

## SAFETY DATA SHEET

**Product Trade Name:** ClaySafe 5 System

Revision Number: 1

### 1. Identification

#### 1.1. Product Identifier

**Product Trade Name:** ClaySafe 5 System  
**Synonyms:** None  
**Chemical Family:** Blend  
**Internal ID Code:** HM72776

#### 1.2 Recommended use and restrictions on use

**Application:** Not determined  
**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: 1-281-871-6107  
e-mail: fdunexchem@halliburton.com

#### 1.4. Emergency telephone number

**Emergency Telephone Number:** 1-866-519-4752 or 1-760-476-3962

### 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.

Acute Inhalation Toxicity - Vapors	Category 4 - H332
Skin Corrosion / Irritation	Category 1 - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335

#### 2.2. Label Elements

**Hazard Pictograms**



**Signal Word**

Danger

**Hazard Statements**

H314 - Causes severe skin burns and eye damage  
 H318 - Causes serious eye damage  
 H332 - Harmful if inhaled  
 H335 - May cause respiratory irritation

**Precautionary Statements**

**Prevention**

P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
 P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P271 - Use only outdoors or in a well-ventilated area  
 P280 - Wear protective gloves/eye protection/face protection

**Response**

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  
 P363 - Wash contaminated clothing before reuse  
 P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing  
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P310 - Immediately call a POISON CENTER or doctor/physician

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
 P405 - Store locked up

**Disposal**

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
Acetic anhydride	108-24-7	5 - 10%	Acute Tox. 4 (H302) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Flam. Liq. 3 (H226)
Acetic acid	64-19-7	1 - 5%	Skin Corr. 1A (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Flam. Liq. 3 (H226)
Ammonium chloride	12125-02-9	5 - 10%	Acute Tox. 4 (H302) Eye Irrit. 2 (H319)

			Aquatic Acute 3 (H402)
1-Methoxy-2-propanol	107-98-2	1 - 5%	STOT SE 3 (H336) Flam. Liq. 3 (H226)
Isopropanol	67-63-0	0.1 - 1%	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225)

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 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

**Skin** 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.

**Ingestion** 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

Causes severe skin irritation with tissue destruction. Causes severe eye irritation which may damage tissue. May cause respiratory irritation. Harmful if inhaled.

### 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

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

Decomposition in fire may produce harmful gases.

### 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. Remove sources of ignition. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

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.

**7. Handling and storage**

**7.1. Precautions for Safe Handling**

**Handling Precautions**

Ensure adequate ventilation. Avoid contact with eyes, skin, or clothing. Use appropriate protective equipment. Remove sources of ignition.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

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

**Storage Information**

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

**8. Exposure Controls/Personal Protection**

**8.1 Occupational Exposure Limits**

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Acetic anhydride	108-24-7	TWA: 5 ppm	TWA: 1 ppm
Acetic acid	64-19-7	TWA: 10 ppm	TWA: 10 ppm STEL: 15 ppm
Ammonium chloride	12125-02-9	Not applicable	TWA: 10 mg/m <sup>3</sup> STEL: 20 mg/m <sup>3</sup>
1-Methoxy-2-propanol	107-98-2	Not applicable	TWA: 50 ppm STEL: 100 ppm
Isopropanol	67-63-0	TWA: 400 ppm	TWA: 200 ppm STEL: 400 ppm

**8.2 Appropriate engineering controls**

**Engineering Controls**

Ensure adequate ventilation, especially in confined areas

**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**

Splashproof chemical monogoggles or safety glasses with side shields in conjunction with a 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  
**Odor:** Mild vinegar      **Odor** No information available  
**Threshold:**

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
<b>pH:</b>	2.18
<b>Freezing Point/Range</b>	No data available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	No data available
<b>Flash Point</b>	> 93.3 °C / > 200 °F
<b>Flammability (solid, gas)</b>	No data available
upper flammability limit	No data available
lower flammability limit	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.03
<b>Water Solubility</b>	No data available
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

**VOC Content (%)** No data available  
**Liquid Density** 8.59 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 acids. Strong bases. Strong oxidizing agents

### 10.6. Hazardous Decomposition Products

Carbon oxides.

