multi-chem®
A HALLIBURTON SERVICE

SAFETY DATA SHEET

Product Trade Name: **MC MX 6-1027**

Revision Date: 25-Sep-2018 **Revision Number:** 9

1. Identification

1.1. Product Identifier

Product Trade Name: MC MX 6-1027
Synonyms None
Chemical Family: Blend
Internal ID Code MC001836

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
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
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

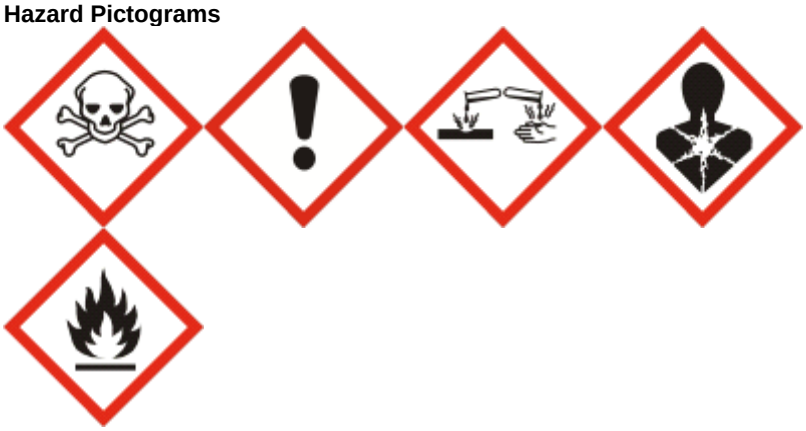
2.1 Classification in accordance with paragraph (d) of §1910.1200

Aspiration Toxicity	Category 1 - H304
Acute Oral Toxicity	Category 3 - H301
Acute toxicity - Dermal	Category 3 - H311
Acute inhalation toxicity - vapor	Category 3 - H331
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
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2 Category 1 - H372
Acute Aquatic Toxicity	Category 2 - H401
Chronic Aquatic Toxicity	Category 3 - H412
Flammable liquids.	Category 2 - H225

2.2. Label Elements

Hazard Pictograms



Signal Word: Danger

Hazard Statements

H225 - Highly flammable liquid and vapor
H301 - Toxic if swallowed
H304 - May be fatal if swallowed and enters airways
H311 - Toxic in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H331 - Toxic if inhaled
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
H372 - Causes damage to organs through prolonged or repeated exposure
H401 - Toxic to aquatic life
H412 - Harmful 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, 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 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 P280 - Wear protective gloves/protective clothing/eye protection/face protection
Response	P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting P302 + P352 - IF ON SKIN: Wash with plenty of water. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P362 + P364 - Take off contaminated clothing and wash before reuse P304 + P340 - IF INHALED: Remove person to fresh air and keep 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 P310 - Immediately call a POISON CENTER or doctor/physician P370 + P378 - In case of fire: Use CO2, dry chemical, or foam
Storage	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
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
Methanol	67-56-1	30 - 60%	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Repr. 1B (H360) STOT SE 1 (H370) Flam. Liq. 2 (H225)
Light aromatic solvent	64742-95-6	10 - 30%	Skin Irrit. 2 (H315) Muta. 1B (H340) Carc. 1B (H350) STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412) Flam. Liq. 3 (H226)
1,2,4 Trimethylbenzene	95-63-6	5 - 10%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) STOT RE 1 (H372) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411) Flam. Liq. 3 (H226)
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)
Morpholine process residues	Proprietary	1 - 5%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318) Skin Sens. 1 (H317)
Fatty acids, tall-oil, maleated	68139-89-9	1 - 5%	Eye Irrit. 2B (H320)

			Skin Sens. 1 (H317)

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

4. First Aid Measures

4.1. Description of first aid measures

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek immediate medical attention/advice.

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 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

Toxic if swallowed. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. Toxic in contact with skin. Toxic if inhaled. 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. May cause damage to organs through prolonged or repeated exposure.

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.

Aspiration may cause severe lung damage. Evacuate stomach in a way which avoids aspiration.

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.

