

SAFETY DATA SHEET

Product Trade Name: MC B-8625

Revision Date: 18-May-2017

Revision Number: 3

1. Identification

1.1. Product Identifier

Product Trade Name: MC B-8625
Synonyms: None
Chemical Family: Blend
Internal ID Code: MC000628

1.2 Recommended use and restrictions on use

Application: Biocide
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 4 - H302
Acute inhalation toxicity - vapor	Category 4 - H332
Skin Corrosion / Irritation	Category 1 - H314
Serious Eye Damage/Irritation	Category 1 - H318
Respiratory Sensitization	Category 1 - H334
Skin Sensitization	Category 1 - H317
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335

Acute Aquatic Toxicity	Category 1 - H400
Chronic Aquatic Toxicity	Category 2 - H411

2.2. Label Elements

Hazard Pictograms



Signal Word:

Danger

Hazard Statements

H302 - Harmful if swallowed
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H332 - Harmful if inhaled
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
 H335 - May cause respiratory irritation
 H400 - Very toxic to aquatic life
 H411 - Toxic to aquatic life with long lasting effects

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
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P284 - In case of inadequate ventilation wear respiratory 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
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P363 - Wash contaminated clothing before reuse
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 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
 P391 - Collect spillage

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
Glutaraldehyde	111-30-8	10 - 30%	Acute Tox. 3 (H301) Acute Tox. 2 (H330) Skin Corr. 1B (H314) Eye Corr. 1 (H318) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)

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	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. Harmful if inhaled. Causes severe skin irritation with tissue destruction. Causes severe eye irritation which may damage tissue. May cause allergic skin reaction. May cause allergic respiratory reaction. May cause respiratory irritation.

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

Notes to Physician	Glutaraldehyde may cause burns that require extended irrigation. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants and antitussives may be of help. Glutaraldehyde may transiently worsen reversible airways obstruction including asthma or reactive airways disease. Treat bronchospasm with inhaled beta-2 agonist and oral or parenteral corticosteroids. Inhalation of vapors may result in skin sensitization. In sensitized individuals, reexposure to very small amounts of vapor, mist, or liquid may cause a severe allergic skin reaction. If burn is present, treat as any thermal burn, after decontamination.
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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

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

Keep people away. Isolate fire and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS. Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

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. Ventilate the area. Wear personal protective equipment.

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas. Prevent contamination of soil.

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

Remove and wash contaminated clothing before re-use. Wash hands before breaks and immediately after handling the product.

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
Glutaraldehyde	111-30-8	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. Chemical-resistant protective gloves (EN 374) Butyl rubber gloves. Nitrile gloves. Manufacturer's directions for use should be observed because of great diversity of types.

Skin Protection

Use chemical protective clothing resistant to this material, when there is any possibility of skin contact. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Safety shower should be located in immediate work area. Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Examples of acceptable glove barrier materials include: Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier. Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact.

Eye Protection

Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator. Use a full-face respirator when material is heated or when aerosols/mists are generated. Eye wash fountain should be located in immediate work area. 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 Light Amber
Odor: Fruity Sharp	Odor Threshold:	< 0.001 ppm (Literature)
<u>Property</u>	<u>Values</u>	
<u>Remarks/ - Method</u>		
pH:	3.7-4.5 (10% in 1:1 IPA:H2O)	
Freezing Point / Range	-10 °C / 14 °F	
Melting Point / Range	No data available	
Boiling Point / Range		
Flash Point	Not flammable.	
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	1.0605-1.0725 (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	8.84-8.94 lbs/gal
Bulk Density	1061-1073 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

None anticipated

10.5. Incompatible materials

Strong oxidizers. Strong acids. Strong alkalis.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

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

Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled May cause respiratory irritation.

Eye Contact

Causes serious eye damage.

Skin Contact

Causes severe burns. May cause an allergic skin reaction.

