

SAFETY DATA SHEET**Product Trade Name:** 19N**Revision Date:** 29-May-2015**Revision Number:** 21**1. Identification****1.1. Product Identifier**

Product Trade Name: 19N
Synonyms: None
Chemical Family: Blend
Internal ID Code HM000011

1.2 Recommended use and restrictions on use

Application: Non-Emulsifier
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: (281) 575-5000

Prepared By Chemical Stewardship
Telephone: 1-580-251-4335
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1.4. Emergency telephone number

Emergency Telephone Number (281) 575-5000

2. Hazard(s) Identification**2.1 Classification in accordance with paragraph (d) of §1910.1200**

Acute Oral Toxicity	Category 4 - H302
Acute Toxicity - Dermal	Category 4 - H312
Skin Corrosion / Irritation	Category 1 B - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318
Reproductive Toxicity	Category 1A - H360
Specific Target Organ Toxicity - (Single Exposure)	Category 1 - H370
Acute Aquatic Toxicity	Acute 1 - H400
Chronic Aquatic Toxicity	Chronic 1 - H410
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
 H312 - Harmful in contact with skin
 H314 - Causes severe skin burns and eye damage
 H318 - Causes serious eye damage
 H360 - May damage fertility or the unborn child
 H370 - Causes damage to organs
 H400 - Very toxic to aquatic life
 H410 - Very 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
 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
 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 + 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
 P310 - Immediately call a POISON CENTER or doctor/physician
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P370 + P378 - In case of fire: Use water spray for extinction
 P391 - Collect spillage

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

Contains**Substances**

Quaternary ammonium compounds
Isopropanol
Methanol

CAS Number

Proprietary
67-63-0
67-56-1

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Quaternary ammonium compounds	Proprietary	30 - 60%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Skin Corr. 1B (H314) Eye Corr. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Isopropanol	67-63-0	5 - 10%	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225)
Methanol	67-56-1	30 - 60%	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Repr. 1 (H360) STOT SE 1 (H370) 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	Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.
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. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed

Causes severe eye irritation which may damage tissue. Causes severe skin irritation with tissue destruction. Harmful if swallowed. Harmful in contact with skin. Potential reproductive hazard. May cause birth defects. May cause damage to internal organs.

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

Notes to Physician	Treat symptomatically.
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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

None known.

5.2 Specific hazards arising from the substance or mixture

Special Exposure Hazards

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

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. Wear self-contained breathing apparatus in enclosed areas. Evacuate all persons from the area. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid breathing vapors.

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

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

7. Handling and storage

7.1. Precautions for Safe Handling

Handling Precautions

Remove sources of ignition. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another.

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 well ventilated area. Store in a cool, dry location. Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Product has a shelf life of 12 months.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Quaternary ammonium compounds	Proprietary	Not applicable	Not applicable
Isopropanol	67-63-0	TWA: 400 ppm	TWA: 200 ppm STEL: 400 ppm

Methanol	67-56-1	TWA: 200 ppm	TWA: 200 ppm STEL: 250 ppm Skin
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8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

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 Positive pressure self-contained breathing apparatus if methanol is released.

Hand Protection Impervious rubber gloves.

Skin Protection Rubber apron.

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

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

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Color: Amber
Odor: Alcohol
Odor No information available
Threshold:

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
pH:	No data available
Freezing Point/Range	-40 °C / -40 °F
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	24 °C / 76 °F PMCC
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	0.92
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%) No data available

10. Stability and Reactivity

10.1. Reactivity

Not 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

Oxides of nitrogen. Carbon monoxide and carbon dioxide. Hydrogen chloride.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation. Ingestion.

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

Inhalation

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

Eye Contact

Causes eye burns.

Skin Contact

Causes burns. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.

Ingestion

Causes burns of the mouth, throat and stomach. Harmful if swallowed. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause central nervous system and brain effects. Suspected of damaging fertility or the unborn child.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Quaternary ammonium compounds	Proprietary	240 mg/kg (Rat) 304.5 mg/kg (Rat)	1420 mg/kg (Rat)	Not applicable due to corrosivity of the substance.
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
Methanol	67-56-1	> 1187 - 2769 mg/kg (Rat) 3000 mg/kg (Monkey) 300 mg/kg (Human) <790-13,000 mg/kg (rat) 7,300-10,000 mg/kg (mouse) 14,200-14,400 mg/kg (rabbit)	15800 mg/kg (Rabbit) 393 mg/kg (Primate) 1000 mg/kg (Human) 17,100 mg/kg (rabbit) 15,800-20,000 mg/kg (rabbit)	87.5 mg/L (Rat) 6h 128.2 mg/L (Rat) 4h 83.2 mg/L (Rat) 4h 64000 mg/L (Rat) 4h 10 mg/L (Human) 4h

Substances	CAS Number	Skin corrosion/irritation
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Quaternary ammonium compounds		Skin, rabbit: Causes burns
Isopropanol	67-63-0	Non-irritating to the skin (Rabbit)
Methanol	67-56-1	Non-irritating to the skin (Rabbit)

Substances	CAS Number	Eye damage/irritation
Quaternary ammonium compounds		Eye, rabbit: Causes eye burns.
Isopropanol	67-63-0	Causes severe eye irritation. (Rabbit)
Methanol	67-56-1	Non-irritating to the eye (Rabbit)

Substances	CAS Number	Skin Sensitization
Quaternary ammonium compounds		Did not cause sensitization on laboratory animals
Isopropanol	67-63-0	Did not cause sensitization on laboratory animals (guinea pig)
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Quaternary ammonium compounds		No information available
Isopropanol	67-63-0	No information available
Methanol	67-56-1	No information available

Substances	CAS Number	Mutagenic Effects
Quaternary ammonium compounds		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.
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.

