



# SAFETY DATA SHEET

Product Trade Name:

**SULFURIC ACID, STANDARDIZED 0.1N AF GRADE**

Revision Date: 17-Mar-2015

Revision Number: 11

## 1. Identification

### 1.1. Product Identifier

**Product Trade Name:** SULFURIC ACID, STANDARDIZED 0.1N AF GRADE  
**Synonyms** None  
**Chemical Family:** Blend  
**Internal ID Code** HM004007

### 1.2 Recommended use and restrictions on use

**Application:** Reagent  
**Uses advised against** No information available

### 1.3 Manufacturer's Name and Contact Details

#### Manufacturer/Supplier

Fann Instrument Company  
A Halliburton Energy Services, Inc. Company  
P.O. Box 4350  
Houston, TX 77210  
Telephone: (281) 871-4482

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
Carcinogenicity	Category 1A - H350
Reproductive Toxicity	Category 1 Category 1A - H360
Specific Target Organ Toxicity - (Single Exposure)	Category 1 - H370
Flammable liquids.	Category 3 - H226

### 2.2. Label Elements

Hazard Pictograms



<b>Signal Word:</b>	Danger
<b>Hazard Statements</b>	H226 - Flammable liquid and vapor H302 - Harmful if swallowed H350 - May cause cancer H360 - May damage fertility or the unborn child H370 - Causes damage to organs
<b>Precautionary Statements</b>	
<b>Prevention</b>	P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 - Keep container tightly closed P240 - Ground and bond container and receiving equipment. P241 - Use explosion-proof electrical/ventilating/lighting/equipment P242 - Use only non-sparking tools P243 - Take action to prevent static discharges. 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 P280 - Wear protective gloves/protective clothing/eye protection/face protection P280 - Wear protective gloves/eye protection/face protection
<b>Response</b>	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 [or shower]. P308 + P313 - IF exposed or concerned: Get medical advice/attention P330 - Rinse mouth P370 + P378 - In case of fire: Use water spray for extinction P307 + P311 - IF exposed: Call a POISON CENTER or doctor/physician
<b>Storage</b>	P403 + P235 - Store in a well-ventilated place. Keep cool P405 - Store locked up
<b>Disposal</b>	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
Methanol	67-56-1	10 - 30%	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Repr. 1B (H360) STOT SE 1 (H370) Flam. Liq. 2 (H225)
Sulfuric acid	7664-93-9	0.1 - 1%	Skin Corr. 1A (H314) Eye Corr. 1 (H318) Carc. 1 (H350) STOT SE 3 (H335) Aquatic Acute 3 (H402)

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

## 4. First Aid Measures

### 4.1. Description of first aid measures

<b>Inhalation</b>	If inhaled, move victim to fresh air and seek medical attention.
<b>Eyes</b>	In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
<b>Skin</b>	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse. Remove contaminated shoes and discard.
<b>Ingestion</b>	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

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

May be harmful if swallowed. Potential carcinogen. Flammable Potential reproductive hazard. May cause birth defects. May cause damage to internal organs. Harmful if swallowed. Carcinogen.

### 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

Carbon dioxide, dry chemical, foam.

#### 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

May be ignited by heat, sparks or flames Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce harmful gases.

### 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. Wear self-contained breathing apparatus in enclosed areas.

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. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Neutralize with lime slurry, limestone, or soda ash. Scoop up and remove.

# **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.

### **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 oxidizers. Store away from alkalis. Keep from heat, sparks, and open flames. Keep container closed when not in use.

# **8. Exposure Controls/Personal Protection**

## **8.1 Occupational Exposure Limits**

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Methanol	67-56-1	TWA: 200 ppm TWA: 260 mg/m <sup>3</sup>	TWA: 200 ppm STEL: 250 ppm
Sulfuric acid	7664-93-9	TWA: 1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>

## **8.2 Appropriate engineering controls**

### **Engineering Controls**

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

## **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**

Positive pressure self-contained breathing apparatus if methanol is released.

