multi-chem®
A HALLIBURTON SERVICE

SAFETY DATA SHEET

Product Trade Name: **FA-15**

Revision Date: 03-Apr-2018 **Revision Number:** 4

1. Identification

1.1. Product Identifier

Product Trade Name: FA-15
Synonyms None
Chemical Family: Blend
Internal ID Code HM007920

1.2 Recommended use and restrictions on use

Application: Surfactant
Uses advised against Consumer use

1.3 Manufacturer's Name and Contact Details

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

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

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

1.4. Emergency telephone number:

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

2. Hazards Identification

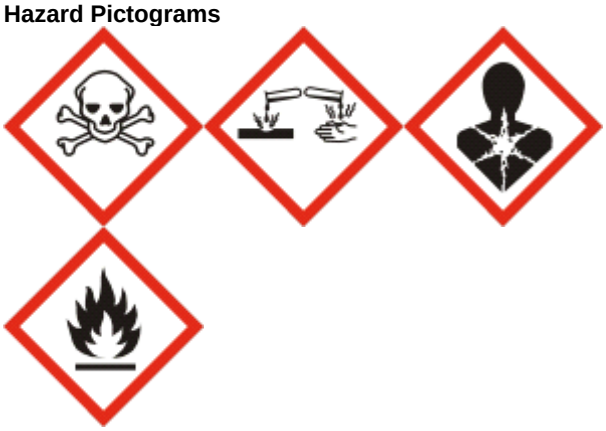
2.1 Classification in accordance with paragraph (d) of §1910.1200

Acute Oral Toxicity	Category 3 - H301
Acute toxicity - Dermal	Category 3 - H311
Acute inhalation toxicity - vapor	Category 3 - H331
Skin Corrosion / Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 1 - H318
Reproductive Toxicity	Category 1B - H360
Specific Target Organ Toxicity - (Single Exposure)	Category 1 - H370

Acute Aquatic Toxicity	Category 2 - H401
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
H311 - Toxic in contact with skin
H315 - Causes skin irritation
H318 - Causes serious eye damage
H331 - Toxic if inhaled
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
P271 - Use only outdoors or in a well-ventilated area
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
P330 - Rinse mouth
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P362 + P364 - Take off contaminated clothing and wash before reuse
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P311 - Call a POISON CENTRE 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 P310 - Immediately call a POISON CENTER or doctor/physician P307 + P311 - IF exposed: Call a POISON CENTER or doctor/physician P370 + P378 - In case of fire: Use water spray for extinction
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	60 - 100%	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Repr. 1B (H360) STOT SE 1 (H370) Flam. Liq. 2 (H225)
Alkylbenzene sulfonate	Proprietary	5 - 10%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Corr. 1 (H318) STOT SE 3 (H335) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412)
Alkylbenzene sulfonate #2	Proprietary	5 - 10%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Acute 2 (H401)

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	Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate 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 15 minutes. Get medical attention.
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 eye irritation which may damage tissue. Causes skin irritation. Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled. 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 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.

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/m³	TWA: 200 ppm STEL: 250 ppm
Alkylbenzene sulfonate	Proprietary	Not applicable	Not applicable
Alkylbenzene sulfonate #2	Proprietary	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.
Positive pressure self-contained breathing apparatus if methanol is released.

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

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

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

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

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Color Clear to Slightly Hazy , Colorless to Amber

Odor: Mild

Odor Threshold: No information available

Property Remarks/ - Method	Values
pH:	5.0 - 7.0 (10% in 1:1 IPA:H2O)
Freezing Point / Range	-40 °C / -40 °F
Melting Point / Range	No data available
Boiling Point / Range	No data available
Flash Point	16 °C / 60.8 °F (SFCC)
Flammability (solid, gas)	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
Evaporation rate	
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	0.8778-0.9028 (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	7.32-7.53 lbs/gal
Bulk Density	877 - 903 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. Strong acids. Strong alkalis.

10.6. Hazardous decomposition products
Oxides of nitrogen. Oxides of sulfur. Carbon oxides.

11. Toxicological Information

11.1 Information on likely routes of exposure

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

11.2 Symptoms related to the physical, chemical and toxicological characteristics

Acute Toxicity

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

Eye Contact Causes severe eye irritation which may damage tissue.

Skin Contact Toxic in contact with skin. Causes skin irritation.

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

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause reproductive system damage. May cause birth defects.

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)

Alkylbenzene sulfonate	Proprietary	1300 mg/kg-bw (rat) (similar substance)	>2000 mg/kg-bw (Rat) (similar substance)	No data available
Alkylbenzene sulfonate #2	Proprietary	1300 mg/kg (similar substance)	No data available	No data available

Substances	**CAS Number**	**Skin corrosion/irritation**
Methanol	67-56-1	Non-irritating to the skin (Rabbit)
Alkylbenzene sulfonate		Causes moderate skin irritation. (Rabbit) (similar substances) Skin, rabbit: May cause moderate skin irritation.
Alkylbenzene sulfonate #2		May cause moderate skin irritation. (similar substances)

Substances	**CAS Number**	**Serious eye damage/irritation**
Methanol	67-56-1	Non-irritating to the eye (Rabbit)
Alkylbenzene sulfonate		Eye, rabbit: Causes severe eye irritation which may damage tissue. (similar substances)
Alkylbenzene sulfonate #2		May cause moderate eye irritation. (similar substances)

