**SDS no.** PID1392
**Version** 8
**Revision date** 31/Jan/2017
**Supersedes date** 02/Mar/2016

# Safety Data Sheet
## SAFE-SCAV* NA

## 1. Identification

### 1.1 Product identifier

**Product name** SAFE-SCAV* NA

**Product code** PID1392

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

**Recommended Use** Oxygen Scavenger.

**Uses advised against** Consumer use

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

**Supplier**
**M-I L.L.C.**
P.O.Box 42842
Houston, TX 77242
www.miswaco.slb.com
Telephone: 1 281-561-1511

**Schlumberger Canada, Ltd.**
200, 125 - 9th Avenue SE
Calgary, Alberta T2G 0P6, Canada
Telephone: 1-613-992-4624

**E-mail address** sdsmi@slb.com

**Prepared by**
Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Bethicia Prasek

### 1.4 Emergency Telephone Number

**Emergency telephone** (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600
**Telephone Number** - Emergency telephone number (24 Hour) Canada (English/French): +1 866 928 0789

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

**GHS - Classification**

**Health hazards**

| | |
|---|---|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2 Category 2A |
| Specific target organ toxicity (single exposure) | Category 3 - (H335) |

**Environmental hazards** Not classified

**Physical Hazards** Not classified

### 2.2 Label elements

**Signal word**
WARNING

**Hazard statements**
H319 - Causes serious eye irritation
H315 - Causes skin irritation
H335 - May cause respiratory irritation

**Precautionary statements**
P261 - Avoid breathing dust/ fume/gas/mist/vapors/spray
P304 + P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician

P264 - Wash face, hands and any exposed skin thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P285 - In case of inadequate ventilation wear respiratory protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
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
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P337 + P313 - If eye irritation persists: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P501 - Dispose of contents/ container to an approved waste disposal plant

**Hazards not otherwise classified**
None known

**Unknown acute toxicity** Not applicable.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical Name | CAS No | Weight-% |
|---|---|---|
| Ammonium hydrogensulfite | 10192-30-0 | 30 - 60 |
| Sulfur dioxide | 7446-09-5 | 0.1 - 1 |

**Comments**
The product contains other ingredients which do not contribute to the overall classification. The exact percentage (concentration) of composition has been withheld as a trade secret

## 4. First aid measures

### 4.1 First-Aid Measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion** Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

**Eye contact** Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Main symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

**Ingestion** Please see Section 11. Toxicological Information for further information.

**Skin contact** Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

### 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, Alcohol Foam, $CO_2$, Dry Chemical.

**Extinguishing media which must not be used for safety reasons**
None known.

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

**Unusual fire and explosion hazards**
None known.

**Hazardous combustion products**
Heating or fire can release toxic gas, Sulphur oxides, Nitrogen oxides (NOx), Oxides of:, Ammonia, Amines.

### 5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**
Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental release measures

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

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

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

**Methods for containment**
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and storage

### 7.1 Precautions for safe handling

**Handling**
This product slowly releases sulphur dioxide in contact with air. Use only in well-ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

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

| | |
|---|---|
| **Technical measures/precautions** | Ensure adequate ventilation. Keep airborne concentrations below exposure limits. |
| **Storage precautions** | Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid contact with: Strong oxidizing agents Acids Alkalis Keep at 5-30°C |
| **Packaging materials** | Use specially constructed containers only. |

## 8. Exposure controls/personal protection

**8.1 Control parameters**

(6) Ammonia or amines may be released when this component is heated or exposed to high pH. The recommended exposure limits for ammonia are ACGIH TLV 25 ppm and OSHA PEL 50 ppm. No general recommended exposure limit is available for amines. A NIOSH/MSHA approved respirator with ammonia/methylamine cartridges should be used to protect against ammonia or amine inhalation exposure

| Chemical Name | ACGIH TLV | OSHA PEL |
|---|---|---|
| Ammonium hydrogensulfite | Not determined | Not determined |
| Sulfur dioxide | Not determined | 5 ppm TWA<br>13 mg/m³ TWA |

