HALLIBURTON

SAFETY DATA SHEET

Product Trade Name: **AQUA-CLEAR® MGA**

Revision Date: 01-Apr-2015 **Revision Number:** 19

1. Identification

1.1. Product Identifier

Product Trade Name: AQUA-CLEAR® MGA
Synonyms: None
Chemical Family: Acid
Internal ID Code HM003467

1.2 Recommended use and restrictions on use

Application: Inhibited Granular Acid / Scale Removal
Uses Advised Against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier
Baroid Fluid Services
Product Service Line of Halliburton
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000
Emergency Telephone: (281) 575-5000

Prepared By
Chemical Stewardship
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone Number (281) 575-5000

2. Hazard(s) Identification

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

Acute Oral Toxicity	Category 4 - H302
Skin Corrosion / Irritation	Category 1 C - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318
Acute Aquatic Toxicity	Acute 3 - H402

2.2. Label Elements

Hazard Pictograms

Signal Word Danger

Hazard Statements

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H402 - Harmful 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
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
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
P330 - Rinse mouth
P363 - Wash contaminated clothing before reuse

Storage

P405 - Store locked up

Disposal

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

Contains

Substances	**CAS Number**
Sulfamic acid	5329-14-6
Sodium chloride	7647-14-5

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Sulfamic acid	5329-14-6	60 - 100%	Acute Tox. 4 (H302) Skin Corr. 1C (H314) Eye Corr. 1 (H318) Aquatic Acute 3 (H402)
Sodium chloride	7647-14-5	10 - 30%	Eye Irrit. 2B (H320)

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First-Aid Measures

4.1. 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.

4.2 Most important symptoms/effects, acute and delayed
May cause eye and skin burns. Harmful if swallowed.

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
None known.

5.2 Specific hazards arising from the substance or mixture
Special Exposure Hazards
Decomposition in fire may produce toxic gases. Do not allow runoff to enter waterways.

5.3 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.

6. Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
Use appropriate protective equipment. Avoid creating and breathing dust.
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
Scoop up and remove.

7. Handling and storage
7.1. Precautions for Safe Handling
Handling Precautions
Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Wash hands after use. Launder contaminated clothing before reuse.
Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities
Storage Information
Store away from alkalis. Store in a cool, dry location. Product has a shelf life of 36 months.

8. Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Sulfamic acid	5329-14-6	Not applicable	Not applicable
Sodium chloride	7647-14-5	Not applicable	Not applicable

8.2 Appropriate engineering controls

Engineering Controls Use in a well ventilated area.

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 Dust/mist respirator. (N95, P2/P3)
Hand Protection Impervious rubber gloves.
Skin Protection Rubber apron.
Eye Protection Dust proof goggles.
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: Solid
Odor: Odorless
Color: Off white
Odor Threshold: No information available

Property	Values	Remarks/ - Method
pH:	1.6	
Freezing Point/Range	No information available.	
Melting Point/Range	No data available	
Boiling Point/Range	No data available	
Flash Point	No data available	
Flammability (solid, gas)	No data available	
upper flammability limit	No data available	
lower flammability limit	No data available	
Evaporation rate	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	
Specific Gravity	2.07	
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
Bulk Density 79-85 lbs/ft3 @ 20 C

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
Keep away from heat, sparks and flame.

10.5. Incompatible Materials
Strong alkalis. Nitric acid. Ammonium compounds. Amines.

10.6. Hazardous Decomposition Products
Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

11. Toxicological Information

11.1 Information on likely routes of exposure
Principle Route of Exposure Eye or skin contact, inhalation.

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

Inhalation May cause respiratory irritation.

Eye Contact Causes severe eye burns. May cause permanent eye damage.

Skin Contact May cause skin irritation.

Ingestion May cause abdominal pain, vomiting, nausea, and diarrhea. 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.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfamic acid	5329-14-6	1450 mg/kg (Rat) 1600 mg/kg (Rat) 3160 mg/kg (Rat) 2065 mg/kg (Rat)	> 2000 mg/kg (Rat)	No data available
Sodium chloride	7647-14-5	3000 mg/kg (Rat) 3550 mg/kg (Rat)	>10000 mg/kg (Rabbit)	42 mg/L (Rat) 1h

Substances	CAS Number	Skin corrosion/irritation
Sulfamic acid	5329-14-6	Skin, rabbit: Causes burns
Sodium chloride	7647-14-5	Non-irritating to the skin (Rabbit)

Substances	CAS Number	Eye damage/irritation
Sulfamic acid	5329-14-6	Eye, rabbit: Causes serious eye damage
Sodium chloride	7647-14-5	May cause mild eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Sulfamic acid	5329-14-6	Not regarded as a sensitizer.

