multi-chem®
A HALLIBURTON SERVICE

SAFETY DATA SHEET

Product Trade Name: **MC MXC 4-4964**

Revision Date: 15-May-2020 **Revision Number:** 2

1. Identification

1.1. Product Identifier

Product Trade Name: MC MXC 4-4964
Synonyms None
Chemical Family: Blend
Internal ID Code MC006203

1.2 Recommended use and restrictions on use

Application: Foaming Agent
Uses advised against Consumer use

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier
Multi-Chem Group LLC
A Halliburton Energy Services, Inc. Company
3000 N. Sam Houston Pkwy E., Houston, TX 77032
Phone: 1-281-871-4000

Halliburton Group Canada
645 - 7th Ave SW Suite 1800
Calgary, AB, T2P 4G8, Canada
Telephone: 1-403-231-9300

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 (accessible 24 hours a day / 7 days a week)
Global Incident Response Access Code: 334305
Contract Number: 14012

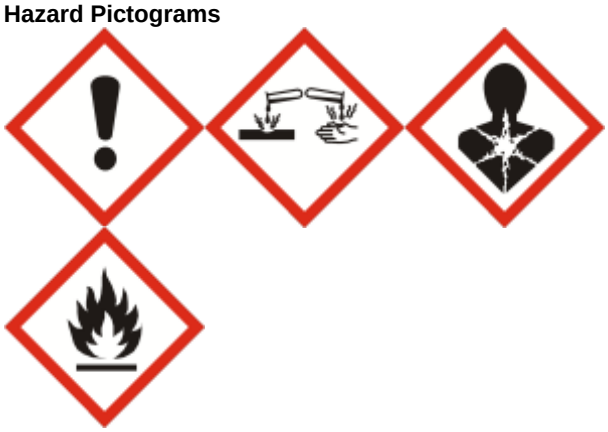
2. Hazards Identification

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

Acute Oral Toxicity	Category 4 - H302
Skin Corrosion / Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 1 - H318
Specific Target Organ Toxicity - (Single Exposure)	Category 1 - H370
Acute Aquatic Toxicity	Category 2 - H401
Flammable liquids.	Category 3 - H226

2.2. Label Elements

Hazard Pictograms



Signal Word: Danger

Hazard Statements

H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H360 - May damage fertility or the unborn child
H370 - Causes damage to organs
H401 - Toxic to aquatic life

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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed
P240 - Ground and bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting/equipment
P242 - Use only non-sparking tools
P243 - Take action to prevent static discharges.
P260 - Do not breathe 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
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P362 + P364 - Take off contaminated clothing and wash before reuse
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
P370 + P378 - In case of fire: Use CO2, dry chemical, or foam

Storage

P403 + P235 - Store in a well-ventilated place. Keep cool
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
Ethylene glycol	107-21-1	30 - 60%	Acute Tox. 4 (H302) STOT SE 1 (H370)
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	10 - 30%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412)
Methanol	67-56-1	5 - 10%	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370) Flam. Liq. 2 (H225)
Ethylene glycol monobutyl ether	111-76-2	1 - 5%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Flam. Liq. 4 (H227)
Isopropanol	67-63-0	1 - 5%	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225)

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

4. First Aid Measures

4.1. Description of first aid measures

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

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 15 minutes. Get medical attention.

Ingestion 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

Causes severe eye irritation which may damage tissue. Causes skin irritation. Harmful if swallowed. May cause damage to internal organs.

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

Notes to Physician 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.

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.
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

Remove ignition sources and work with non-sparking tools. 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

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. Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Ethylene glycol	107-21-1	Not applicable	TWA: 25 ppm STEL: 50 ppm STEL: 10 mg/m^3
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	Not applicable	Not applicable
Methanol	67-56-1	TWA: 200 ppm TWA: 260 mg/m^3	TWA: 200 ppm STEL: 250 ppm
Ethylene glycol monobutyl ether	111-76-2	TWA: 50 ppm TWA: 240 mg/m^3	TWA: 20 ppm
Isopropanol	67-63-0	TWA: 400 ppm TWA: 980 mg/m^3	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. Positive pressure self-contained breathing apparatus if methanol is released.
Organic vapor respirators have a short service life.

