HALLIBURTON

SAFETY DATA SHEET

BA-20 BUFFERING AGENT

Revision Date: 21-Jan-2016 **Revision Number:** 24

1. Product and Company Identification

Product Name
Product Trade Name: BA-20 BUFFERING AGENT

Other Names
Synonyms: None
Product Code: HM000095

Recommended Use
Recommended Use Buffer
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)

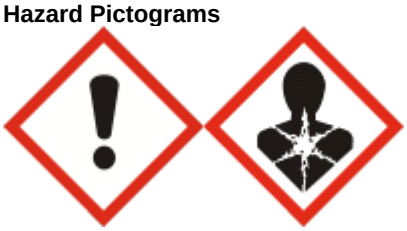
2. Hazard(s) Identification

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
6.1E (Oral) Acutely Toxic Substances
6.3A Irritating to the skin
6.4A Irritating to the eye
6.9B Harmful to human target organs or systems

Hazard and Precautionary Statements

Hazard Pictograms



Signal Word Warning

Hazard Statements
H303 - May be harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H373 - May cause damage to organs through prolonged or repeated exposure

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.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/eye protection/face protection

Response
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P331 - Do NOT induce vomiting
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash 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
P337 + P313 - If eye irritation persists: Get medical advice/attention
P314 - Get medical attention/advice if you feel unwell

Storage
None

Disposal
P501 - Dispose of contents/container to an approved waste disposal plant

Contains

Substances	CAS Number	Substance HSNO Classification
Ammonium acetate	631-61-8	6.3B 6.4A
Acetic acid	64-19-7	3.1C 6.1D (Oral) 6.1D (Dermal) 6.1D (Inhalation) 8.2B 8.3A 6.9B (inhalation) 9.1D (Algae, Crustacean, Fish) 9.3C 8.1A

2.3. Other Hazards
None known

3. Composition and Information on Ingredients

Substances	CAS Number	PERCENT (w/w)
Ammonium acetate	631-61-8	60 - 100%
Acetic acid	64-19-7	10 - 30%

4. First-Aid Measures

Requirements for First Aid or Medical Care

Inhalation If inhaled, move victim to fresh air and seek medical attention.

Eyes Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

Skin Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Get medical attention if irritation persists.

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
Causes serious eye damage. Causes skin irritation. Causes severe eye irritation which may damage tissue.

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
All standard fire fighting media
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.
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. Neutralize to pH of 6-8. 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
Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. 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
This product does NOT require an approved handler.

7.2. Conditions for safe storage, including any incompatibilities
Store away from alkalis. Store in a cool well ventilated area. Store locked up. Keep container closed when not in use. Product has a shelf life of 24 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
Ammonium acetate	631-61-8	Not applicable	Not applicable
Acetic acid	64-19-7	STEL: 15 ppm STEL: 37 mg/m³ TWA: 10 ppm TWA: 25 mg/m³	TWA: 10 ppm STEL: 15 ppm

Engineering Controls

Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

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.
Organic vapor/acid gas respirator with a dust/mist filter.

Hand Protection Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.

Skin Protection Rubber apron.

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:** Colorless
Odor: Slight vinegar **Odor Threshold:** No information available

Property Remarks/ - Method	Values
pH:	5.45
Freezing Point/Range	- 31 °C
Melting Point/Range	No data available
Boiling Point/Range	101 °C / 215 °F
Flash Point	> 100 °C / > 212 °F PMCC
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.102
Water Solubility	Miscible with 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

10. Stability and Reactivity

10.2. Chemical Stability

Stable

10.4. Conditions to Avoid
None anticipated

10.5. Incompatible Materials
Strong alkalis.

10.6. Hazardous Decomposition Products
Ammonia. Oxides of nitrogen. 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 May cause mild respiratory irritation.
Eye Contact May cause severe eye irritation. May cause eye burns.
Skin Contact Causes moderate skin irritation.
Ingestion Irritation 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.

