive toxicity effects on laboratory animals
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Fatty acids, tall-oil, maleated	68139-89-9	Animal testing did not show any effects on fertility. (similar substances) Did not show teratogenic effects in animal experiments.
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	No data of sufficient quality are available.
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Not a confirmed teratogen or embryotoxin.
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not a confirmed teratogen or embryotoxin. (similar substances)
Isopropanol	67-63-0	No significant toxicity observed in animal studies at concentration requiring classification. Animal testing did not show any effects on fertility.
Naphthalene	91-20-3	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Sulfuric acid	7664-93-9	Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Light aromatic solvent	64742-95-6	May cause headache, dizziness, and other central nervous system effects.
Methanol	67-56-1	May cause disorder and damage to the Central Nervous System (CNS)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Fatty acids, tall-oil, maleated	68139-89-9	No information available
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	May cause respiratory irritation.
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Causes moderate respiratory irritation.
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	May cause disorder and damage to the Central Nervous System (CNS)
Isopropanol	67-63-0	May cause headache, dizziness, and other central nervous system effects.
Naphthalene	91-20-3	No data of sufficient quality are available.
Sulfuric acid	7664-93-9	May cause respiratory irritation. No information available

Substances	CAS Number	STOT - repeated exposure
Light aromatic solvent	64742-95-6	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Methanol	67-56-1	No data of sufficient quality are available.
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	No data of sufficient quality are available.
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	None under normal use conditions
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	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. (similar substances)
Naphthalene	91-20-3	No significant toxicity observed in animal studies at concentration requiring classification.
Sulfuric acid	7664-93-9	Not applicable due to corrosivity of the substance.

Substances	CAS Number	Aspiration hazard
Light aromatic solvent	64742-95-6	May be fatal if swallowed and enters airways
Methanol	67-56-1	Not applicable

Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Not applicable
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	No information available
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not applicable
Isopropanol	67-63-0	Not applicable
Naphthalene	91-20-3	No information available
Sulfuric acid	7664-93-9	Not applicable

## 12. Ecological Information

### 12.1. Toxicity

#### Ecotoxicity effects

Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Light aromatic solvent	64742-95-6	EL50 (72h) 3.1 mg/L (Pseudokirchnerella subcapitata)	LC50 (96h) 1.03 mg/L (Oncorhynchus mykiss)	No information available	EC50 (48h) 1.2 mg/L (Daphnia magna)
Methanol	67-56-1	EC50 (96 h) =22000 mg/L (Pseudokirchnerella subcapitata) NOEC (8 d) =8000 mg/L (Scenedesmus quadricauda)	LC50 (96 h) =15400 mg/L (Lepomis macrochirus) EC50 (200 h) =14536 mg/L (Oryzias latipes)	IC50 (3h) > 1000 mg/L (activated sludge)	EC50 (96 h) =18260 mg/L (Daphnia magna) NOEC (21 d) =208 mg/L (Daphnia magna)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available	No information available	No information available	No information available
Fatty acids, tall-oil, maleated	68139-89-9	EC50(72 h)=20 mg/L (Skeletonema costatum)	LC50(96 h)>100 mg/L (Scopththalmus maximus)	No information available	LC50(48 h)=508 mg/L (Acartia tonsa)
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	EC50 (96h) 170 mg/L (Selenastrum capricornutum)	LC50 (96h) 3 mg/L (Oncorhynchus mykiss) NOEC (90d) 0.25 mg/L (Tilapia mossambica) (similar substance)	No information available	EC50 (48h) 2.9 mg/L (Daphnia magna) EC50 (24h) 5.9 mg/L (Daphnia magna)
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	EC50 (72h) < 0.1 mg/L (Skeletonema costatum)	LC50 (96h) 0.44 mg/L (Scopththalmus maximus)	No information available	LC50 (48h) 0.72 mg/L (Acartia tonsa)
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	EC50 (72h) > 3 mg/L (Pseudokirchnerella subcapitata) (similar substance)	LC50 (96h) 0.323 mg/L (Pimephales promelas) (similar substance)	EC50 (3h) 104 mg/L (Activated sludge) (similar substance)	EC50 (48h) 0.148 mg/L (Daphnia magna) (similar substance) NOEC (21d) 0.006 mg/L (Daphnia magna) (similar substance) NOEC (21d) 0.1 mg/L (Daphnia magna) (similar substance)
Isopropanol	67-63-0	EC50 (72h) > 1000 mg/L (Desmodesmus subspicatus) EC50 (7d) 1800 mg/L (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)
Naphthalene	91-20-3	EC50 (72 h) =0.4 mg/L (Skeletonema costatum)	LC50 (96 h) =1.6 mg/L (Oncorhynchus mykiss) NOAEC (40 d) =0.37 mg/L (Oncorhynchus kisutch)	IC50 (24 h) =29 mg/L (Nitrosomonas sp.)	EC50 (48 h) =2.16 mg/L (Daphnia magna) NOAEC (125 d) =0.59 mg/L (Daphnia pulex)