## 11. Toxicological Information

### 11.1 Information on likely routes of exposure

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

### 11.2 Symptoms related to the physical, chemical and toxicological characteristics

#### Acute Toxicity

##### Inhalation

Harmful if inhaled. May cause respiratory irritation.

##### Eye Contact

Causes severe eye irritation which may damage tissue.

##### Skin Contact

Causes severe skin irritation with tissue destruction.

##### Ingestion

May cause abdominal pain, vomiting, nausea, and diarrhea. May cause headache, dizziness, vomiting, and cramps.

### 11.3 Toxicity data

#### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic anhydride	108-24-7	630 mg/kg (Rat)	4000 mg/kg (Rabbit)	4.1 mg/L (Rat) 4h 4.2 mg/L (Rat) 4h 1000 mg/L (Rat) 4h
Acetic acid	64-19-7	3310 mg/kg (Rat) 600 mg/kg (Rabbit) 4960 mg/kg (Mouse)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4h
Ammonium chloride	12125-02-9	1410 mg/kg (Rat) 1220 mg/kg (Rat) 1630 mg/kg (Rat) 1300 mg/kg (Mouse)	> 2000 mg/kg (Rat)	No data available
1-Methoxy-2-propanol	107-98-2	5200 mg/kg (Rat) 3739 mg/kg (Rat) 4016 mg/kg (Rat)	13000 mg/kg (Rabbit) > 2000 mg/kg (Rat)	54.6 mg/L (Rat) 4h 24 mg/L (Rat) 1h 27.8 mg/L (Rat) 6h
Isopropanol	67-63-0	4396 mg/kg (Rat) 5840 mg/kg (Rat) 3600 mg/kg (Mouse)	12,800 mg/kg (Rat) 12,870 mg/kg (Rabbit) 6280 mg/kg (Rabbit)	72.6 mg/L (Rat) 4h > 10,000 mg/L (Rat) 6h

Substances	CAS Number	Skin corrosion/irritation
Acetic anhydride	108-24-7	Corrosive to skin
Acetic acid	64-19-7	Corrosive to skin
Ammonium chloride	12125-02-9	Non-irritating to the skin (Rabbit)
1-Methoxy-2-propanol	107-98-2	Not irritating to skin in rabbits. (Rabbit)
Isopropanol	67-63-0	Non-irritating to the skin (Rabbit)

Substances	CAS Number	Eye damage/irritation
Acetic anhydride	108-24-7	Causes severe eye burns
Acetic acid	64-19-7	Corrosive to eyes
Ammonium chloride	12125-02-9	Causes moderate eye irritation. (Rabbit)
1-Methoxy-2-propanol	107-98-2	Non-irritating to rabbit's eye
Isopropanol	67-63-0	Causes moderate eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Acetic anhydride	108-24-7	Not regarded as a sensitizer.
Acetic acid	64-19-7	Not regarded as a sensitizer.
Ammonium chloride	12125-02-9	Did not cause sensitization on laboratory animals (guinea pig)
1-Methoxy-2-propanol	107-98-2	Did not cause sensitization on laboratory animals (guinea pig)
Isopropanol	67-63-0	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Acetic anhydride	108-24-7	No information available
Acetic acid	64-19-7	No information available
Ammonium chloride	12125-02-9	No information available
1-Methoxy-2-propanol	107-98-2	No information available
Isopropanol	67-63-0	No information available

Substances	CAS Number	Mutagenic Effects
Acetic anhydride	108-24-7	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
Acetic acid	64-19-7	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects
Ammonium chloride	12125-02-9	Not regarded as mutagenic.

