

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixtures  
Product name : S-3000

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Scale Inhibitor  
Use of the substance/mixture : Water treatment  
Industrial use

#### 1.3. Details of the supplier of the safety data sheet

Chemical Consultants Inc.  
1600 Ratcliff Drive  
Gillette, WY 82716 - United States  
T 307-686-2141 - F 307-686-1106  
[www.chemicalconsultants.com](http://www.chemicalconsultants.com)

#### 1.4. Emergency telephone number

Emergency number : INFOTRAC 1-800-424-5571

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flammable liquids Category 3 H226  
Acute toxicity (oral) Category 4 H302  
Acute toxicity (dermal) Category 4 H312  
Acute toxicity (inhalation:vapour) Category 4 H332  
Skin corrosion/irritation Category 1A H314  
Specific target organ toxicity (single exposure) Category 1 H370

Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H226 - Flammable liquid and vapor  
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled  
H314 - Causes severe skin burns and eye damage  
H370 - Causes damage to organs (blood, central nervous system, eyes, liver) (Dermal, Inhalation, oral)

Precautionary statements (GHS-US) :

P210 - Keep away from open flames. - No smoking  
P233 - Keep container tightly closed  
P242 - Use only non-sparking tools  
P260 - Do not breathe fume, vapors  
P261 - Avoid breathing fume, vapors  
P264 - Wash hands thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P280 - Wear eye protection, protective gloves  
P301 + P312 - If swallowed: Call a POISON CENTER if you feel unwell  
P301 + P330 + P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
P302 + P352 - If on skin: Wash with plenty of water  
P303 + P361 + P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304 + P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P307 + P311 - If exposed: Call a poison center/doctor

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P310 - Immediately call a POISON CENTER  
P312 - Call a POISON CENTER if you feel unwell  
P321 - Specific treatment (see a POISON CENTER, First aid measures on this label)  
P330 - Rinse mouth  
P362 + P364 - Take off contaminated clothing and wash it before reuse  
P363 - Wash contaminated clothing before reuse  
P370 + P378 - In case of fire: Use carbon dioxide (CO<sub>2</sub>), dry extinguishing powder, foam to extinguish  
P405 - Store locked up  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Methanol	(CAS No) 67-56-1	15-25	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 STOT SE 1, H370
phosphonic acid	(CAS No) 13598-36-2	8-18	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314
ammonium chloride	(CAS No) 12125-02-9	2-7	Acute Tox. 4 (Oral), H302

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.  
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.  
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.  
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact : Burns.  
Symptoms/injuries after eye contact : Serious damage to eyes.  
Symptoms/injuries after ingestion : Burns.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapor.  
Reactivity : Flammable liquid and vapor.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Emergency procedures : No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes and clothing.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Flammable vapors may accumulate in the container. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

phosphonic acid (13598-36-2)		
Not applicable		
ammonium chloride (12125-02-9)		
DNEL	DNEL	≈
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Ammonium chloride fume; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup> (Ammonium chloride fume; USA; Short time value; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	Eye & URT irr
Methanol (67-56-1)		
ACGIH	ACGIH TWA (ppm)	200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	250 ppm (Methanol; USA; Short time value; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	260 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	200 ppm

#### 8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

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Personal protective equipment : Gloves. Safety glasses.



Hand protection : Protective gloves.

Eye protection : Safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls : Avoid release to the environment.

### SECTION 9: Physical and chemical properties

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

Physical state : Liquid

Color : Mixture contains one or more component(s) which have the following colour(s):  
Colourless to light yellow Colourless to white Colourless

Odor : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.  
Mixture contains one or more component(s) which have the following odour(s):  
No data available on odour Odourless Characteristic odour Mild odour Pleasant odour Alcohol odour Commercial/unpurified substance: Irritating/pungent odour Asphyxiating odour

Odor threshold : No data available

pH : 7

Melting point : Not applicable

Freezing point : No data available

Boiling point : 186 °F

Flash point : 106 °F

Relative evaporation rate (butyl acetate=1) : No data available

Flammability (solid, gas) : Not applicable.

Vapor pressure : 2 psi

Relative vapor density at 20 °C : No data available

Relative density : No data available

Specific gravity / density : 1.032 @ 60° F

Solubility : No data available

Log Pow : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity, kinematic : 2.42 cSt @ 60° F

Viscosity, dynamic : No data available

Explosion limits : No data available

Explosive properties : No data available

Oxidizing properties : No data available

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Flammable liquid and vapor.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Oxidizing agent.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation:vapour: Harmful if inhaled.