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering measures to reduce exposure**
Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

| | |
|---|---|
| **Eye protection** | Tightly fitting safety goggles. |
| **Hand protection** | Use protective gloves made of: Butyl Neoprene Nitrile Be aware that liquid may penetrate the gloves. Frequent change is advisable. |
| **Respiratory Protection** | All respiratory protection equipment should be used within a comprehensive respiratory protection program that meets the requirements of 29 CFR 1910.134 (U.S. OSHA Respiratory Protection Standard) or local equivalent.If exposed to airborne mist/aerosol of this product, use an organic vapor cartridge with a P-95 pre-filter attached. In work environments containing oil mist/aerosol, use an organic vapor cartridge with a P-95 pre-filter attached.If exposed to vapors from this product, use a NIOSH/MSHA-approved respirator with an organic vapor cartridge. |
| **Skin and body protection** | Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place. |
| **Hygiene measures** | Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use. |

## 9. Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Transparent |
| **Color** | Colorless - Pale yellow |
| **Odor** | Pungent Sulfur |
| **Odor threshold** | Not applicable |

| Property | Values | Remarks |
|---|---|---|
| **pH** | 4.5 - 5.5 | @ 20 °C |
| **pH @ dilution** | | No information available |
| **Melting / freezing point** | No information available | |

| | | |
|---|---|---|
| **Boiling point/range** | 105 °C / 221 °F | |
| **Flash point** | Not applicable | |
| **Evaporation rate (BuAc =1)** | No information available | |
| **Flammability (solid, gas)** | Not applicable | |
| **Flammability Limit in Air** | | |
| **Upper flammability limit** | No information available | |
| **Lower flammability limit** | No information available | |
| **Vapor pressure** | 18 mmHg | @ 20 °C |
| **Vapor density** | <1 | (Air = 1.0) |
| **Specific gravity** | 1.27 - 1.39 | |
| **Bulk density** | No information available | |
| **Water solubility** | Miscible with water. | |
| **Solubility in other solvents** | No information available | |
| **Autoignition temperature** | No information available | |
| **Decomposition temperature** | No information available | |
| **Kinematic viscosity** | No information available | |
| **Dynamic viscosity** | No information available | |
| **log Pow** | No information available | |
| **Explosive properties** | Not applicable | |
| **Oxidizing properties** | None known. | |

**9.2 Other information**

| | |
|---|---|
| **Pour point** | No information available |
| **Molecular weight** | No information available |
| **VOC content(%)** | None |
| **Density** | No information available |

## 10. Stability and reactivity

**10.1 Reactivity**

Reacts violently with oxidizers. Liberates poisonous sulfur dioxide gas on contact with acid.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerization**
Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid heat, flames and other sources of ignition. Keep at temperatures between 5-30°C.

**10.5 Incompatible materials**

Strong oxidizing agents. Acids. Alkalis.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**

**Product information** This product may release ammonia or amines when heated or during pH adjustment. Ammonia is a severe eye, skin and respiratory irritant. Ammonia has a very strong odor and can be detected at levels as low as 5 ppm. Many amines are also eye, skin and respiratory irritants. Bisulfites may cause skin sensitization in sulfite sensitive persons. Bisulfites may also cause respiratory sensitization in asthmatics and sulfite sensitive persons.

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** Severely irritating to eyes.

**Skin contact** Causes skin irritation.

**Ingestion** Irritant; may cause pain or discomfort to mouth, throat and stomach.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Ammonium hydrogensulfite | No data available | No data available | No data available |
| Sulfur dioxide | No data available | No data available | = 2500 ppm ( Rat ) 1 h |

| Chemical Name | IARC Group 1 or 2 | ACGIH - Carcinogens | OSHA listed carcinogens | NTP |
|---|---|---|---|---|
| Ammonium hydrogensulfite | No data available | No data available | No data available | No data available |
| Sulfur dioxide | No data available | A4 Not Classifiable as a Human Carcinogen | No data available | No data available |

**Sensitization** Repeated or prolonged contact may cause allergic reactions in very susceptible persons.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** None known.