ClaySafe 5 System

1-Methoxy-2-propanol	107-98-2	Not regarded as mutagenic.
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
Acetic anhydride	108-24-7	No information available.
Acetic acid	64-19-7	Did not show carcinogenic effects in animal experiments
Ammonium chloride	12125-02-9	Did not show carcinogenic effects in animal experiments
1-Methoxy-2-propanol	107-98-2	Did not show carcinogenic effects in animal experiments
Isopropanol	67-63-0	Did not show carcinogenic effects in animal experiments

Substances	CAS Number	Reproductive toxicity
Acetic anhydride	108-24-7	Not a confirmed teratogen or embryotoxin.
Acetic acid	64-19-7	Did not show teratogenic effects in animal experiments. Animal testing did not show any effects on fertility.
Ammonium chloride	12125-02-9	Did not show teratogenic effects in animal experiments. Animal testing did not show any effects on fertility. (similar substances)
1-Methoxy-2-propanol	107-98-2	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
Isopropanol	67-63-0	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - single exposure
Acetic anhydride	108-24-7	May cause respiratory irritation.
Acetic acid	64-19-7	May cause respiratory irritation.
Ammonium chloride	12125-02-9	No information available
1-Methoxy-2-propanol	107-98-2	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.

Substances	CAS Number	STOT - repeated exposure
Acetic anhydride	108-24-7	Not applicable due to corrosivity of the substance.
Acetic acid	64-19-7	Not applicable due to corrosivity of the substance.
Ammonium chloride	12125-02-9	No significant toxicity observed in animal studies at concentration requiring classification.
1-Methoxy-2-propanol	107-98-2	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)

Substances	CAS Number	Aspiration hazard
Acetic anhydride	108-24-7	Not applicable
Acetic acid	64-19-7	Not applicable
Ammonium chloride	12125-02-9	Not applicable
1-Methoxy-2-propanol	107-98-2	No information available
Isopropanol	67-63-0	Not applicable

**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
Acetic anhydride	108-24-7	EC50 (72h) >1000 mg/L (>300.82 mg/L acetate ion) (growth rate) (Skeletonema costatum) (similar substance)	LC50 265 mg/L (Leuciscus idus) LC50 (96h) >1000 mg/L (>300.82 mg/L acetate ion) (Oncorhynchus mykiss) (similar substance)	NOEC (16h) 1150 mg/L (Pseudomonas putida) (similar substance)	EC50 (24h) 55 mg/L (Daphnia magna) EC50 (48h) >1000 mg/L (>300.82 mg/L acetate ion) (Daphnia magna) (similar substance) NOEC (21d) 31.4-37.9 mg/L (Daphnia magna) (reproduction) (similar substance)

## ClaySafe 5 System

					EC50 (24h) 3200 mg/L (Daphnia magna) (buffered acetate ion)
Acetic acid	64-19-7	EC50 90 mg/L (Microcystis aeruginosa) EC50 (72h) > 1000 mg/L (>300.82 mg/L – acetate ion) (Skeletonema costatum)	LC50 79 mg/L (Pimephales promelas) LC50 75 mg/L (Pimephales promelas) LC50 (96h) > 1000 mg/L (>300.82 mg/L – acetate ion) (Oncorhynchus mykiss)	NOEC (16h) 1150 mg/L (Pseudomonas putida)	EC50 47 mg/L (Daphnia magna) LC50 32 mg/L (Artemia salina) EC50 (48h) > 1000 mg/L (>300.82 mg/L – acetate ion) (Daphnia magna) NOEC (21d) 31.4 - 37.9 mg/L (Daphnia magna) (reproduction)
Ammonium chloride	12125-02-9	EC50 40-70 mg/L (Skeletonema costatum) EC50 (10d) 90.4 mg/L (Navicula sp.) NOEC (10d) 26.8 mg/L (growth rate) (Navicula sp.) EC50 (5d) 1300 mg/L (growth rate) (Chlorella vulgaris)	LC50 (96h) 275 mg/L (Cyprinus carpio) LC50 (96h) 163 mg/L (Pimephales promelas) LC50 (96h) 218 mg/L (Lepomis cyanellus) LC50 (96h) 34 mg/L (Oncorhynchus mykiss) NOEC (28d) 11.8 mg/L (Pimephales promelas)	EC50 (30m) 1618 mg/L (activated sludge, domestic)	TLM96 16 mg/L (Crangon crangon) EC50 (48h) 101 mg/L (Daphnia magna) NOEC (21d) 14.6 mg/L (Daphnia magna)
1-Methoxy-2-propanol	107-98-2	EC50 (96h) > 1000 mg/L (Desmodesmus subspicatus)	LC50 (96h) 6812 mg/L (Leuciscius idus)	No information available	LC50 (48h) > 23300 mg/L (Daphnia magna)
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)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Acetic anhydride	108-24-7	Readily biodegradable (96% @ 20d)
Acetic acid	64-19-7	Readily biodegradable (99% @ 7d)
Ammonium chloride	12125-02-9	The methods for determining biodegradability are not applicable to inorganic substances.
1-Methoxy-2-propanol	107-98-2	(96% @ 28d)
Isopropanol	67-63-0	Readily biodegradable (53% @ 5d)