Substances	**CAS Number**	**Skin Sensitization**
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)
Alkylbenzene sulfonate		Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Alkylbenzene sulfonate #2		No information available

Substances	**CAS Number**	**Respiratory Sensitization**
Methanol	67-56-1	No information available
Alkylbenzene sulfonate		No information available
Alkylbenzene sulfonate #2		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.
Alkylbenzene sulfonate		In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)
Alkylbenzene sulfonate #2		No information available

Substances	**CAS Number**	**Carcinogenic Effects**
Methanol	67-56-1	No data of sufficient quality are available.
Alkylbenzene sulfonate		Not regarded as carcinogenic. (similar substances)
Alkylbenzene sulfonate #2		No information available

Substances	**CAS Number**	**Reproductive toxicity**
Methanol	67-56-1	Experiments have shown reproductive toxicity effects on laboratory animals
Alkylbenzene sulfonate		Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Alkylbenzene sulfonate #2		No information available

Substances	**CAS Number**	**STOT - single exposure**
Methanol	67-56-1	May cause disorder and damage to the Central Nervous System (CNS) No information available
Alkylbenzene sulfonate		May cause respiratory irritation. (similar substances)
Alkylbenzene sulfonate #2		No information available

Substances	**CAS Number**	**STOT - repeated exposure**
Methanol	67-56-1	No data of sufficient quality are available.
Alkylbenzene sulfonate		No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Alkylbenzene sulfonate #2		No information available

Substances	**CAS Number**	**Aspiration hazard**
Methanol	67-56-1	Not applicable No information available
Alkylbenzene sulfonate		Not applicable
Alkylbenzene sulfonate #2		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
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)	IC50 (3h) > 1000 mg/L (activated sludge)	NOEC(21 d)=208 mg/L (Daphnia magna)
Alkylbenzene sulfonate	Proprietary	EC50(72 h) 5.1 mg/L (Pseudokirchneriella subcapitata)	LC50(96 h) 1.67 mg/L (Lepomis macrochirus) NOEC(72 d)=0.23 mg/L (Salmo gairdneri)	No information available	EC50(48 h) 2.9 mg/L (Daphnia magna)
Alkylbenzene sulfonate #2	Proprietary	No information available	EC50 (96h) 10 mg/L (similar substance)	No information available	EC50 (48h) 2.2 mg/L (Daphnia magna) (similar substance)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Methanol	67-56-1	Readily biodegradable (95% @ 20d)
Alkylbenzene sulfonate	Proprietary	Readily biodegradable (90% @ 28d)
Alkylbenzene sulfonate #2	Proprietary	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Methanol	67-56-1	Not Bioaccumulative; BCF=1
Alkylbenzene sulfonate	Proprietary	No information available
Alkylbenzene sulfonate #2	Proprietary	No information available

12.4. Mobility in soil

Substances	CAS Number	Mobility
Methanol	67-56-1	No information available
Alkylbenzene sulfonate	Proprietary	No information available
Alkylbenzene sulfonate #2	Proprietary	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 UN1230

UN proper shipping name: Methanol Solution

Transport Hazard Class(es): 3 (6.1)

Packing Group: II

Environmental Hazards: Not applicable

Reportable Quantity: RQ (Methanol - 2273 kg.)

NAERG: NAERG 131

Canadian TDG

UN Number UN1230
UN proper shipping name: Methanol Solution
Transport Hazard Class(es): 3 (6.1)
Packing Group: II
Environmental Hazards: Not applicable

IMDG/IMO

UN Number UN1230
UN proper shipping name: Methanol Solution
Transport Hazard Class(es): 3 (6.1)
Packing Group: II
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Methanol - 2273 kg.)
EMS: EmS F-E, S-D

IATA/ICAO

UN Number UN1230
UN proper shipping name: Methanol Solution
Transport Hazard Class(es): 3 (6.1)
Packing Group: II
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Methanol - 2273 kg.)

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
Alkylbenzene sulfonate	Proprietary	Not applicable
Alkylbenzene sulfonate #2	Proprietary	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
Alkylbenzene sulfonate	Proprietary	Not applicable
Alkylbenzene sulfonate #2	Proprietary	Not applicable

EPA SARA (311,312) Hazard Class

Acute Health Hazard
Chronic Health Hazard
Fire Hazard

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Methanol	67-56-1	1.0%	Not applicable

Alkylbenzene sulfonate	Proprietary	Not applicable	Not applicable
Alkylbenzene sulfonate #2	Proprietary	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Methanol	67-56-1	5000 lb 2270 kg
Alkylbenzene sulfonate	Proprietary	Not applicable
Alkylbenzene sulfonate #2	Proprietary	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
Methanol	67-56-1	developmental toxicity
Alkylbenzene sulfonate	Proprietary	Not applicable
Alkylbenzene sulfonate #2	Proprietary	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	1222	Environmental hazard
Alkylbenzene sulfonate	Proprietary	Not applicable	Not applicable	Not applicable
Alkylbenzene sulfonate #2	Proprietary	Not applicable	Not applicable	Not applicable

NFPA Ratings: Health 2, Flammability 3, Reactivity 0
HMIS Ratings: Health 2*, 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: 03-Apr-2018

Reason for Revision SDS sections updated:
2
11
14

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