Sulfuric acid	7664-93-9	No information available	LC50 (96 h) 16 mg/L (Lepomis macrochirus) LC50 (96 h) 42 mg/L (Gambusia affinis)	No information available	EC50 (24 h) 29 mg/L (Daphnia magna) EC50 (48 h) 42.5 mg/L (Pandalus montagu)
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## 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Light aromatic solvent	64742-95-6	(77.05% @ 28d)
Methanol	67-56-1	(95-97% @ 20d)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Fatty acids, tall-oil, maleated	68139-89-9	No information available
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	(94% @ 28d)
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Biodegradable.
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	(58.7% @ 28d) (similar substances)
Isopropanol	67-63-0	No information available
Naphthalene	91-20-3	Readily biodegradable (100% @ 7d)
Sulfuric acid	7664-93-9	Readily biodegradable

## 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Light aromatic solvent	64742-95-6	3.20 - 3.63 BCF = 119 - 142
Methanol	67-56-1	-0.77 BCF = 1.0 – 4.5 (Cyprinus carpio) BCF < 10 (Leuciscus idus melanotus)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Fatty acids, tall-oil, maleated	68139-89-9	No information available
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Log Pow = 4.15
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	No information available
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	2.1-3.4
Isopropanol	67-63-0	No information available
Naphthalene	91-20-3	LogPow 3.3
Sulfuric acid	7664-93-9	No information available

## 12.4. Mobility in soil

Substances	CAS Number	Mobility
Light aromatic solvent	64742-95-6	KOC = 372 - 617
Methanol	67-56-1	No information available
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Fatty acids, tall-oil, maleated	68139-89-9	No information available
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	No information available
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	No information available
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	No information available
Isopropanol	67-63-0	No information available
Naphthalene	91-20-3	No information available
Sulfuric acid	7664-93-9	No information available

## 12.5 Other adverse effects

No information available

## 13. Disposal Considerations

**13.1. Waste treatment methods**

**Disposal methods** Disposal should be made in accordance with federal, state, and local regulations.  
**Contaminated Packaging** Dispose of container according to national or local regulations.

**14. Transport Information****US DOT**

**UN Number** UN2924  
**UN proper shipping name:** Flammable Liquid, Corrosive, N.O.S. (Contains Methanol, Complex Fatty-Acid Compounds)  
**Transport Hazard Class(es):** 3 (8)  
**Packing Group:** II  
**Environmental Hazards:** Marine Pollutant  
**NAERG:** NAERG 132

**Canadian TDG**

**UN Number** UN2924  
**UN proper shipping name:** Flammable Liquid, Corrosive, N.O.S. (Contains Methanol, Complex Fatty-Acid Compounds)  
**Transport Hazard Class(es):** 3 (8)  
**Packing Group:** II  
**Environmental Hazards:** Marine Pollutant

**IMDG/IMO**

**UN Number** UN2924  
**UN proper shipping name:** Flammable Liquid, Corrosive, N.O.S. (Contains Methanol, Complex Fatty-Acid Compounds)  
**Transport Hazard Class(es):** 3 (8)  
**Packing Group:** II  
**Environmental Hazards:** Marine Pollutant  
**EMS:** EmS F-E, S-C

**IATA/ICAO**

**UN Number** UN2924  
**UN proper shipping name:** Flammable Liquid, Corrosive, N.O.S. (Contains Methanol, Complex Fatty-Acid Compounds)  
**Transport Hazard Class(es):** 3 (8)  
**Packing Group:** II  
**Environmental Hazards:** Marine Pollutant