Ingestion

Harmful if swallowed. Causes burns of the mouth, throat and stomach.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glutaraldehyde	111-30-8	50 mg/kg (Guinea Pig)	560 µL/kg (Rabbit)	0.28-0.5 mg/L (Rat) 4h

Substances	CAS Number	Skin corrosion/irritation
Glutaraldehyde	111-30-8	Causes severe skin irritation with tissue destruction. (Rabbit)

Substances	CAS Number	Serious eye damage/irritation
Glutaraldehyde	111-30-8	Causes severe eye irritation which may damage tissue. (Rabbit)

Substances	CAS Number	Skin Sensitization
Glutaraldehyde	111-30-8	Skin sensitizer in guinea pig.

Substances	CAS Number	Respiratory Sensitization
Glutaraldehyde	111-30-8	May cause sensitization by inhalation
Substances	CAS Number	Mutagenic Effects
Glutaraldehyde	111-30-8	In vivo tests did not show mutagenic effects.
Substances	CAS Number	Carcinogenic Effects
Glutaraldehyde	111-30-8	Did not show carcinogenic effects in animal experiments
Substances	CAS Number	Reproductive toxicity
Glutaraldehyde	111-30-8	Not a confirmed teratogen or embryotoxin.
Substances	CAS Number	STOT - single exposure
Glutaraldehyde	111-30-8	No information available
Substances	CAS Number	STOT - repeated exposure
Glutaraldehyde	111-30-8	May cause disorder and damage to the Kidney
Substances	CAS Number	Aspiration hazard
Glutaraldehyde	111-30-8	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity effects

Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Product Ecotoxicity Data

Very toxic to aquatic organisms. 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
Glutaraldehyde	111-30-8	EC50(72h): 0.61 mg/L (Desmodesmus subspicatus) EC50(72h): 0.5 mg/L (Skeletonema costatum)	LC50(96h): 10 mg/L (Lepomis macrochirus) NOEC(97d): 1.6 mg/L (Oncorhynchus mykiss) LC50(96h): 3.5 mg/L (Oncorhynchus mykiss) LC50(96h): 60 mg/L (Scophthalmus maximus)	EC50 (17h) 6.65 mg/L (Pseudomonas putida)	EC50(48h): 0.35 mg/L (Daphnia magna) EC50(48h): 0.7 mg/L (Acartia tonsa) NOEC(21d): 0.13 mg/L (Daphnia magna) EC50(48h): 0.1 mg/L (Acartia tonsa)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Glutaraldehyde	111-30-8	Readily biodegradable (75% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Glutaraldehyde	111-30-8	-0.36

12.4. Mobility in soil

Substances	CAS Number	Mobility
Glutaraldehyde	111-30-8	Potential for mobility in soil is high (Koc between 50 and 150). Given its very low Henry's constant (3.3E-08 atm*m3/mole; 25 °C Measured), volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

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 UN3265
UN proper shipping name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Glutaraldehyde)
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Marine Pollutant
NAERG: NAERG 153

Canadian TDG

UN Number UN3265
UN proper shipping name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Glutaraldehyde)
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Marine Pollutant

IMDG/IMO

UN Number UN3265
UN proper shipping name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Glutaraldehyde)
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Marine Pollutant
EMS: EmS F-A, S-B

IATA/ICAO

UN Number UN3265
UN proper shipping name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Glutaraldehyde)
Transport Hazard Class(es): 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.

TSCA Significant New Use Rules - S5A2

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Glutaraldehyde	111-30-8	Not applicable

EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances

Glutaraldehyde	111-30-8	Not applicable
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EPA SARA (311,312) Hazard Class

Acute Health Hazard
Chronic Health Hazard

EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Glutaraldehyde	111-30-8	Not applicable	Not applicable

EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Glutaraldehyde	111-30-8	Not applicable

EPA RCRA Hazardous Waste Classification

Corrosivity D002

California Proposition 65

Substances	CAS Number	California Proposition 65
Glutaraldehyde	111-30-8	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
Glutaraldehyde	111-30-8	Present	0960	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
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

Revision Date:

18-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/

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End of Safety Data Sheet