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

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

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Methanol	67-56-1	TWA: 200 ppm TWA: 260 mg/m^3	TWA: 200 ppm STEL: 250 ppm
Light aromatic solvent	64742-95-6	Not applicable	Not applicable
1,2,4 Trimethylbenzene	95-63-6	Not applicable	Not applicable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable	Not applicable
Morpholine process residues	Proprietary	Not applicable	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable	Not applicable

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	Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	**Color**	Light Amber to Dark Amber , Clear to hazy
Odor:	Aromatic hydrocarbon	**Odor Threshold:**	No information available

Property Remarks/ - Method	Values
pH:	8.4-10.4 (10% in 1:1 IPA:H2O)
Freezing Point / Range	-40 °C / -40 °F
Melting Point / Range	No data available
Pour Point / Range	-40 °C / -40 °F
Boiling Point / Range	No data available
Flash Point	11.7 °C / 53 °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	0.8309-0.8559 (20 °C/68 °F)
Water Solubility	No data available
Solubility in other solvents	Oil soluble
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	6.93-7.13 lbs/gal
Bulk Density	831-856 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. Oxides of nitrogen. Alcohols.

11. Toxicological Information

11.1 Information on likely routes of exposure
Principle Route of Exposure Eye contact. Skin contact. Inhalation. Ingestion.

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. Toxic if inhaled.

Eye Contact Causes serious eye damage.

Skin Contact Toxic in contact with skin. Causes severe burns. May cause an allergic skin reaction.

Ingestion Ingestion of this product may cause blindness due to the presence of methanol. Toxic 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. Causes damage to organs through prolonged or repeated exposure.

11.3 Toxicity data
Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
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)
Light aromatic solvent	64742-95-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 8.53 mg/L (vapor, 4 hr, rat)
1,2,4 Trimethylbenzene	95-63-6	3415 mg/kg-bw (rat)	>3440 mg/kg-bw (rat) (similar substance)	>10.2 mg/L (rat, 4 h, aerosol) (similar substance)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	>4000 mg/kg (Rat)	No data available	No data available
Morpholine process residues	Proprietary	3816 mg/kg-bw (rat)	> 2000 mg/kg (Rat)	No toxicity at saturation (rat, 8 h, vapour)
Fatty acids, tall-oil, maleated	68139-89-9	>2000 mg/kg-bw (rat) (similar substance)	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Methanol	67-56-1	Non-irritating to the skin (Rabbit)
Light aromatic solvent	64742-95-6	Causes moderate skin irritation. (Rabbit)
1,2,4 Trimethylbenzene	95-63-6	Irritating to skin. (Rabbit) Causes moderate skin irritation. (similar substances)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Causes severe skin irritation with tissue destruction.
Morpholine process residues		Causes moderate skin irritation. (Rabbit) Skin, rabbit:
Fatty acids, tall-oil, maleated	68139-89-9	Not irritating to skin in rabbits.

Substances	CAS Number	Serious eye damage/irritation
Methanol	67-56-1	Non-irritating to the eye (Rabbit)

Light aromatic solvent	64742-95-6	Non-irritating to rabbit's eye
1,2,4 Trimethylbenzene	95-63-6	Irritating to eyes (Rabbit) May cause moderate eye irritation.
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Causes severe eye irritation. Will damage tissue.
Morpholine process residues		Causes eye burns Causes severe eye irritation. Will damage tissue.
Fatty acids, tall-oil, maleated	68139-89-9	Causes mild eye irritation. (similar substances) Non-irritating to rabbit's eye

Substances	CAS Number	Skin Sensitization
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)
Light aromatic solvent	64742-95-6	Did not cause sensitization on laboratory animals (guinea pig)
1,2,4 Trimethylbenzene	95-63-6	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	As a precaution the product should be treated as a sensitizer
Morpholine process residues		May cause sensitization by skin contact (mouse)
Fatty acids, tall-oil, maleated	68139-89-9	(mouse) May cause sensitization by skin contact

Substances	CAS Number	Respiratory Sensitization
Methanol	67-56-1	No information available
Light aromatic solvent	64742-95-6	No information available
1,2,4 Trimethylbenzene	95-63-6	No information available
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Morpholine process residues		No information available
Fatty acids, tall-oil, maleated	68139-89-9	No information available

