

SAFETY DATA SHEET

ALDACIDE® G ANTIMICROBIAL

Revision Date: 06-Apr-2021

Revision Number: 11

1. Identification of the hazardous chemical and of the supplier

Product identifier

Product Name ALDACIDE® G ANTIMICROBIAL

Other means of identification

Hazardous Material Number: HB003462

Recommended use of the chemical and restrictions on use

Recommended Use Biocide

Supplier details

Halliburton Energy Service (M) Sdn Bhd
10th Floor, G Tower,
199 Jalan Tun Razak,
50400, Kuala Lumpur, Malaysia
Phone Number: +603-9206 6888

Halliburton Energy Service (M) Sdn Bhd
Labuan Base,
Ranca-Ranca Industrial Estate
Labuan FT, LAB 82223 Malaysia
Phone Number: +60 87-596 200 ext Gate B-886086263

Halliburton Energy Service (M) Sdn Bhd
Warehouse 38, Phase 2, Kemaman Supply Base (KSB)
24007, Kemaman
Terengganu, Malaysia
Phone Number : +609-862 8000

For further information, please contact:

E-mail Address fdunexchem@halliburton.com

Emergency Phone number

+60 015 4 877 0772
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazard Identification

Classification of the hazardous chemical

Acute Oral Toxicity	Category 4 - H302
Acute inhalation toxicity - vapor	Category 3 - H331
Skin Corrosion / Irritation	Category 1 - H314
Serious Eye Damage/Irritation	Category 1 - H318
Respiratory Sensitization	Category 1 - H334
Skin Sensitization	Category 1 - H317
Acute Aquatic Toxicity	Category 1 - H400

Chronic Aquatic Toxicity

Category 3 - H412

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
 H331 - Toxic if inhaled
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
 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

Response

P280 - Wear protective gloves/eye protection/face protection
 P285 - In case of inadequate ventilation wear respiratory protection
 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 [or shower].
 P363 - Wash contaminated clothing before reuse
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

**Storage
Disposal**

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
 P391 - Collect spillage
 P405 - Store locked up
 P501 - Dispose of contents/container to an approved incineration plant

Contains**Substances**

Glutaraldehyde

CAS Number

111-30-8

Other hazards which do not result in classification

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

3. Composition and information on ingredients of the hazardous chemical

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Malaysia
Glutaraldehyde	111-30-8	10 - 30%	Met. Corr. 1 (H290)

			Acute Tox. 3 (H301) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)
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4. First aid measures

Description of first aid measures

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
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.

Most important symptoms and effects, both acute and delayed

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

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

Physicochemical hazards arising from the chemical

Special exposure hazards in a fire

Decomposition in fire may produce harmful gases.

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

Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Ensure adequate ventilation. Avoid breathing vapors. Avoid contact with skin, eyes and clothing. Evacuate all persons from the area. Use only competent persons for cleanup.

See Section 8 for additional information.

Environmental precautions

Prevent from entering sewers, waterways, or low areas.

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

Precautions for safe handling

Use appropriate protective equipment. Ensure adequate ventilation. Avoid breathing vapors. Avoid breathing mist. Avoid contact with eyes, skin, or clothing. Wash hands after use. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Store away from acids. Store away from alkalis. Store in a well ventilated area. Keep container closed when not in use. Store locked up. Product has a shelf life of 36 months.

8. Exposure controls and personal protection

Control parameters

Exposure Limits

Substances	CAS Number	Malaysia OEL	ACGIH TLV-TWA
Glutaraldehyde	111-30-8	Not applicable	Ceiling: 0.05 ppm

Appropriate engineering controls

Engineering Controls

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation. If vapors are strong enough to be irritating to the nose or eyes, the TLV is probably being exceeded and special ventilation or respiratory protection maybe required.

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. Organic vapor respirator.

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.