Toxicity Data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium acetate	631-61-8	3.25 g/kg (Rat) (similar substance)	> 2000 mg/kg (Rabbit) (Similar substances)	No data available
Acetic acid	64-19-7	3310 mg/kg (Rat) 600 mg/kg (Rabbit) 4960 mg/kg (Mouse)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4h

Substances	CAS Number	Skin corrosion/irritation
Ammonium acetate	631-61-8	Non-irritating to the skin (Rabbit) (similar substances)
Acetic acid	64-19-7	Corrosive to skin

Substances	CAS Number	Eye damage/irritation
Ammonium acetate	631-61-8	Non-irritating to the eye (Rabbit) (similar substances)
Acetic acid	64-19-7	Corrosive to eyes

Substances	CAS Number	Skin Sensitization
Ammonium acetate	631-61-8	Did not cause sensitization on laboratory animals (guinea pig) (similar substances)
Acetic acid	64-19-7	Not regarded as a sensitizer.

Substances	CAS Number	Respiratory Sensitization
Ammonium acetate	631-61-8	No information available
Acetic acid	64-19-7	No information available

Substances	CAS Number	Mutagenic Effects
Ammonium acetate	631-61-8	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)
Acetic acid	64-19-7	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Ammonium acetate	631-61-8	No information available.

Acetic acid	64-19-7	Did not show carcinogenic effects in animal experiments

Substances	CAS Number	Reproductive toxicity
Ammonium acetate	631-61-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Acetic acid	64-19-7	Did not show teratogenic effects in animal experiments. Animal testing did not show any effects on fertility.

Substances	CAS Number	STOT - single exposure
Ammonium acetate	631-61-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Acetic acid	64-19-7	May cause respiratory irritation.

Substances	CAS Number	STOT - repeated exposure
Ammonium acetate	631-61-8	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Acetic acid	64-19-7	Not applicable due to corrosivity of the substance.

Substances	CAS Number	Aspiration hazard
Ammonium acetate	631-61-8	Not applicable
Acetic acid	64-19-7	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
Ammonium acetate	631-61-8	EC50 (72h) > 1000 mg/L (Skeletonema costatum) (Similar substance)	LC50 (48h) 308 mg/L (Cyprinus carpio) LC50 (96h) 238 mg/L (Gambusia affinis) NOEC (60d) 154 mg/L (mortality) (Cyprinus carpio)	EC50 (16h) 7.2 g/L (Pseudomonas putida) (Similar substance)	EC50 (48h) > 919 mg/L (Daphnia magna) (Similar substance) EC50 (48h) > 360.89 mg/L (Daphnia magna) (Similar substance)
Acetic acid	64-19-7	EC50 90 mg/L (Microcystis aeruginosa) EC50 (72h) > 1000 mg/L (>300.82 mg/L – acetate ion) (Skeletonema costatum)	LC50 79 mg/L (Pimephales promelas) LC50 75 mg/L (Pimephales promelas) LC50 (96h) > 1000 mg/L (>300.82 mg/L – acetate ion) (Oncorhynchus mykiss)	NOEC (16h) 1150 mg/L (Pseudomonas putida)	EC50 47 mg/L (Daphnia magna) LC50 32 mg/L (Artemia salina) EC50 (48h) > 1000 mg/L (>300.82 mg/L – acetate ion) (Daphnia magna) NOEC (21d) 31.4 - 37.9 mg/L (Daphnia magna) (reproduction)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Ammonium acetate	631-61-8	(99% @ 28d)
Acetic acid	64-19-7	Readily biodegradable (99% @ 7d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Ammonium acetate	631-61-8	-2.79 BCF: 3.162 (Calculated)
Acetic acid	64-19-7	-0.17 BCF = 3.16 (Calculated)

12.4. Mobility in soil

Substances	CAS Number	Mobility
Ammonium acetate	631-61-8	No information available
Acetic acid	64-19-7	No information available

Ecotoxicity Hazard Statements
None known

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. Substance should NOT be deposited into a sewage facility.

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: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

NZ 5433.1999

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable

IATA/ICAO

UN Number: Not restricted
UN Proper Shipping Name: Not restricted
Transport Hazard Class(es): Not applicable
Packing Group: Not applicable

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 HSR002503

Group Name Additives, Process Chemicals and Raw Materials (Subsidiary hazard HSR002503)

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

Approved Handlers Not Applicable

Poisons Schedule: None Allocated

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:
2

Disclaimer Statement

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End of Safety Data Sheet