Substances	CAS Number	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.
Light aromatic solvent	64742-95-6	Some in vivo tests have shown mutagenic effects. In vitro tests have shown mutagenic effects
1,2,4 Trimethylbenzene	95-63-6	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Morpholine process residues		In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Fatty acids, tall-oil, maleated	68139-89-9	(similar substances) In vitro tests did not show mutagenic effects

Substances	CAS Number	Carcinogenic Effects
Methanol	67-56-1	No data of sufficient quality are available.
Light aromatic solvent	64742-95-6	Contains a known or suspected carcinogen
1,2,4 Trimethylbenzene	95-63-6	No information available
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Morpholine process residues		No information available

Substances	CAS Number	Reproductive toxicity
Methanol	67-56-1	Experiments have shown reproductive toxicity effects on laboratory animals
Light aromatic solvent	64742-95-6	No data of sufficient quality are available.
1,2,4 Trimethylbenzene	95-63-6	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances) Adverse developmental effects were only observed at maternally toxic doses.
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Morpholine process residues		Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.
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.

Substances	CAS Number	STOT - single exposure
Methanol	67-56-1	May cause disorder and damage to the Central Nervous System (CNS)
Light aromatic solvent	64742-95-6	May cause headache, dizziness, and other central nervous system effects. No information available
1,2,4 Trimethylbenzene	95-63-6	May cause respiratory irritation. No information available
Fatty acids, tall-oil, reaction	61790-69-0	No information available

products with diethylenetriamine		
Morpholine process residues		No significant toxicity observed in animal studies at concentration requiring classification.
Fatty acids, tall-oil, maleated	68139-89-9	No information available

Substances	CAS Number	STOT - repeated exposure
Methanol	67-56-1	No data of sufficient quality are available.
Light aromatic solvent	64742-95-6	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
1,2,4 Trimethylbenzene	95-63-6	Causes damage to organs through prolonged or repeated exposure if inhaled: (Hematopoietic System) Central Nervous System (CNS) (Central nervous system)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Morpholine process residues		No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Methanol	67-56-1	No information available
Light aromatic solvent	64742-95-6	May be fatal if swallowed and enters airways
1,2,4 Trimethylbenzene	95-63-6	Risk of serious damage to the lungs (by aspiration) Aspiration can be a hazard if this material is swallowed.
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable
Morpholine process residues		Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity effects

Toxic to aquatic life. Harmful 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
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)
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)
1,2,4 Trimethylbenzene	95-63-6	No information available	LC50 (96 h) 7.72 mg/L (Pimephales promelas)	No information available	LC50 (48 h) 3.6 mg/L (Daphnia magna) Chronic Value (ChV) (16 d) 0.367 mg/L (Daphnia sp.)
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available	No information available	No information available	No information available
Morpholine process residues	Proprietary	EC50 (72 h) =100 mg/L (Skeletonema costatum) EC50 (72 h) >120 mg/L (Desmodesmus subspicatus) NOEC (72 h) >120 mg/L (Desmodesmus subspicatus)	LC50 (96 h) >100 mg/L (Scophthalmus maximus) LC50 (96 h) =681.1 mg/L (Leuciscus idus)	EC50 (3h) > 1000 mg/L (activated sludge)	LC50 (48 h) =287.2 mg/L (Acartia tonsa) EC50 (48 h) >120 mg/L (Daphnia Magna)
Fatty acids, tall-oil, maleated	68139-89-9	EC50(72 h)=20 mg/L (Skeletonema costatum)	LC50(96 h)>100 mg/L (Scophthalmus maximus)	No information available	LC50(48 h)=508 mg/L (Acartia tonsa)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Methanol	67-56-1	Readily biodegradable (95% @ 20d)
Light aromatic solvent	64742-95-6	(77.05% @ 28d)
1,2,4 Trimethylbenzene	95-63-6	Readily biodegradable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Morpholine process residues	Proprietary	(10.2% @ 28d)
Fatty acids, tall-oil, maleated	68139-89-9	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Methanol	67-56-1	Not Bioaccumulative; BCF=1
Light aromatic solvent	64742-95-6	3.20 - 3.63 BCF = 119 - 142
1,2,4 Trimethylbenzene	95-63-6	LogPow 3.42
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Morpholine process residues	Proprietary	Log Pow <1
Fatty acids, tall-oil, maleated	68139-89-9	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Methanol	67-56-1	No information available
Light aromatic solvent	64742-95-6	KOC = 372 - 617
1,2,4 Trimethylbenzene	95-63-6	No information available
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	No information available
Morpholine process residues	Proprietary	No information available
Fatty acids, tall-oil, maleated	68139-89-9	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 UN3286