**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.

**TSCA Significant New Use Rules - S5A2**

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Light aromatic solvent	64742-95-6	Not applicable
Methanol	67-56-1	Not applicable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable

Fatty acids, tall-oil, maleated	68139-89-9	Not applicable
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Not applicable
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Not applicable
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not applicable
Isopropanol	67-63-0	Not applicable
Naphthalene	91-20-3	Not applicable
Sulfuric acid	7664-93-9	Not applicable

**EPA SARA Title III Extremely Hazardous Substances**

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Light aromatic solvent	64742-95-6	Not applicable
Methanol	67-56-1	Not applicable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Not applicable
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Not applicable
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not applicable
Isopropanol	67-63-0	Not applicable
Naphthalene	91-20-3	Not applicable
Sulfuric acid	7664-93-9	1000 lb

**EPA SARA (311,312) Hazard Class**

Acute Health Hazard  
Chronic Health Hazard  
Fire Hazard

**EPA SARA (313) Chemicals**

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Light aromatic solvent	64742-95-6	Not applicable	Not applicable
Methanol	67-56-1	1.0%	Not applicable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable	Not applicable
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Not applicable	Not applicable
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Not applicable	Not applicable
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not applicable	Not applicable
Isopropanol	67-63-0	1.0%	Not applicable
Naphthalene	91-20-3	0.1%	Not applicable
Sulfuric acid	7664-93-9	1.0%	Not applicable

**EPA CERCLA/Superfund Reportable Spill Quantity**

Substances	CAS Number	CERCLA RQ
Light aromatic solvent	64742-95-6	Not applicable
Methanol	67-56-1	5000 lb 2270 kg
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Not applicable
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Not applicable
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not applicable
Isopropanol	67-63-0	Not applicable
Naphthalene	91-20-3	100 lb 45.4 kg 1 lb 0.454 kg

Sulfuric acid	7664-93-9	1000 lb 454 kg
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**EPA RCRA Hazardous Waste Classification**

Ignitability D001  
Corrosivity D002

**California Proposition 65**

Substances	CAS Number	California Proposition 65
Light aromatic solvent	64742-95-6	Not applicable
Methanol	67-56-1	developmental toxicity
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Not applicable
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Not applicable
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not applicable
Isopropanol	67-63-0	Not applicable
Naphthalene	91-20-3	carcinogen
Sulfuric acid	7664-93-9	carcinogen

**U.S. State Right-to-Know Regulations**

Substances	CAS Number	MA Right-to-Know Law	NJ Right-to-Know Law	PA Right-to-Know Law
Light aromatic solvent	64742-95-6	Not applicable	Not applicable	Not applicable
Methanol	67-56-1	Present	1222	Environmental hazard
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable	Not applicable	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable	Not applicable	Not applicable
C10-C16 Alkylbenzenesulfonic acid	68584-22-5	Not applicable	Not applicable	Not applicable
n-Benzyl dimethyl cocoamine, C12-C18 quaternary salt	61789-71-7	Not applicable	Not applicable	Not applicable
Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	Not applicable	Not applicable	Not applicable
Isopropanol	67-63-0	Present	1076	Environmental hazard
Naphthalene	91-20-3	Present	1322	Environmental hazard
Sulfuric acid	7664-93-9	Extraordinarily hazardous	1761	Environmental hazard

**NFPA Ratings:** Health 3, Flammability 3, Reactivity 0

**HMS Ratings:** Health 3\*, Flammability 3, Physical Hazard 0, PPE: X

**Canadian Regulations**

**Canadian Domestic Substances** All components listed on inventory or are exempt.  
**List (DSL)**

**16. Other information****Preparation Information**

**Prepared By**

Chemical Stewardship  
Telephone: 1-281-871-6107  
e-mail: fdunexchem@halliburton.com

**Revision Date:**

09-May-2017

**Reason for Revision**

Update to Format

**Additional information**

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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 used in the safety data sheet**

bw – body weight

CAS – Chemical Abstracts Service

d - day

EC50 – Effective Concentration 50%

ErC50 – Effective Concentration growth rate 50%

h - hour

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

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

w/w - weight/weight

**Key literature references and sources for data**

OSHA

ECHA C&L

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

**Disclaimer Statement**

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**End of Safety Data Sheet**