HALLIBURTON

SAFETY DATA SHEET

ALDACIDE® G ANTIMICROBIAL

Revision Date: 21-Jan-2016 **Revision Number:** 34

1. Product and Company Identification

Product Name
Product Trade Name: ALDACIDE® G ANTIMICROBIAL

Other Names
Synonyms: None
Product Code: HM003462

Recommended Use
Recommended Use Biocide
Uses Advised Against No information available

Company Name, Address and Contact Details
Manufacturer/Supplier Halliburton New Zealand
1 Paraite Rd,
Bell Block, New Plymouth
New Zealand Registration No.: 824207

E-Mail address: fdunexchem@halliburton.com

Emergency Telephone Number +64 800 451719

New Zealand National Poisons Centre 0800 764 766 (24 hours)

2. Hazard(s) Identification

Statement of Hazardous Nature
Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulation 2001; Classified as dangerous good according to NZS 5433:2012, UN, IMDG or IATA

Classification
6.1C (Oral) Acutely Toxic Substances
6.1D (Dermal) Acutely Toxic Substances
6.1D (Inhalation) Acutely Toxic Substances
6.5A Respiratory sensitisers
6.5B Contact sensitisers
6.8B Human reproductive or developmental toxicants
6.9B Harmful to human target organs or systems
8.2B Corrosive to dermal tissue if exposed for greater than 3 mins.
8.3A Corrosive to ocular tissue
9.1A Very ecotoxic in the aquatic environment
9.2B Ecotoxic in the soil environment
9.3B Ecotoxic to terrestrial invertebrates

Hazard and Precautionary Statements

Hazard Pictograms

Signal Word Danger

Hazard Statements

H301 - Toxic if swallowed
H312 - Harmful in contact with skin
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
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life

Precautionary Statements

Prevention

P101 - If medical advice is needed, have product container or label at hand
P102 - Keep out of reach of children
P103 - Read label before use
P104 - Read Safety Data Sheet before use.
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P261 - Avoid breathing 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/eye protection/face protection
P281 - Use personal protective equipment as required
P285 - In case of inadequate ventilation wear respiratory protection

Response

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P330 - Rinse mouth
P331 - Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
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
P312 - Call a POISON CENTER/doctor/physician if you feel unwell
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
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P314 - Get medical attention/advice if you feel unwell
P391 - Collect spillage

Storage P405 - Store locked up

Disposal P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains

Substances	CAS Number	Substance HSNO Classification
Glutaraldehyde	111-30-8	6.1B (Oral) 6.1C (Dermal) 6.1B (Inhalation) 6.5A 6.5B 6.9B (oral) 8.2B 8.3A 9.1A (algal, crustacean) 9.1D (fish) 9.2A 9.3A

Methanol	67-56-1	3.1B 6.1C (Oral) 6.1C (Dermal) 6.1C (Inhalation) 6.4A 6.8B 6.9A (Inhalation) 9.3C

2.3. Other Hazards

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

Substances	CAS Number	PERCENT (w/w)
Glutaraldehyde	111-30-8	10 - 30%
Methanol	67-56-1	0.1 - 1%

4. First-Aid Measures

Requirements for First Aid or Medical Care

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.

Workplace Facilities Required

None

Relation to Health Effect

Most Important Symptoms/Effects

Toxic if inhaled. Causes severe skin burns and eye damage. May cause allergic respiratory reaction. Harmful if swallowed. May cause allergic skin reaction. May cause respiratory irritation. May be fatal if inhaled. Causes severe skin irritation with tissue destruction. Causes severe eye irritation which may damage tissue. Potential reproductive hazard. May cause birth defects.

Medical Attention and Special Treatment

Notes to Physician

Treat symptomatically

5. Fire-fighting measures

Type of Hazard

Flammability Hazard

Combustible liquid

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

HAZCHEM Code

Hazchem Code: None Allocated

Special Protective Equipment and Precautions for Fire Fighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

Special Exposure Hazards

Decomposition in fire may produce harmful gases.