UN proper shipping name: Flammable liquid, Toxic, Corrosive, N.O.S. (Contains Methanol, Complex Fatty-Acid Compounds)

Transport Hazard Class(es): 3 (6.1, 8)

Packing Group: II

Environmental Hazards: Not applicable

NAERG: NAERG 131

Canadian TDG

UN Number UN3286

UN proper shipping name: Flammable liquid, Toxic, Corrosive, N.O.S. (Contains Methanol, Complex Fatty-Acid Compounds)

Transport Hazard Class(es): 3 (6.1, 8)
Packing Group: II
Environmental Hazards: Not applicable

IMDG/IMO

UN Number UN3286
UN proper shipping name: Flammable liquid, Toxic, Corrosive, N.O.S. (Contains Methanol, Complex Fatty-Acid Compounds)
Transport Hazard Class(es): 3 (6.1, 8)
Packing Group: II
Environmental Hazards: Not applicable
EMS: EmS F-E, S-C

IATA/ICAO

UN Number UN3286
UN proper shipping name: Flammable liquid, Toxic, Corrosive, N.O.S. (Contains Methanol, Complex Fatty-Acid Compounds)
Transport Hazard Class(es): 3 (6.1, 8)
Packing Group: II
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
Methanol	67-56-1	Not applicable
Light aromatic solvent	64742-95-6	Not applicable
1,2,4 Trimethylbenzene	95-63-6	Not applicable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable
Morpholine process residues	Proprietary	76 FR 65579, Oct 21, 2011 Proposed rule 721.10228
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Methanol	67-56-1	Not applicable
Light aromatic solvent	64742-95-6	Not applicable
1,2,4 Trimethylbenzene	95-63-6	Not applicable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable
Morpholine process residues	Proprietary	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable

EPA SARA (311,312) Hazard Class

Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Aspiration Hazard
Skin Corrosion or Irritation
Respiratory or Skin Sensitization
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Methanol	67-56-1	1.0%	Not applicable
Light aromatic solvent	64742-95-6	Not applicable	Not applicable
1,2,4 Trimethylbenzene	95-63-6	1.0%	Not applicable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable	Not applicable
Morpholine process residues	Proprietary	Not applicable	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Methanol	67-56-1	5000 lb 2270 kg
Light aromatic solvent	64742-95-6	Not applicable
1,2,4 Trimethylbenzene	95-63-6	Not applicable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable
Morpholine process residues	Proprietary	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable

EPA RCRA Hazardous Waste Classification
Ignitability D001
Corrosivity D002

California Proposition 65

Substances	CAS Number	California Proposition 65
Methanol	67-56-1	developmental toxicity
Light aromatic solvent	64742-95-6	Not applicable
1,2,4 Trimethylbenzene	95-63-6	Not applicable
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable
Morpholine process residues	Proprietary	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	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
Methanol	67-56-1	Present	Present	Environmental hazard
Light aromatic solvent	64742-95-6	Not applicable	Not applicable	Not applicable
1,2,4 Trimethylbenzene	95-63-6	Present	Present	Environmental hazard
Fatty acids, tall-oil, reaction products with diethylenetriamine	61790-69-0	Not applicable	Not applicable	Not applicable
Morpholine process residues	Proprietary	Not applicable	Not applicable	Not applicable
Fatty acids, tall-oil, maleated	68139-89-9	Not applicable	Not applicable	Not applicable

NFPA Ratings: Health 3, Flammability 3, Reactivity 0
HMIS Ratings: Health 3*, Flammability 3, 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: 25-Sep-2018

Reason for Revision Update to Format

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/
OSHA
ECHA C&L

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End of Safety Data Sheet