

SAFETY DATA SHEET

Product Trade Name: Multisweet[®] MX 8-4649

Revision Date: 02-Aug-2021

Revision Number: 4

1. Identification

1.1. Product Identifier

Product Trade Name: Multisweet[®] MX 8-4649
Synonyms: None
Chemical Family: Blend
Internal ID Code: MC005657

1.2 Recommended use and restrictions on use

Application: Hydrogen Sulfide Scavenger
Uses advised against: Consumer use

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier

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

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

Prepared By: Chemical Stewardship
 e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number:

Emergency Telephone Number: 1-866-519-4752 or 1-760-476-3962 (accessible 24 hours a day / 7 days a week)
 Global Incident Response Access Code: 334305
 Contract Number: 14012

2. Hazards Identification

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

Acute inhalation toxicity - vapor	Category 3 - H331
Skin Corrosion / Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335
Specific Target Organ Toxicity - (Repeated Exposure)	Category 1 - H372
Acute Aquatic Toxicity	Category 2 - H401

2.2. Label Elements

Hazard Pictograms



Signal Word: Danger

Hazard Statements

- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H318 - Causes serious eye damage
- H331 - Toxic if inhaled
- H335 - May cause respiratory irritation
- H372 - Causes damage to organs through prolonged or repeated exposure
- H401 - Toxic to aquatic life

Precautionary Statements

Prevention

- 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

Response

- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P302 + P352 - IF ON SKIN: Wash with plenty of water.
- 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

Storage

- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
- 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
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	30 - 60%	Acute Tox. 4 (H302) Acute Tox. 2 (H330) Eye Irrit. 2A (H319) Skin Sens. 1 (H317) STOT SE 3 (H335) STOT RE 1 (H372) Aquatic Acute 2 (H401)
Monoethanolamine	141-43-5	1 - 5%	Acute Tox. 4 (H302) Acute Tox. 4 (H312)

			Acute Tox. 4 (H332) Skin Corr. 1B (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412) Flam. Liq. 4 (H227)
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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 15 minutes. Get medical attention.
Ingestion	Rinse mouth with water many times. Get medical attention, if symptoms occur

4.2 Most important symptoms/effects, acute and delayed

Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. May cause respiratory irritation. Toxic if inhaled. 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 Treat symptomatically.

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. 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.

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. Avoid contact with eyes, skin, or clothing.

Hygiene Measures

Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes and clothing. 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.

8. Exposure Controls/Personal Protection**8.1 Occupational Exposure Limits**

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Not applicable	Not applicable
Monoethanolamine	141-43-5	TWA: 3 ppm TWA: 6 mg/m ³	TWA: 3 ppm STEL: 6 ppm

8.2 Appropriate engineering controls**Engineering Controls**

Ensure adequate ventilation, especially in confined areas

8.3 Individual protection measures, such as personal protective equipment**Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Hand Protection

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

Skin Protection

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

Eye Protection

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

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties**9.1. Information on basic physical and chemical properties**

Physical State: Liquid	Color	Clear to Slightly Hazy , Colorless to Light Amber
Odor: Mild	Odor Threshold:	No information available

<u>Property</u> <u>Remarks/ - Method</u>	<u>Values</u>
pH:	9.2 - 11.2 (10% in 1:1 IPA:H2O)
Freezing Point / Range	-28.9 °C / -20 °F
Melting Point / Range	No data available
Pour Point / Range	No data available -28.9 °C -20 °F
Boiling Point / Range	No data available
Flash Point	>93.3 °C / > 200 °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	1.0702 - 1.0952 (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	8.92 - 9.14 lbs/gal
Bulk Density	1070 - 1096 kg/m ³

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable under recommended storage conditions

10.3. Possibility of hazardous reactions

None anticipated.

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers. Strong acids. Strong alkalis.

10.6. Hazardous decomposition products

Formaldehyde. Carbon oxides. Oxides of nitrogen.

11. Toxicological Information

11.1 Information on likely routes of exposure

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

11.2 Symptoms related to the physical, chemical and toxicological characteristics**Acute Toxicity**

Inhalation Toxic if inhaled. May cause respiratory irritation.
Eye Contact Causes serious eye damage.
Skin Contact Causes skin irritation. May cause an allergic skin reaction.
Ingestion May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause lung damage. 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
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	763 mg/kg (Rat) 1000 mg/kg (Rat)	2000 mg/kg (Rat) > 4000 mg/kg (Rat) > 3500 mg/kg (Rabbit)	0.371 mg/L (Rat) 4h
Monoethanolamine	141-43-5	1089 mg/kg-bw (rat)	1025 mg/kg-bw (rabbit)	>1.3 mg/L (rat, 6 h, vapor) (saturated)

Substances	CAS Number	Skin corrosion/irritation
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Not irritating to skin in rabbits.
Monoethanolamine	141-43-5	Skin, rabbit: Corrosive to skin Causes severe skin burns

Substances	CAS Number	Serious eye damage/irritation
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Eye, rabbit: Causes mild eye irritation.
Monoethanolamine	141-43-5	Eye, rabbit: Corrosive to eyes Causes severe eye irritation. Will damage tissue.