6. Spillage, Accidental Release Measures

6.1. 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

6.2. Environmental precautions
Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up
Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

6.4. Reference to other sections
See Section 8 and 13 for additional information.

7. Handling and storage

7.1. Precautions for Safe Handling
Handling Precautions
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.

Handling Practices
Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

Approved Handlers
If any quantity is present, then an approved handler must be present when the substance is being handled and when not in use, the substance must be locked away.

7.2. 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.

Store Site Requirements
No special controls required

Packaging
No special packaging required

8. Exposure Controls and Personal Protection

Workplace Exposure Standards
Exposure Limits

Substances	CAS Number	New Zealand WES	ACGIH TLV-TWA
Glutaraldehyde	111-30-8	STEL: 0.05 ppm	0.05 ppm
Methanol	67-56-1	TWA: 200 ppm TWA: 262 mg/m^3 STEL: 250 ppm STEL: 328 mg/m^3	TWA: 200 ppm STEL: 250 ppm

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.

Personal Protective Equipment (PPE)
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	Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Color: Clear light yellow
Odor: Sharp
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
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

9.2. Other information

VOC Content (%) No data available

10. Stability and Reactivity

10.2. Chemical Stability

Stable

10.4. Conditions to Avoid

Keep away from heat, sparks and flame.

10.5. Incompatible Materials

Strong acids. Strong alkalis.

10.6. Hazardous Decomposition Products

Carbon monoxide and carbon dioxide.

Hazardous Reactions

Hazardous Polymerization: Will Not Occur

11. Toxicological Information

Health Effect from Likely Routes of Exposure

Acute Toxicity

Inhalation	Toxic if inhaled. May cause allergic respiratory reaction. Causes severe respiratory irritation. Inhalation of vapors may result in skin sensitization.
Eye Contact	Causes serious eye damage.
Skin Contact	Causes severe burns. May cause an allergic skin reaction.

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

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
Methanol	67-56-1	< 790 mg/kg (rat) 7300 mg/kg (mouse) 14200 mg/kg (rabbit) 300 mg/kg (Human) 6200 mg/kg (Rat)	15800 mg/kg (Rabbit) 393 mg/kg bw (primates) 1000 mg/kg (Human) 15800 mg/kg (Rabbit)	10 mg/L (Human) 4h (vapor) 22,500 ppm (Rat) 8h 64,000 ppm (Rat) 4h 83.2 mg/L (rat) 4h 128.8 mg/L (rat) 4h

Substances	CAS Number	Skin corrosion/irritation
Glutaraldehyde	111-30-8	Causes severe skin irritation with tissue destruction. (Rabbit)
Methanol	67-56-1	Non-irritating to the skin (Rabbit)

Substances	CAS Number	Eye damage/irritation
Glutaraldehyde	111-30-8	Causes severe eye irritation which may damage tissue. (Rabbit)
Methanol	67-56-1	Non-irritating to the eye (Rabbit)

Substances	CAS Number	Skin Sensitization
Glutaraldehyde	111-30-8	Skin sensitizer in guinea pig.
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Glutaraldehyde	111-30-8	May cause sensitization by inhalation
Methanol	67-56-1	No information available

Substances	CAS Number	Mutagenic Effects
Glutaraldehyde	111-30-8	In vivo tests did not show 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.

Substances	CAS Number	Carcinogenic Effects
Glutaraldehyde	111-30-8	Did not show carcinogenic effects in animal experiments
Methanol	67-56-1	No data of sufficient quality are available.

Substances	CAS Number	Reproductive toxicity
Glutaraldehyde	111-30-8	Not a confirmed teratogen or embryotoxin.
Methanol	67-56-1	Experiments have shown reproductive toxicity effects on laboratory animals

Substances	CAS Number	STOT - single exposure
Glutaraldehyde	111-30-8	No information available
Methanol	67-56-1	May cause disorder and damage to the Central Nervous System (CNS)

Substances	CAS Number	STOT - repeated exposure
Glutaraldehyde	111-30-8	May cause disorder and damage to the (Kidney)
Methanol	67-56-1	No data of sufficient quality are available.