Hand Protection Impervious rubber gloves. Manufacturer's directions for use should be observed because of great diversity of types.

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 Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Odor: Not determined

Color Clear Colorless to Light Amber
Odor Threshold: No information available

Property Remarks/ - Method	Values
pH:	5.55 - 6.55 (10% in 1:1 IPA:H2O)
Freezing Point / Range	No data available
Melting Point / Range	No data available
Pour Point / Range	No data available
Boiling Point / Range	No data available
Flash Point	52.7 °C / 126.9 °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	1.0415 - 1.0665 (20 °C/68 °F)
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
Liquid Density	8.68 - 8.9 lbs/gal
Bulk Density	1041 - 1067 kg/m^3

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.

10.6. Hazardous decomposition products
Carbon oxides. Alcohols.

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	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 skin irritation.
Ingestion	Harmful if swallowed. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression. Ingestion of this product may cause blindness due to the presence of methanol.

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

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol	107-21-1	1400 mg/kg bw (Human)	9530 mg/kg (Rabbit)	> 2.5 mg/L (Rat, mist, 6h) (saturated concentration)
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	4100 mg/kg (Rat) (Similar substance)	>5000 mg/kg (Rabbit (Similar substance)	No data available
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)
Ethylene glycol monobutyl ether	111-76-2	530 mg/kg-bw (guinea pig)	400 mg/kg (Rabbit)	No data available
Isopropanol	67-63-0	4700 mg/kg-bw (rat)	12870 mg/kg-bw (rabbit)	72.6 mg/L (Rat, 4h, vapor)

Substances	CAS Number	Skin corrosion/irritation
Ethylene glycol	107-21-1	Non-irritating to the skin (Rabbit)
Ammonium Salt of Ethoxylated Alcohol Sulfate		Causes moderate skin irritation. (Rabbit) (similar substances)
Methanol	67-56-1	Non-irritating to the skin (Rabbit)
Ethylene glycol monobutyl ether	111-76-2	Skin, rabbit: Causes moderate skin irritation. Causes skin irritation. (Rabbit)
Isopropanol	67-63-0	Non-irritating to the skin (Rabbit)

Substances	CAS Number	Serious eye damage/irritation
Ethylene glycol	107-21-1	Non-irritating to the eye (Rabbit)
Ammonium Salt of Ethoxylated Alcohol Sulfate		Causes severe eye irritation (Rabbit) (similar substances)
Methanol	67-56-1	Non-irritating to the eye (Rabbit)
Ethylene glycol monobutyl ether	111-76-2	Eye, rabbit: Causes moderate eye irritation Causes eye irritation. (Rabbit)
Isopropanol	67-63-0	Causes moderate eye irritation (Rabbit)

Substances	CAS Number	Skin Sensitization
Ethylene glycol	107-21-1	Did not cause sensitization on laboratory animals (guinea pig) Patch test on human volunteers did not demonstrate sensitization properties
Ammonium Salt of Ethoxylated Alcohol Sulfate		Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)
Ethylene glycol monobutyl ether	111-76-2	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
Ethylene glycol	107-21-1	No information available
Ammonium Salt of Ethoxylated Alcohol Sulfate		No information available
Methanol	67-56-1	No information available
Ethylene glycol monobutyl ether	111-76-2	No information available
Isopropanol	67-63-0	No information available

Substances	CAS Number	Mutagenic Effects
Ethylene glycol	107-21-1	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Ammonium Salt of Ethoxylated Alcohol Sulfate		In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects. (similar substances)
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.
Ethylene glycol monobutyl ether	111-76-2	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
Ethylene glycol	107-21-1	Did not show carcinogenic effects in animal experiments
Ammonium Salt of		Did not show carcinogenic effects in animal experiments (similar substances)

Ethoxylated Alcohol Sulfate		
Methanol	67-56-1	No data of sufficient quality are available.
Ethylene glycol monobutyl ether	111-76-2	Not regarded as carcinogenic.
Isopropanol	67-63-0	Did not show carcinogenic effects in animal experiments

Substances	CAS Number	Reproductive toxicity
Ethylene glycol	107-21-1	Data are inconclusive or insufficient for classification. Fetotoxic and teratogenic effects observed in experimental animals at concentrations that did not produce maternal toxicity.
Ammonium Salt of Ethoxylated Alcohol Sulfate		Did not show teratogenic effects in animal experiments. (similar substances)
Methanol	67-56-1	Based on available data, the classification criteria are not met. Experiments have shown reproductive toxicity effects on laboratory animals
Ethylene glycol monobutyl ether	111-76-2	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.