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Acetic anhydride	108-24-7	-0.58 BCF 3.16 (Calculated)
Acetic acid	64-19-7	-0.17 BCF = 3.16 (Calculated)
Ammonium chloride	12125-02-9	No information available
1-Methoxy-2-propanol	107-98-2	-0.437 BCF = 3.16 (calculated)
Isopropanol	67-63-0	0.05

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Acetic anhydride	108-24-7	KOC = 1.339 (Calculated)
Acetic acid	64-19-7	No information available
Ammonium chloride	12125-02-9	No information available
1-Methoxy-2-propanol	107-98-2	No information available
Isopropanol	67-63-0	KOC = 1.5

### 12.5 Other adverse effects

No information available



## 13. Disposal Considerations

### 13.1. Waste treatment methods

**Disposal Method** Dispose in accordance with local regulations.  
**Contaminated Packaging** Follow all applicable national or local regulations.

## 14. Transport Information

### US DOT

**UN Number:** UN3265  
**UN Proper Shipping Name:** Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Acetic Anhydride, Acetic Acid)  
**Transport Hazard Class(es):** 8  
**Packing Group:** III  
**Environmental Hazards:** Not applicable  
**NAERG:** NAERG 153

### US DOT Bulk

**DOT (Bulk)** Not applicable

### Canadian TDG

**UN Number:** UN3265  
**UN Proper Shipping Name:** Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Acetic Anhydride, Acetic Acid)  
**Transport Hazard Class(es):** 8  
**Packing Group:** III  
**Environmental Hazards:** Not applicable

Not approved for transport in Canada

### IMDG/IMO

**UN Number:** UN3265  
**UN Proper Shipping Name:** Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Acetic Anhydride, Acetic Acid)  
**Transport Hazard Class(es):** 8  
**Packing Group:** III  
**Environmental Hazards:** Not applicable  
**EMS:** EmS F-A, S-B

### IATA/ICAO

**UN Number:** UN3265  
**UN Proper Shipping Name:** Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Acetic Anhydride, Acetic Acid)  
**Transport Hazard Class(es):** 8  
**Packing Group:** III  
**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.

### TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Acetic anhydride	108-24-7	Not applicable
Acetic acid	64-19-7	Not applicable
Ammonium chloride	12125-02-9	Not applicable

ClaySafe 5 System

1-Methoxy-2-propanol	107-98-2	Not applicable
Isopropanol	67-63-0	Not applicable

**EPA SARA Title III Extremely Hazardous Substances**

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Acetic anhydride	108-24-7	Not applicable
Acetic acid	64-19-7	Not applicable
Ammonium chloride	12125-02-9	Not applicable
1-Methoxy-2-propanol	107-98-2	Not applicable
Isopropanol	67-63-0	Not applicable

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

Acute Health Hazard

**EPA SARA (313) Chemicals**

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Acetic anhydride	108-24-7	Not applicable	Not applicable
Acetic acid	64-19-7	Not applicable	Not applicable
Ammonium chloride	12125-02-9	1.0%	Not applicable
1-Methoxy-2-propanol	107-98-2	Not applicable	Not applicable
Isopropanol	67-63-0	1.0%	Not applicable

**EPA CERCLA/Superfund Reportable Spill Quantity**

Substances	CAS Number	CERCLA RQ
Acetic anhydride	108-24-7	5000 lb 2270 kg
Acetic acid	64-19-7	5000 lb 2270 kg
Ammonium chloride	12125-02-9	5000 lb 2270 kg
1-Methoxy-2-propanol	107-98-2	Not applicable
Isopropanol	67-63-0	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**            Product contains one or more components not listed on the inventory.

**16. Other information**

**Preparation Information**

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

**Reason for Revision**                SDS sections updated:

**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<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

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

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**