Substances	CAS Number	Aspiration hazard
Glutaraldehyde	111-30-8	Not applicable
Methanol	67-56-1	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity Effects

Product Ecotoxicity Data
No data available

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)	LC50 (96h) 10 mg/L (Lepomis macrochirus) NOEC (97d) 1.6 mg/L (Oncorhynchus mykiss) LC50 (96h) 3.5 mg/L (Oncorhynchus mykiss)	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)
Methanol	67-56-1	ErC50 (96h) 22000 mg/L (Pseudokirchnerella subcapitata)	LC50 28200 mg/L (Pimephales promelas) LC50 (96h) 12700 – 15400 mg/L (Lepomis macrochirus)	IC50 (3h) > 1000 mg/L (activated sludge)	EC50 (96h) 18260 mg/L (Daphnia magna) NOEC (21d) 122 mg/L (Daphnia magna, Reproduction)

12.2. Persistence and degradability
Readily biodegradable

Substances	CAS Number	Persistence and Degradability
Glutaraldehyde	111-30-8	Readily biodegradable (75% @ 28d)
Methanol	67-56-1	(95-97% @ 20d)

12.3. Bioaccumulative potential
Does not bioaccumulate.

Substances	CAS Number	Log Pow
Glutaraldehyde	111-30-8	-0.36
Methanol	67-56-1	-0.77 BCF = 1.0 – 4.5 (Cyprinus carpio) BCF < 10 (Leuciscus idus melanotus)

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'sconstant (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.
Methanol	67-56-1	No information available

Ecotoxicity Hazard Statements
Toxic to aquatic life with long lasting effects
Toxic in the soil environment.
Toxic to terrestrial vertebrates.

12.6. Other adverse effects
Endocrine Disruptor Information
This product does not contain any known or suspected endocrine disruptors

13. Disposal Considerations

13.1. Waste treatment methods
Disposal Method Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

14. Transport Information

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

NZ 5433.1999

UN Number:	UN3265
UN Proper Shipping Name:	Corrosive Liquid, Acidic, Organic, N.O.S. (Contains Glutaraldehyde)
Transport Hazard Class(es):	8
Packing Group:	III

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

Special Precautions for User: None

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

15. Regulatory Information

New Zealand Inventory of Chemicals All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

HSNO Approval Number HSR002510

Group Name Additives, Process Chemicals and Raw Materials (Toxic [6.1], Corrosive HSR002510)

HSNO Controls Refer to the NZ EPA website for more information: http://www.epa.govt.nz

Approved Handlers If any quantity is present, then an approved handler must be present when the substance is being handled and when not in use, the substance must be locked away.

Poisons Schedule: S6

16. Other information

The following sections have been revised since the last issue of this SDS
Not applicable

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
bw – body weight CAS – Chemical Abstracts Service EC50 – Effective Concentration 50% LC50 – Lethal Concentration 50% LD50 – Lethal Dose 50% LL50 – Lethal Loading 50% MARPOL – International Convention for the Prevention of Pollution from Ships mg/kg – milligram/kilogram mg/L – milligram/liter NOEC – No Observed Effect Concentration OEL – Occupational Exposure Limit ppm – parts per million TWA – Time-Weighted Average VOC – Volatile Organic Carbon C - Celsius IATA/ICAO - International Air Transport Association / International Civil Aviation Organization IMDG/IMO - International Maritime Dangerous Goods / International Maritime Organization mg/m^3 - milligram/cubic meter mm - millimeter mmHg - millimeter mercury w/w - weight/weight d - day

Key literature references and sources for data
www.ChemADVISOR.com/
NZ CCID

Revision Date: 21-Jan-2016
Revision Note
SDS sections updated:
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Disclaimer Statement

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End of Safety Data Sheet