**Developmental toxicity** Not known to cause birth defects or have a deleterious effect on a developing fetus.

**Routes of exposure** Eye contact. Inhalation.

**Routes of entry** Eye contact. Inhalation.

**Specific target organ toxicity (single exposure)** Category 3

**Specific target organ toxicity (repeated exposure)** Not classified.

**Aspiration hazard** Not classified.

## 12. Ecological information

**12.1 Toxicity**

**Toxicity to algae**

This product is not considered toxic to algae.

**Toxicity to fish**
This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**
This product is not considered toxic to invertebrates.

| Chemical Name | Toxicity to fish | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Ammonium hydrogensulfite | No information available | No information available | No information available |
| Sulfur dioxide | No information available | No information available | No information available |

### 12.2 Persistence and degradability

Not Applicable - Inorganic chemical.

### 12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical.

### 12.4 Mobility in soil

The product is miscible with water. May spread in water systems.

### 12.5 Results of PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)
This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

### 12.6 Other adverse effects.

None known.

## 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal Method** Disposal should be made in accordance with federal, state and local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number

Not regulated

**UN No. (DOT)** NA3082
**UN No. (TDG)** Not regulated
**UN/ID No. (ADR/RID/ADN/ADG)** Not regulated
**UN No. (IMDG)** Not regulated
**UN No. (ICAO)** Not regulated

### 14.2. UN proper shipping name

Other regulated substances, liquid, n.o.s. (contains ammonium hydrogensulfite)

Not regulated for transportation by DOT if shipped in containers < RQ amount.

Product (RQ): 862 gallons (Ammonium hydrogensulfite)
(add RQ if shipped in containers >RQ for DOT only)

**14.3 Hazard class(es)**

| | |
|---|---|
| **DOT Hazard class** | 9, |
| **TDG Hazard class** | Not regulated |
| **ADR/RID/ADN/ADG Hazard class** | Not regulated |
| **IMDG Hazard class** | Not regulated |
| **ICAO Hazard class/division** | Not regulated |

**14.4 Packing group**

| | |
|---|---|
| **DOT Packing group** | PG III |
| **TDG Packing group** | Not regulated |
| **ADR/RID/ADN/ADG Packing group** | Not regulated |
| **IMDG Packing group** | Not regulated |
| **ICAO Packing group** | Not regulated |

**14.5 Environmental hazard**

Marine pollutant No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact MISDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory information

**International inventories**

| | |
|---|---|
| **USA (TSCA)** | Complies |
| **Canada (DSL)** | Complies |
| **European Union (EINECS and ELINCS)** | Complies |
| **Philippines (PICCS)** | Complies |
| **Japan (ENCS)** | Complies |
| **China (IECSC)** | Complies |
| **Australia (AICS)** | Complies |
| **Korean (KECL)** | Complies |
| **New Zealand (NZIoC)** | Complies |

**U.S. Federal and State Regulations**

**SARA 311/312 Hazard Categories**

Immediate (acute) health hazard.

| Chemical Name | SARA 302 / TPQs | SARA 313 | CERCLA RQ |
|---|---|---|---|
| Ammonium hydrogensulfite | N/A | N/A | 5000 lb final RQ<br>2270 kg final RQ |
| Sulfur dioxide | 500 lb TPQ | N/A | N/A |

**State Comments**
Proposition 65: This product is not known to contain chemicals considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer and/or reproductive toxicity at levels that are expected to pose a significant risk under anticipated use conditions.

**Canadian Classification**

This Safety Data Sheet has been prepared in compliance with the Hazardous Products Regulations.

**HMIRA Registration Number:** 11093

## 16. Other information

| | |
|---|---|
| **Supersedes date** | 02/Mar/2016 |
| **Revision date** | 31/Jan/2017 |
| **Version** | 8 |
| **This SDS has been revised in the following section(s)** | 1, 2, 8, 11, 16. Updated according to WHMIS 2015. |

**HMIS classification**

| | |
|---|---|
| Health | 2 |
| Flammability | 1 |
| Physical hazard | 0 |
| PPE | J |

N/A - Not Applicable, N/D - Not Determined.

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