Substances	CAS Number	Skin Sensitization
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Skin sensitizer in guinea pig.
Monoethanolamine	141-43-5	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	No information available
Monoethanolamine	141-43-5	No information available

Substances	CAS Number	Mutagenic Effects
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	While some in vitro tests were positive and/or equivocal, in vivo results were negative.
Monoethanolamine	141-43-5	In vivo tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	No data of sufficient quality are available.
Monoethanolamine	141-43-5	No data of sufficient quality are available.

Substances	CAS Number	Reproductive toxicity
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Did not show teratogenic effects in animal experiments. Animal testing did not show any effects on fertility.
Monoethanolamine	141-43-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	May cause respiratory irritation.

Monoethanolamine	141-43-5	May cause respiratory irritation.
Substances	CAS Number	STOT - repeated exposure
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Causes damage to organs through prolonged or repeated exposure: (Lungs)
Monoethanolamine	141-43-5	No significant toxicity observed in animal studies at concentration requiring classification.
Substances	CAS Number	Aspiration hazard
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Not applicable
Monoethanolamine	141-43-5	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity effects

Toxic to aquatic life.

Product Ecotoxicity Data The environmental impact of this product has not been fully investigated

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	EC50 (72h) 6.66 mg/L (Desmodesmus subspicatus)	LC50 (96h) 16.07 mg/L (Brachydanio rerio)	EC50 (0.5h) 550 mg/L (Activated sludge, domestic)	EC50 (48h) 11.9 mg/L (Daphnia magna)
Monoethanolamine	141-43-5	EC50 (72 h) =2.5 mg/L (Pseudokirchneriella subcapitata) EC50 (72 h) =24.7 mg/L (Phaeodactylum tricorutum)	LC50 (96 h) =170 mg/L (Carassius auratus) NOEC (14 d) >100 mg/L (Oryzias latipes)	No information available	EC50 (48 h) =65 mg/L (Daphnia magna) NOEC (21 d) =0.85 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Readily biodegradable (90-100% @ 8d)
Monoethanolamine	141-43-5	Readily biodegradable (92% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	-2
Monoethanolamine	141-43-5	Log Pow =-1.91

12.4. Mobility in soil

Substances	CAS Number	Mobility
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	No information available
Monoethanolamine	141-43-5	KOC = 0.2725 KOC = 1.167

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 UN2810
UN proper shipping name: Toxic Liquid, Organic, N.O.S. (Contains Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine)
Transport Hazard Class(es): 6.1
Packing Group: III
Environmental Hazards: Not applicable

Canadian TDG

UN Number UN2810
UN proper shipping name: Toxic Liquid, Organic, N.O.S. (Contains Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine)
Transport Hazard Class(es): 6.1
Packing Group: III
Environmental Hazards: Not applicable

IMDG/IMO

UN Number UN2810
UN proper shipping name: Toxic Liquid, Organic, N.O.S. (Contains Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine)
Transport Hazard Class(es): 6.1
Packing Group: III
Environmental Hazards: Not applicable

IATA/ICAO

UN Number UN2810
UN proper shipping name: Toxic Liquid, Organic, N.O.S. (Contains Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine)
Transport Hazard Class(es): 6.1
Packing Group: III
Environmental Hazards: Not applicable

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

Special Precautions for User None

15. Regulatory Information

US Regulations

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

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2	TSCA Section 5(E) Consent Orders
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Not applicable	Not applicable
Monoethanolamine	141-43-5	Not applicable	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Not applicable
Monoethanolamine	141-43-5	Not applicable

EPA SARA (311,312) Hazard Class

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

EPA SARA (313) Chemicals:

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Not applicable	Not applicable
Monoethanolamine	141-43-5	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Not applicable
Monoethanolamine	141-43-5	Not applicable

EPA RCRA Hazardous Waste Classification

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

California Proposition 65

Substances	CAS Number	California Proposition 65
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Not applicable
Monoethanolamine	141-43-5	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
Hexahydro-1,3,5-tris(2-hydroxyethyl)-s-triazine	4719-04-4	Not applicable	Not applicable	Not applicable
Monoethanolamine	141-43-5	Present	Present	Present

NFPA Ratings:

Health 3, Flammability 1, Reactivity 0

HMIS Ratings:

Health 3*, Flammability 1, 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
 e-mail: fdunexchem@halliburton.com

Revision Date:

02-Aug-2021

Reason for Revision

SDS sections updated:
 2
 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/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/
ECHA C&L
IUCLID
NZ CCID

Disclaimer Statement

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End of Safety Data Sheet