### **Hand Protection**

Impervious rubber gloves.

### **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.

# **9. Physical and Chemical Properties**

## **9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid

**Color**

Clear colorless

**Odor:** Alcohol

**Odor**

No information available

**Threshold:**

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
<b>pH:</b>	1
<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>	30 °C / 86 °F (PMCC)
<b>Flammability (solid, gas)</b>	No data available
<b>Upper flammability limit</b>	No data available
<b>Lower flammability limit</b>	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>	0.99
<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
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available
<b><u>9.2. Other information</u></b>	
<b>VOC Content (%)</b>	No data available

## **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. Alcohols. Aldehydes. Acrylates. Prolonged contact with aluminum, lead, or zinc may liberate flammable hydrogen.

### **10.6. Hazardous decomposition products**

Carbon monoxide and carbon dioxide. Oxides of sulfur.

## **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**

<b>Inhalation</b>	May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.
<b>Eye Contact</b>	May cause eye irritation.
<b>Skin Contact</b>	May cause skin irritation. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.
<b>Ingestion</b>	May be fatal or cause blindness if swallowed. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression.

**Chronic Effects/Carcinogenicity** Prolonged or repeated exposure may cause eye, blood, lung, liver, kidney, heart, central nervous system and spleen damage. Contains sulfuric acid, a potential carcinogen.

### 11.3 Toxicity data

#### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methanol	67-56-1	300 mg/kg-bw (human) < 790 to 13,000 mg/kg (rat)	1000 mg/kg-bw (human) 17,100 mg/kg (rabbit)	10 mg/L (human, vapor, 4h)
Sulfuric acid	7664-93-9	2140 mg/kg-bw (rat)	No data available	No data available

Substances	CAS Number	Skin corrosion/irritation
Methanol	67-56-1	Non-irritating to the skin (Rabbit)
Sulfuric acid	7664-93-9	Causes severe burns

Substances	CAS Number	Serious eye damage/irritation
Methanol	67-56-1	Non-irritating to the eye (Rabbit)
Sulfuric acid	7664-93-9	Causes serious eye damage

Substances	CAS Number	Skin Sensitization
Methanol	67-56-1	Did not cause sensitization on laboratory animals (guinea pig)
Sulfuric acid	7664-93-9	Not regarded as a sensitizer.

Substances	CAS Number	Respiratory Sensitization
Methanol	67-56-1	No information available
Sulfuric acid	7664-93-9	Based on available data, the classification criteria are not met.

Substances	CAS Number	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.
Sulfuric acid	7664-93-9	Based on available data, the classification criteria are not met.

Substances	CAS Number	Carcinogenic Effects
Methanol	67-56-1	No data of sufficient quality are available.
Sulfuric acid	7664-93-9	This substance is a potential carcinogen. (IARC 1).

Substances	CAS Number	Reproductive toxicity
Methanol	67-56-1	Experiments have shown reproductive toxicity effects on laboratory animals
Sulfuric acid	7664-93-9	Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Methanol	67-56-1	May cause disorder and damage to the Central Nervous System (CNS)
Sulfuric acid	7664-93-9	May cause respiratory irritation.

Substances	CAS Number	STOT - repeated exposure
Methanol	67-56-1	No data of sufficient quality are available.
Sulfuric acid	7664-93-9	Not applicable due to corrosivity of the substance.

Substances	CAS Number	Aspiration hazard
Methanol	67-56-1	No information available
Sulfuric acid	7664-93-9	Based on available data, the classification criteria are not met.