Substances	CAS Number	STOT - single exposure
Ethylene glycol	107-21-1	May cause disorder and damage to the Kidney; Central Nervous System (CNS)
Ammonium Salt of Ethoxylated Alcohol Sulfate		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)
Ethylene glycol monobutyl ether	111-76-2	Has been shown to cause damage to organs in a single exposure.
Isopropanol	67-63-0	May cause headache, dizziness, and other central nervous system effects.

Substances	CAS Number	STOT - repeated exposure
Ethylene glycol	107-21-1	Causes damage to organs through prolonged or repeated exposure: Kidney
Ammonium Salt of Ethoxylated Alcohol Sulfate		No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Methanol	67-56-1	No data of sufficient quality are available.
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.
Isopropanol	67-63-0	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	Aspiration hazard
Ethylene glycol	107-21-1	No information available
Ammonium Salt of Ethoxylated Alcohol Sulfate		Not applicable
Methanol	67-56-1	Not applicable
Ethylene glycol monobutyl ether	111-76-2	Not applicable
Isopropanol	67-63-0	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity effects

Toxic to aquatic life.

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Ethylene glycol	107-21-1	EC50 (72h) 6500 - 13000 mg/L (Selenastrum capricornutum)	LC50 (96h) 72860 mg/L (Pimephales promelas) NOEC (7d) 15380 mg/L (Pimephales promelas)	No information available	EC50(48 hr)>100 mg/L (Daphnia magna) NOEC (7d) 8590 mg/L(Ceriodaphnia dubia)
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	EC50 (72h) 73.52 mg/L (Skeletonema costatum) ErC50 (72h) 32 mg/L (Selenstrum capriconutum) (similar substance) NOErC (72h) 9 mg/L	LC50 (96h) 1 - 2.5 mg/L (Salmo trutta) (similar substance) LC50 (96h) 350 mg/L (Scophthalmus maximus) NOEC (30d) 0.88 mg/L (Pimephales promelas)	No information available	EC50 (48h) 1.17 mg/L (Daphnia magna) (similar substance) LC50 (96h) 232.5 mg/L (Acartia tonsa) NOEC (21d) 0.37 mg/L (Daphnia magna) (similar

		(Selenastrum capricornutum) NOEC (72h) 32 mg/L (Skeletonema costatum)	(similar substance)		substance)
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 (200h)=14536 mg/L (Oryzias latipes)	No information available	NOEC(21 d)=208 mg/L (Daphnia magna) EC50 (48h)=22200 mg/L (Daphnia obtuse)
Ethylene glycol monobutyl ether	111-76-2	EC50(72 h)=1840 mg/L (Pseudokirchneriella subcapitata)	LC50(96 h)=1474 mg/L (Oncorhynchus mykiss) NOAEC(21 d)>100 mg/L (Danio rerio)	No information available	EC50(48 h)=1800 mg/L (Daphnia magna) EC50(21 d)=297 mg/L (Daphnia magna)
Isopropanol	67-63-0	EC50 (72h) > 1000 mg/L (Desmodesmus subspicatus) EC50 (7d) 1800 mg/L (meanextinction 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 (48 h)=2285 mg/L (Daphnia sp.) EC50 (24h) > 10,000 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Ethylene glycol	107-21-1	Readily biodegradable (100% @ <4d)
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	Readily biodegradable
Methanol	67-56-1	Readily biodegradable (95% @ 20d)
Ethylene glycol monobutyl ether	111-76-2	Readily biodegradable (90.4% @ 28d)
Isopropanol	67-63-0	Readily biodegradable (53% @ 5d)

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Ethylene glycol	107-21-1	LogKow-1.36
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	Log Pow = 0.7
Methanol	67-56-1	Not Bioaccumulative; BCF=1
Ethylene glycol monobutyl ether	111-76-2	Log Pow=0.9
Isopropanol	67-63-0	LogPow < 4.5

12.4. Mobility in soil

Substances	CAS Number	Mobility
Ethylene glycol	107-21-1	No information available
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	No information available
Methanol	67-56-1	No information available
Ethylene glycol monobutyl ether	111-76-2	No information available
Isopropanol	67-63-0	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 Follow all applicable national or local regulations.

