

SAFETY DATA SHEET

Product Trade Name: MC S-2291

Revision Date: 12-May-2017

Revision Number: 5

1. Identification

1.1. Product Identifier

Product Trade Name: MC S-2291
Synonyms: None
Chemical Family: Blend
Internal ID Code: MC003054

1.2 Recommended use and restrictions on use

Application: Scale 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

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

As adopted by the competent authority, this product does not require an SDS or hazard warning label.

Acute Oral Toxicity	Category 4 - H302
Skin Corrosion / Irritation	Category 1 - H314
Serious Eye Damage/Irritation	Category 1 - H318
Reproductive Toxicity	Category 1B - H360
Specific Target Organ Toxicity - (Single Exposure)	Category 1 - H370
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
 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

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
 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
 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 victim 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
 P307 + P311 - IF exposed: Call a POISON CENTER or doctor/physician
 P370 + P378 - In case of fire: Use water spray for extinction

Storage

P403 + P235 - Store in a well-ventilated place. Keep cool

Disposal

P405 - Store locked up
 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	10 - 30%	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Repr. 1B (H360) STOT SE 1 (H370) Flam. Liq. 2 (H225)
Complex Amine Compound	Proprietary	10 - 30%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
Hydrochloric acid	7647-01-0	1 - 5%	Skin Corr. 1A (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Met. Corr. 1 (H290)

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. 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 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

Harmful if swallowed. Causes severe skin irritation with tissue destruction. Causes severe eye irritation which may damage tissue. 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. Probable mucosal damage may contraindicate the use of gastric lavage.

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**

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**

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

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

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Remove ignition sources and work with non-sparking tools.

Dike far ahead of liquid spill for later disposal.

7. Handling and storage**7.1. Precautions for safe handling****Handling Precautions**

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

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. 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
Complex Amine Compound	Proprietary	Not applicable	Not applicable
Hydrochloric acid	7647-01-0	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 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 , Light Amber to Dark Amber
Odor: Alcohol	Odor Threshold:	No information available

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
pH:	1.64 - 2.64
Freezing Point / Range	-23.3 °C / -10 °F
Melting Point / Range	No data available
Boiling Point / Range	No data available
Flash Point	41.1 °C / 106 °F
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	1.0402 - 1.0652 (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	8.67-8.88 lbs/gal

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

Keep away from heat, sparks and flame. Excessive heat

10.5. Incompatible materials

Strong oxidizing agents. Strong bases.

10.6. Hazardous decomposition products

Carbon oxides. Oxides of phosphorus.

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

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 Skin Contact

Causes eye burns

Causes severe skin irritation with tissue destruction. May be absorbed through the skin.

Ingestion

Harmful if swallowed. May cause abdominal pain, vomiting, nausea, and diarrhea. Causes burns of the mouth, throat and stomach. 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 Suspected of damaging fertility or the unborn child. Causes damage to organs

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)
Complex Amine Compound	Proprietary	No data available	No data available	No data available
Hydrochloric acid	7647-01-0	No data available	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Methanol	67-56-1	Non-irritating to the skin (Rabbit)
Complex Amine Compound		Causes moderate skin irritation. (similar substances)
Hydrochloric acid	7647-01-0	Causes severe burns

Substances	CAS Number	Serious eye damage/irritation
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Methanol	67-56-1	Non-irritating to the eye (Rabbit)
Complex Amine Compound		Causes moderate eye irritation (similar substances)
Hydrochloric acid	7647-01-0	Causes severe burns

Substances	CAS Number	Skin Sensitization
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)
Complex Amine Compound		No information available
Hydrochloric acid	7647-01-0	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Methanol	67-56-1	No information available
Complex Amine Compound		No information available
Hydrochloric acid	7647-01-0	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.
Complex Amine Compound		No information available
Hydrochloric acid	7647-01-0	Not regarded as mutagenic. In vitro tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Methanol	67-56-1	No data of sufficient quality are available.
Complex Amine Compound		No information available
Hydrochloric acid	7647-01-0	No data of sufficient quality are available.

Substances	CAS Number	Reproductive toxicity
Methanol	67-56-1	Experiments have shown reproductive toxicity effects on laboratory animals
Complex Amine Compound		No information available
Hydrochloric acid	7647-01-0	Embryo and fetotoxicity has been observed in female rats exposed to maternally toxic levels of hydrogen chloride (450 mg/m ³ , 1hr.). When tested at maternally toxic doses, no adverse effects on fertility, teratogenicity, or development were observed.