## 12. Ecological Information

### 12.1. Toxicity

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Methanol	67-56-1	EC50 (96 h) =22000 mg/L (Pseudokirchnerella subcapitata) NOEC (8 d) =8000 mg/L (Scenedesmus quadricauda)	LC50(96 h)=15400 mg/L (Lepomis macrochirus) EC50 (200h)=14536 mg/L (Oryzias latipes)	No information available	NOEC(21 d)=208 mg/L (Daphnia magna) EC50 (48h)=22200 mg/L (Daphnia obtuse)
Sulfuric acid	7664-93-9	No information available	LC50 (96 h) 16 mg/L (Lepomis macrochirus) LC50 (96 h) 42 mg/L (Gambusia affinis)	No information available	EC50 (24 h) 29 mg/L (Daphnia magna) EC50 (48 h) 42.5 mg/L (Pandalus montagui)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Methanol	67-56-1	Readily biodegradable (95% @ 20d)
Sulfuric acid	7664-93-9	Readily biodegradable

### 12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Methanol	67-56-1	Not Bioaccumulative; BCF=1
Sulfuric acid	7664-93-9	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Methanol	67-56-1	No information available
Sulfuric acid	7664-93-9	No information available

### 12.5 Other adverse effects

No information available

## 13. Disposal Considerations

### 13.1. Waste treatment methods

**Disposal methods** Disposal should be made in accordance with federal, state, and local regulations.  
**Contaminated Packaging** Follow all applicable national or local regulations.

## 14. Transport Information

### US DOT

**UN Number** UN1993  
**UN proper shipping name:** Flammable Liquid, N.O.S. (Contains Methanol)  
**Transport Hazard Class(es):** 3  
**Packing Group:** III  
**Environmental Hazards:** Not applicable  
**NAERG:** NAERG 128

### Canadian TDG

**UN Number** UN1993  
**UN proper shipping name:** Flammable Liquid, N.O.S. (Contains Methanol)  
**Transport Hazard Class(es):** 3  
**Packing Group:** III  
**Environmental Hazards:** Not applicable

**IMDG/IMO**

**UN Number** UN1993  
**UN proper shipping name:** Flammable Liquid, N.O.S. (Contains Methanol)  
**Transport Hazard Class(es):** 3  
**Packing Group:** III  
**Environmental Hazards:** Not applicable  
**EMS:** EmS F-E, S-E

**IATA/ICAO**

**UN Number** UN1993  
**UN proper shipping name:** Flammable Liquid, N.O.S. (Contains Methanol)  
**Transport Hazard Class(es):** 3  
**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	TSCA Section 5(E) Consent Orders
Methanol	67-56-1	Not applicable	Not applicable
Sulfuric acid	7664-93-9	Not applicable	Not applicable

#### EPA SARA Title III Extremely Hazardous Substances

Substances	CAS Number	EPA SARA Title III Extremely Hazardous Substances
Methanol	67-56-1	Not applicable
Sulfuric acid	7664-93-9	1000 lb

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

Flammable (gases, aerosols, liquids, or solids)  
 Acute toxicity (any route of exposure)  
 Specific target organ toxicity (single or repeated exposure)  
 Carcinogenicity  
 Reproductive toxicity

#### EPA SARA (313) Chemicals

Substances	CAS Number	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Methanol	67-56-1	1.0%	Not applicable
Sulfuric acid	7664-93-9	1.0%	Not applicable

#### EPA CERCLA/Superfund Reportable Spill Quantity

Substances	CAS Number	CERCLA RQ
Methanol	67-56-1	5000 lb 2270 kg



Sulfuric acid	7664-93-9	1000 lb 454 kg
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**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:

Ignitability D001  
Corrosivity D002

**California Proposition 65**

Substances	CAS Number	California Proposition 65
Methanol	67-56-1	developmental toxicity
Sulfuric acid	7664-93-9	carcinogen

**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
Methanol	67-56-1	Present	Present	Environmental hazard
Sulfuric acid	7664-93-9	Extraordinarily hazardous	Present	Environmental hazard

**NFPA Ratings:** Health 1, Flammability 3, Reactivity 0  
**HMIS Ratings:** Health 1, Flammability 3, 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  
Telephone: 1-281-871-6107  
e-mail: fdunexchem@halliburton.com

**Revision Date:** 17-Mar-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 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  
ECHA C&L

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**End of Safety Data Sheet**