14. Transport Information

US DOT

UN Number UN1993
UN proper shipping name: Flammable Liquid, N.O.S. (Contains Methanol, Isopropanol)
Transport Hazard Class(es): 3
Packing Group: III
Environmental Hazards: Not applicable
NAERG: NAERG 128

Canadian TDG

UN Number UN1993
UN proper shipping name: Flammable Liquid, N.O.S. (Contains Methanol, Isopropanol)
Transport Hazard Class(es): 3
Packing Group: III
Environmental Hazards: Not applicable

IMDG/IMO

UN Number UN1993
UN proper shipping name: Flammable Liquid, N.O.S. (Contains Methanol, Isopropanol)
Transport Hazard Class(es): 3
Packing Group: III
Environmental Hazards: Not applicable

IATA/ICAO

UN Number UN1993
UN proper shipping name: Flammable Liquid, N.O.S. (Contains Methanol, Isopropanol)
Transport Hazard Class(es): 3
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	TSCA Section 5(E) Consent Orders
Ethylene glycol	107-21-1	Not applicable	Not applicable
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	Not applicable	Not applicable
Methanol	67-56-1	Not applicable	Not applicable
Ethylene glycol monobutyl ether	111-76-2	Not applicable	Not applicable
Isopropanol	67-63-0	Not applicable	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Ethylene glycol	107-21-1	Not applicable
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	Not applicable
Methanol	67-56-1	Not applicable
Ethylene glycol monobutyl ether	111-76-2	Not applicable
Isopropanol	67-63-0	Not applicable

EPA SARA (311,312) Hazard Class
Flammable (gases, aerosols, liquids, or solids)

Acute toxicity (any route of exposure)
Skin Corrosion or Irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Ethylene glycol	107-21-1	1.0%	Not applicable
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	Not applicable	Not applicable
Methanol	67-56-1	1.0%	Not applicable
Ethylene glycol monobutyl ether	111-76-2	1.0%	Not applicable
Isopropanol	67-63-0	1.0%	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Ethylene glycol	107-21-1	5000 lb 2270 kg
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	Not applicable
Methanol	67-56-1	5000 lb 2270 kg
Ethylene glycol monobutyl ether	111-76-2	Not applicable
Isopropanol	67-63-0	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of:

Ignitability D001

California Proposition 65

Substances	CAS Number	California Proposition 65
Ethylene glycol	107-21-1	developmental toxicity
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	Not applicable
Methanol	67-56-1	developmental toxicity
Ethylene glycol monobutyl ether	111-76-2	Not applicable
Isopropanol	67-63-0	Not applicable

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
Ethylene glycol	107-21-1	Present	Present	Environmental hazard
Ammonium Salt of Ethoxylated Alcohol Sulfate	Proprietary	Not applicable	Not applicable	Not applicable
Methanol	67-56-1	Present	Present	Environmental hazard
Ethylene glycol monobutyl ether	111-76-2	Present	Present	Present Environmental hazard
Isopropanol	67-63-0	Present	Present	Environmental hazard

NFPA Ratings: Health 2, Flammability 2, Reactivity 0
HMIS Ratings: Health 2*, Flammability 2, Physical Hazard 0 , PPE: X

Canadian Regulations

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

16. Other information

Preparation Information

Prepared By	Chemical Stewardship Telephone: 1-281-871-6107 e-mail: fdunexchem@halliburton.com
Revision Date:	15-May-2020
Reason for Revision	SDS sections updated: 2 4 8 11 14 15

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 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^3 - 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

www.ChemADVISOR.com/

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End of Safety Data Sheet