Substances	CAS Number	STOT - single exposure
Methanol	67-56-1	May cause disorder and damage to the Central Nervous System (CNS)
Complex Amine Compound		May cause respiratory irritation. (similar substances)
Hydrochloric acid	7647-01-0	May cause respiratory irritation. No information available

Substances	CAS Number	STOT - repeated exposure
Methanol	67-56-1	No data of sufficient quality are available.
Complex Amine Compound		No information available
Hydrochloric acid	7647-01-0	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Methanol	67-56-1	Not applicable
Complex Amine Compound		No information available
Hydrochloric acid	7647-01-0	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment.

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 (200 h) =14536 mg/L (Oryzias latipes)	IC50 (3h) > 1000 mg/L (activated sludge)	EC50 (96 h) =18260 mg/L (Daphnia magna) NOEC (21 d) =208 mg/L (Daphnia magna)
Complex Amine	Proprietary	No information available	No information available	No information available	No information available

Compound					
Hydrochloric acid	7647-01-0	No information available	LC50 282 mg/L (Gambusia affinis) LC50 20.5 mg/L (Lepomis macrochirus) LC50 (96h) 3.25 – 3.5 (pH) (Lepomis macrochirus)	EC50 (3h) >= 5 and <= 5.5 (pH) (Activated sludge, domestic)	EC50 (48 h) 4.92 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Methanol	67-56-1	(95-97% @ 20d)
Complex Amine Compound	Proprietary	No information available
Hydrochloric acid	7647-01-0	The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Methanol	67-56-1	-0.77 BCF = 1.0 – 4.5 (Cyprinus carpio) BCF < 10 (Leuciscus idus melanotus)
Complex Amine Compound	Proprietary	No information available
Hydrochloric acid	7647-01-0	LogKow -2.65

12.4. Mobility in soil

Substances	CAS Number	Mobility
Methanol	67-56-1	No information available
Complex Amine Compound	Proprietary	No information available
Hydrochloric acid	7647-01-0	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal methods Dispose in accordance with local regulations.
Contaminated Packaging Dispose of container according to national or local regulations.

14. Transport Information

US DOT

UN Number UN2924
UN proper shipping name: Flammable Liquid, Corrosive, N.O.S. (Contains Hydrochloric Acid, Methanol)
Transport Hazard Class(es): 3 (8)
Packing Group: III
Environmental Hazards: Not applicable
NAERG: NAERG 132

Canadian TDG

UN Number UN2924
UN proper shipping name: Flammable Liquid, Corrosive, N.O.S. (Contains Hydrochloric Acid, Methanol)
Transport Hazard Class(es): 3 (8)
Packing Group: III
Environmental Hazards: Not applicable

IMDG/IMO

UN Number UN2924
UN proper shipping name: Flammable Liquid, Corrosive, N.O.S. (Contains Hydrochloric Acid, Methanol)
Transport Hazard Class(es): 3 (8)
Packing Group: III
Environmental Hazards: Not applicable
EMS: EmS F-E, S-C

IATA/ICAO

UN Number UN2924
UN proper shipping name: Flammable Liquid, Corrosive, N.O.S. (Contains Hydrochloric Acid, Methanol)
Transport Hazard Class(es): 3 (8)
Packing Group: III
Environmental Hazards: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

Special Precautions for User None

15. Regulatory Information**US Regulations**

US TSCA Inventory All components listed on inventory or are exempt.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Methanol	67-56-1	Not applicable
Complex Amine Compound	Proprietary	Not applicable
Hydrochloric acid	7647-01-0	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
Complex Amine Compound	Proprietary	Not applicable
Hydrochloric acid	7647-01-0	5000 lb

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
Complex Amine Compound	Proprietary	Not applicable	Not applicable
Hydrochloric acid	7647-01-0	1.0%	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Methanol	67-56-1	5000 lb 2270 kg
Complex Amine Compound	Proprietary	Not applicable
Hydrochloric acid	7647-01-0	5000 lb 2270 kg

EPA RCRA Hazardous Waste Classification

Ignitability D001

Corrosivity D002

California Proposition 65

Substances	CAS Number	California Proposition 65
Methanol	67-56-1	developmental toxicity
Complex Amine Compound	Proprietary	Not applicable
Hydrochloric acid	7647-01-0	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
Methanol	67-56-1	Present	1222	Environmental hazard
Complex Amine Compound	Proprietary	Not applicable	Not applicable	Not applicable
Hydrochloric acid	7647-01-0	Extraordinarily hazardous	1012	Environmental hazard

NFPA Ratings: Health 3, Flammability 2, Reactivity 0
HMIS Ratings: Health 3*, Flammability 2, Physical Hazard 0

Canadian Regulations

Canadian Domestic Substances List (DSL) Product contains one or more components not listed on the inventory.

16. Other information**Preparation Information**

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

Revision Date: 12-May-2017

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/m³ - 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/

Disclaimer Statement

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

End of Safety Data Sheet