Environmental Exposure Controls

Do not allow material to contaminate ground water system.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical State: Liquid

Odor: Sharp

Color: Clear light yellow

Odor Threshold: No information available

Property

Remarks/ - Method

Values

pH:

3.1-4.5

Freezing Point / Range

(-5) - (-10) °C

Melting Point / Range

No data available

Pour Point / Range

No data available

Boiling Point / Range

100.5 °C / 213 °F

Flash Point

No data available

Evaporation rate	0.9
Vapor Pressure	0.2 mmHg
Vapor Density	0.8
Specific Gravity	1.064
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	-0.333
Autoignition Temperature	> 275 °C / > 527 °F
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available
<u>Other information</u>	
VOC Content (%)	No data available

10. Stability and reactivity

Reactivity

Not expected to be reactive.

Chemical stability

Stable

Possibility of hazardous reactions

Will Not Occur

Conditions to avoid

Keep away from heat, sparks and flame.

Incompatible materials

Strong acids. Strong alkalis.

Hazardous decomposition products

Carbon monoxide and carbon dioxide.

11. Toxicological information

Information on possible routes of exposure

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

Symptoms related to exposure

Most Important Symptoms/Effects

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

Numerical measures of toxicity

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

Immediate, delayed and chronic health effects from exposure

Inhalation

Toxic if inhaled. Causes severe respiratory irritation. May cause allergic respiratory reaction. Inhalation of vapors may result in skin sensitization.

Eye Contact

Causes severe eye irritation which may damage tissue.

Skin Contact

Causes severe burns. May cause an allergic skin reaction.

Ingestion

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

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

Exposure Levels

No data available

Interactive effects

Skin disorders. Lung disorders. Liver disorders.

Data limitations

No data available

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

Ecotoxicity

12.1. Toxicity

Ecotoxicity effects

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

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)

Persistence and degradability

Readily biodegradable

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

Bioaccumulative potential

Does not bioaccumulate.

Substances	CAS Number	Bioaccumulation
Glutaraldehyde	111-30-8	-0.36

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.

Other adverse effects**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

13. Disposal considerations**Disposal methods****Disposal methods****Contaminated Packaging**

Disposal should be made in accordance with federal, state, and local regulations.

Follow all applicable national or local regulations.

14. Transportation information**Transportation Information****UN Number**

UN3265

UN proper shipping name:

Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Glutaraldehyde)

Transport Hazard Class(es):

8

Packing Group:

II

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:

II

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:

II

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

HazChem Code

2X

15. Regulatory information

International Agreements

Montreal Protocol - Ozone Depleting Substances:	Does not apply.
Stockholm Convention - Persistent Organic Pollutants:	Does not apply
Rotterdam Convention - Prior Informed Consent:	Does not apply.
Basel Convention - Hazardous Waste:	Does not apply.

Safety, health, and environmental regulations specific for the hazardous chemical

Malaysia Occupation Safety and Health - Prohibition of Use Substances:	Does not apply
Malaysia Substances Requiring Medical Surveillance:	Does not apply
Malaysia Environmentally Hazardous Substances (EHS):	One or more components listed.

16. Other information

Revision Date: 06-Apr-2021

Revision Note

SDS sections updated:

2
3
4

Key literature references and sources for data

www.ChemADVISOR.com/
NZ CCID

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
 CAS – Chemical Abstracts Service
 EC – European Commission
 EC10 – Effective Concentration 10%
 EC50 – Effective Concentration 50%
 EEC – European Economic Community
 ER50 – Effective Concentration growth rate 50%
 IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 LC50 – Lethal Concentration 50%
 LD50 – Lethal Dose 50%
 LL0 – Lethal Loading 0%
 LL50 – Lethal Loading 50%
 MARPOL – International Convention for the Prevention of Pollution from Ships
 mg/kg – milligram/kilogram
 mg/L – milligram/liter
 NIOSH – National Institute for Occupational Safety and Health
 NOEC – No Observed Effect Concentration
 NTP – National Toxicology Program
 OEL – Occupational Exposure Limit
 PBT – Persistent Bioaccumulative and Toxic
 PC – Chemical Product category
 PEL – Permissible Exposure Limit
 ppm – parts per million
 PROC – Process category
 STEL – Short Term Exposure Limit
 h - hour
 d - day

Disclaimer Statement

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End of Safety Data Sheet