Substances	CAS Number	Carcinogenic Effects
Quaternary ammonium compounds		Did not show carcinogenic effects in animal experiments
Isopropanol	67-63-0	Did not show carcinogenic effects in animal experiments
Methanol	67-56-1	No data of sufficient quality are available.

Substances	CAS Number	Reproductive toxicity
Quaternary ammonium compounds		Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Isopropanol	67-63-0	No significant toxicity observed in animal studies at concentration requiring classification.
Methanol	67-56-1	Experiments have shown reproductive toxicity effects on laboratory animals

Substances	CAS Number	STOT - single exposure
Quaternary ammonium compounds		Not applicable due to corrosivity of the substance.
Isopropanol	67-63-0	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)

Substances	CAS Number	STOT - repeated exposure
Quaternary ammonium compounds		No data of sufficient quality are available.
Isopropanol	67-63-0	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Methanol	67-56-1	No data of sufficient quality are available.

Substances	CAS Number	Aspiration hazard
Quaternary ammonium compounds		No information available
Isopropanol	67-63-0	Not applicable
Methanol	67-56-1	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
Quaternary ammonium compounds	Proprietary	EC50 (72h) 0.08 mg/L (Scenedesmus pannonicus) EC50 (96h) 0.54 mg/L (Chlorella pyrenoidosa)	LC50 (96h) 0.28 mg/L (Pimephales promelas) LC50 (96h) 0.86 mg/L (Cyprinodon variegatus) LC50 (96h) 1.15 mg/L (Oncorhynchus mykiss) LC50 (96h) 0.223-0.46 mg/L (Lepomis macrochirus) NOEC (3d) 0.0322 mg/L (Pimephales promelas)	No information available	EC50 (48h) 0.018 mg/L (Daphnia magna) EC50 (48h) 0.039 mg/L (Daphnia magna) LC50 (48h) 0.11 mg/L (Daphnia magna) LC50 (96h) 0.9 mg/L (Harpacticoid copepod)
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)
Methanol	67-56-1	ErC50 (96h) 22000 mg/L (Pseudokirchnerella subcapitata)	LC50 28200 mg/L (Pimephales promelas) LC50 (96h) 12700 – 15400 mg/L (Lepomis macrochirus)	IC50 (3h) > 1000 mg/L (activated sludge)	EC50 (96h) 18260 mg/L (Daphnia magna) NOEC (21d) 122 mg/L (Daphnia magna, Reproduction)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Quaternary ammonium compounds	Proprietary	(60% @ 13d) (similar substances)
Isopropanol	67-63-0	Readily biodegradable (53% @ 5d)
Methanol	67-56-1	(95-97% @ 20d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Quaternary ammonium compounds	Proprietary	3.91 (similar substances)
Isopropanol	67-63-0	0.05
Methanol	67-56-1	-0.77 BCF = 1.0 – 4.5 (Cyprinus carpio) BCF < 10 (Leuciscus idus melanotus)

12.4. Mobility in soil

Substances	CAS Number	Mobility
Quaternary ammonium compounds	Proprietary	KOC = >640,388
Isopropanol	67-63-0	KOC = 1.5
Methanol	67-56-1	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal Method 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: UN2924
UN Proper Shipping Name: Flammable Liquid, Corrosive, N.O.S. (Contains Methanol, Aryl Quaternary of Fatty Amines)
Transport Hazard Class(es): 3 (8)
Packing Group: III
Environmental Hazards: Marine Pollutant
NAERG: NAERG 132

US DOT Bulk

DOT (Bulk) Not applicable

Canadian TDG

UN Number: UN2924
UN Proper Shipping Name: Flammable Liquid, Corrosive, N.O.S. (Contains Methanol, Aryl Quaternary of Fatty Amines)
Transport Hazard Class(es): 3 (8)
Packing Group: III
Environmental Hazards: Marine Pollutant

IMDG/IMO

UN Number: UN2924
UN Proper Shipping Name: Flammable Liquid, Corrosive, N.O.S. (Contains Methanol, Aryl Quaternary of Fatty Amines)
Transport Hazard Class(es): 3 (8)
Packing Group: III
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, Aryl Quaternary of Fatty Amines)
Transport Hazard Class(es): 3 (8)
Packing Group: III
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.

EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	Acute Health Hazard Chronic Health Hazard Fire Hazard
EPA SARA (313) Chemicals	This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372: Methanol//67-56-1
EPA CERCLA/Superfund Reportable Spill Quantity	EPA Reportable Spill Quantity is 1813 Gallons based on Methanol (CAS: 67-56-1).
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	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	All components listed on inventory or are exempt.
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16. Other information

Preparation Information

Prepared By	Chemical Stewardship Telephone: 1-580-251-4335 e-mail: fdunexchem@halliburton.com
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Revision Date: 29-May-2015

Reason for Revision SDS sections updated:
2

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/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data

www.ChemADVISOR.com/

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End of Safety Data Sheet