

## SAFETY DATA SHEET

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

**Revision Date:** 19-Mar-2019

**Revision Number:** 23

### 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 Energy Services, Inc.  
P.O. Box 1675  
Houston, TX 77251  
Telephone: (281) 871-4000

Halliburton Group Canada  
645 - 7th Ave SW Suite 1800  
Calgary, AB, T2P 4G8, Canada  
Telephone: 1-403-231-9300

**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 (accessible 24 hours a day / 7 days a week)  
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
Skin Corrosion / Irritation	Category 1 C - H314
Serious Eye Damage/Irritation	Category 1 - H318
Acute Aquatic Toxicity	Category 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

**Response**

P280 - Wear protective gloves/protective clothing/eye protection/face 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 victim to fresh air and keep at rest in a position comfortable for breathing  
 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

**Storage  
Disposal**

P405 - Store locked up  
 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
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.

<b>Skin</b>	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.
<b>Ingestion</b>	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

#### **4.2 Most important symptoms/effects, acute and delayed**

Causes severe eye irritation which may damage tissue. Causes severe skin irritation with tissue destruction. 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 in a fire**

Decomposition in fire may produce harmful gases. Do not allow runoff to enter waterways.

#### **5.3 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**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing.

Ensure adequate ventilation. Evacuate all persons from the area.

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. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

##### **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 24 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** 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.

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 **Color** Off white  
**Odor:** Odorless **Odor** No information available  
**Threshold:**

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	1.6
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
Upper flammability limit	No data available
Lower flammability limit	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	2.07
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	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/ft<sup>3</sup> @ 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**

Causes severe burns.

**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.**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-bw (rat)	>10,000 mg/kg bw (rabbit)	No data available

Substances	CAS Number	Skin corrosion/irritation
Sulfamic acid	5329-14-6	Skin, rabbit: Causes burns
Sodium chloride	7647-14-5	Not a dermal irritant

Substances	CAS Number	Serious eye damage/irritation
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Sulfamic acid	5329-14-6	Eye, rabbit: Causes serious eye damage
Sodium chloride	7647-14-5	Causes mild eye irritation.
<b>Substances</b>	<b>CAS Number</b>	<b>Skin Sensitization</b>
Sulfamic acid	5329-14-6	Not regarded as a sensitizer.
Sodium chloride	7647-14-5	Not confirmed to cause skin or respiratory sensitization.
<b>Substances</b>	<b>CAS Number</b>	<b>Respiratory Sensitization</b>
Sulfamic acid	5329-14-6	No information available
Sodium chloride	7647-14-5	Not confirmed to cause skin or respiratory sensitization.
<b>Substances</b>	<b>CAS Number</b>	<b>Mutagenic Effects</b>
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
<b>Substances</b>	<b>CAS Number</b>	<b>Carcinogenic Effects</b>
Sulfamic acid	5329-14-6	No information available
Sodium chloride	7647-14-5	Based on available data, the classification criteria are not met.
<b>Substances</b>	<b>CAS Number</b>	<b>Reproductive toxicity</b>
Sulfamic acid	5329-14-6	No information available
Sodium chloride	7647-14-5	Based on available data, the classification criteria are not met.
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - single exposure</b>
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.
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - repeated exposure</b>
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.
<b>Substances</b>	<b>CAS Number</b>	<b>Aspiration hazard</b>
Sulfamic acid	5329-14-6	Not applicable
Sodium chloride	7647-14-5	Not applicable

## 12. Ecological Information

### 12.1. Toxicity

#### 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	No information available	LC50 (96h) 9675 mg/L	No information available	No information available

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Sulfamic acid	5329-14-6	(0% @ 28d)
Sodium chloride	7647-14-5	The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

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

**12.4. Mobility in soil**

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

**12.5 Other adverse effects**

No information available

**13. Disposal Considerations****13.1. Waste treatment methods**

**Disposal methods** 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

**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.

**TSCA Significant New Use Rules - S5A2**

Substances	CAS Number	TSCA Significant New Use Rules - S5A2
Sulfamic acid	5329-14-6	Not applicable
Sodium chloride	7647-14-5	Not applicable

**EPA SARA Title III Extremely Hazardous Substances**

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Sulfamic acid	5329-14-6	Not applicable
Sodium chloride	7647-14-5	Not applicable

**EPA SARA (311,312) Hazard Class**

Acute toxicity (any route of exposure)  
 Skin Corrosion or Irritation  
 Serious eye damage or eye irritation

**EPA SARA (313) Chemicals**

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Sulfamic acid	5329-14-6	Not applicable	Not applicable
Sodium chloride	7647-14-5	Not applicable	Not applicable

**EPA CERCLA/Superfund Reportable Spill Quantity**

Substances	CAS Number	CERCLA RQ
Sulfamic acid	5329-14-6	Not applicable
Sodium chloride	7647-14-5	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**

Substances	CAS Number	California Proposition 65
Sulfamic acid	5329-14-6	Not applicable
Sodium chloride	7647-14-5	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
Sulfamic acid	5329-14-6	Not applicable	Present	Not applicable
Sodium chloride	7647-14-5	Not applicable	Not applicable	Not applicable

**NFPA Ratings:** Health 3, Flammability 0, Reactivity 0

**HMS Ratings:** Health 3, Flammability 0, Reactivity 0

**Canadian Regulations**

**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**16. Other information****Preparation Information**

Prepared By

Chemical Stewardship  
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 e-mail: fdunexchem@halliburton.com



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**Revision Date:** 19-Mar-2019

**Reason for Revision** SDS sections updated:  
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 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/m<sup>3</sup> - 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/](http://www.ChemADVISOR.com/)  
OSHA

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**End of Safety Data Sheet**