S-3000	
ATE US (oral)	478.261 mg/kg body weight
ATE US (dermal)	1500.000 mg/kg body weight
ATE US (vapors)	15.000 mg/l/4h
phosphonic acid (13598-36-2)	
LD50 oral rat	1500 mg/kg (Rat)
ATE US (oral)	1500.000 mg/kg body weight
ammonium chloride (12125-02-9)	
LD50 oral rat	1650 mg/kg (Rat; Literature study)
ATE US (oral)	1650.000 mg/kg body weight
Methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)
ATE US (oral)	100.000 mg/kg body weight
ATE US (dermal)	300.000 mg/kg body weight
ATE US (gases)	64000.000 ppmV/4h
ATE US (vapors)	3.000 mg/l/4h
ATE US (dust, mist)	85.000 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.  
pH: 7

Serious eye damage/irritation : Not classified  
pH: 7

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Causes damage to organs (blood, central nervous system, eyes, liver) (Dermal, Inhalation, oral).

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after skin contact : Burns.

Symptoms/injuries after eye contact : Serious damage to eyes.

Symptoms/injuries after ingestion : Burns.

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

<b>phosphonic acid (13598-36-2)</b>	
LC50 fish 1	> 9784 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 48 h; Brachydanio rerio)
<b>ammonium chloride (12125-02-9)</b>	
EC50 Daphnia 1	161 mg/l (EC50; 48 h)
Threshold limit algae 2	< 70 mg/l (EC50; 240 h)
<b>Methanol (67-56-1)</b>	
LC50 fish 1	15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	10800 mg/l (LC50; 96 h; Salmo gairdneri)

#### 12.2. Persistence and degradability

<b>phosphonic acid (13598-36-2)</b>	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
<b>ammonium chloride (12125-02-9)</b>	
Persistence and degradability	Readily biodegradable in water.
<b>Methanol (67-56-1)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.42 g O <sub>2</sub> /g substance
ThOD	1.5 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.8 (Literature study)

#### 12.3. Bioaccumulative potential

<b>phosphonic acid (13598-36-2)</b>	
Bioaccumulative potential	No bioaccumulation data available.
<b>ammonium chloride (12125-02-9)</b>	
Log Pow	-4.37 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable.
<b>Methanol (67-56-1)</b>	
BCF fish 1	< 10 (BCF; 72 h; Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

#### 12.4. Mobility in soil

<b>Methanol (67-56-1)</b>	
Surface tension	0.023 N/m (20 °C)
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value

#### 12.5. Other adverse effects

Effect on the global warming : No known effects from this product.  
GWPmix comment : No known effects from this product.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- |                         |   |
|-------------------------|---|
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Additional information  | : Flammable vapors may accumulate in the container.   |

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

- |                                |   |
|--------------------------------|---|
| Transport document description | : UN1993, Flammable liquids, n.o.s. (methanol solution), 3, III |
| UN-No.(DOT)                    | : UN1993  |
| Proper Shipping Name (DOT)     | : Flammable liquids, n.o.s.<br>methanol solution                |
| Class (DOT)                    | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |
| Packing group (DOT)            | : III - Minor Danger  |
| Hazard labels (DOT)            | : 3 - Flammable liquid  |



- |  |  |
|--|--|
| DOT Packaging Non Bulk (49 CFR 173.xxx)                          | : 203  |
| DOT Packaging Bulk (49 CFR 173.xxx)                              | : 242  |
| DOT Symbols  | : G - Identifies PSN requiring a technical name  |
| DOT Special Provisions (49 CFR 172.102)                          | : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable<br>B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks<br>IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672)<br>T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)<br>TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling<br>TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP |
| DOT Packaging Exceptions (49 CFR 173.xxx)                        | : 150  |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 60 L   |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)     | : 220 L  |
| DOT Vessel Stowage Location                                      | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel   |
| Emergency Response Guide (ERG) Number                            | : 128  |
| Other information  | : No supplementary information available.  |

#### TDG

#### Transport by sea

- |               |        |
|---------------|--------|
| UN-No. (IMDG) | : 1993 |
|---------------|--------|

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Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.  
Class (IMDG) : 3 - Flammable liquids  
Packing group (IMDG) : III - substances presenting low danger  
Limited quantities (IMDG) : 5 L

### Air transport

UN-No. (IATA) : 1993  
Proper Shipping Name (IATA) : Flammable liquid, n.o.s.  
Class (IATA) : 3 - Flammable Liquids  
Packing group (IATA) : III - Minor Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

S-3000		
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard	
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory		
Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.		
Methanol	CAS No 67-56-1	15-25%
<b>ammonium chloride (12125-02-9)</b>		
CERCLA RQ	5000 lb	
<b>Methanol (67-56-1)</b>		
CERCLA RQ	5000 lb	

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

### 15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm

Methanol (67-56-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	Yes	No	No	
phosphonic acid (13598-36-2)				
U.S. - New Jersey - Right to Know Hazardous Substance List				
ammonium chloride (12125-02-9)				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) List				



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### Methanol (67-56-1)

U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Revision date : 10/07/2016

Full text of H-phrases:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
H332	Harmful if inhaled
H370	Causes damage to organs

NFPA health hazard

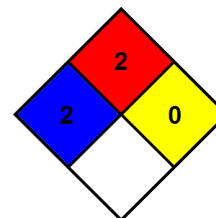
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard

: 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection

: B

B - Safety glasses, Gloves

SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*