Sodium chloride	7647-14-5	No information available

Substances	CAS Number	Respiratory Sensitization
Sulfamic acid	5329-14-6	No information available
Sodium chloride	7647-14-5	No information available

Substances	CAS Number	Mutagenic Effects
Sulfamic acid	5329-14-6	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.
Sodium chloride	7647-14-5	No information available

Substances	CAS Number	Carcinogenic Effects
Sulfamic acid	5329-14-6	No information available.
Sodium chloride	7647-14-5	Did not show carcinogenic effects in animal experiments

Substances	CAS Number	Reproductive toxicity
Sulfamic acid	5329-14-6	No information available
Sodium chloride	7647-14-5	Not a confirmed reproductive toxicant.

Substances	CAS Number	STOT - single exposure
Sulfamic acid	5329-14-6	No data of sufficient quality are available.
Sodium chloride	7647-14-5	No information available

Substances	CAS Number	STOT - repeated exposure
Sulfamic acid	5329-14-6	No data of sufficient quality are available.
Sodium chloride	7647-14-5	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Sulfamic acid	5329-14-6	Not applicable
Sodium chloride	7647-14-5	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
Sulfamic acid	5329-14-6	EC50 (72h) 48 mg/L (Desmodesmus subspicatus) EC50 (72h) 1801.43 mg/L (Skeletonema costatum)	LC50 (96h) 70.3 mg/L (Pimephales promelas) LC50 (96h) >602 mg/L (Scophthalmus maximus)	EC50 (3h) >200 mg/L (Activated sludge)	EC50 (48h) 71.6 mg/L (Daphnia magna) LC50 (48h) 602 mg/L (Acartia tonsa)
Sodium chloride	7647-14-5	EC50 (120h) 2430 mg/L (Nitzschia sp.)	TLM96 > 1000 mg/L (Oncorhynchus mykiss) LC50 (96h) 5840 mg/L (Lepomis macrochirus) NOEC (33d) 252 mg/L (Pimephales promelas)	NOEC 5000 – 8000 mg/L (activated sludge) NOEC 292-584 mg/L (Escherichia coli)	TLM96 > 1,000,000 ppm (Mysidopsis bahia) LC50 (48h) 874-4136 mg/L (Daphnia magna) NOEC (21d) 314 mg/L (Daphnia pulex)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Sulfamic acid	5329-14-6	(0% @ 28d)
Sodium chloride	7647-14-5	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Sulfamic acid	5329-14-6	No information available
Sodium chloride	7647-14-5	No information available

12.4. Mobility in soil

Substances	Mobility
Sulfamic acid	No information available
Sodium chloride	No information available

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

Disposal Method Bury in a licensed landfill according to federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

14. Transport Information

US DOT

UN Number: UN2967
UN Proper Shipping Name: Sulfamic Acid
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Not applicable
NAERG: NAERG 154

US DOT Bulk

DOT (Bulk) Not applicable

Canadian TDG

UN Number: UN2967
UN Proper Shipping Name: Sulfamic Acid
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Not applicable

IMDG/IMO

UN Number: UN2967
UN Proper Shipping Name: Sulfamic Acid
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Not applicable
EMS: EmS F-A, S-B

IATA/ICAO

UN Number: UN2967
UN Proper Shipping Name: Sulfamic Acid
Transport Hazard Class(es): 8
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.
EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	Acute Health Hazard
EPA SARA (313) Chemicals	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
EPA CERCLA/Superfund Reportable Spill Quantity	Not applicable.
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of: Corrosivity D002
California Proposition 65	All components listed do not apply to the California Proposition 65 Regulation.
MA Right-to-Know Law	Does not apply.
NJ Right-to-Know Law	One or more components listed.
PA Right-to-Know Law	Does not apply.

Canadian Regulations

Canadian DSL Inventory	All components listed on inventory or are exempt.

16. Other information

Preparation Information

Prepared By	Chemical Stewardship Telephone: 1-580-251-4335 e-mail: fdunexchem@halliburton.com
Revision Date:	01-Apr-2015
Reason for Revision	Update to Format SECTION: 2

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%
ErC50 – Effective Concentration growth rate 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
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
h - hour
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/
OSHA

Disclaimer Statement
This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet