

# SAFETY DATA SHEET



## Drill-Thin® Thinner

Version 3.0

Revision Date 2016-06-17

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Product information

Product Name : Drill-Thin® Thinner  
Material : 1016816

Use : Drilling Mud Additive

Company : Chevron Phillips Chemical Company LP  
Drilling Specialties Company LLC  
10001 Six Pines Drive  
The Woodlands, TX 77380

#### Emergency telephone:

##### Health:

866.442.9628 (North America)

1.832.813.4984 (International)

##### Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: +800 CHEMCALL (+800 2436 2255) China: +86-21-22157316

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Responsible Department : Product Safety and Toxicology Group  
E-mail address : SDS@CPChem.com  
Website : www.CPChem.com

### SECTION 2: Hazards identification

#### Classification of the substance or mixture

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

#### Emergency Overview

##### Danger

**Form:** Powder    **Physical state:** Solid    **Color:** Brown    **Odor:** Odorless

OSHA Hazards : Combustible dust, Moderate skin irritant, Moderate eye irritant, Carcinogen

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**Classification**

: Combustible dust  
 Skin irritation, Category 2  
 Eye irritation, Category 2A  
 Carcinogenicity, Category 1A

**Labeling**

Symbol(s)



Signal Word

: Danger

Hazard Statements

: May form combustible dust concentrations in air.  
 H315: Causes skin irritation.  
 H319: Causes serious eye irritation.  
 H350: May cause cancer.

Precautionary Statements

: **Prevention:**  
 P201 Obtain special instructions before use.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.  
 P362 Take off contaminated clothing and wash before reuse.  
**Storage:**  
 P405 Store locked up.  
**Disposal:**  
 P501 Dispose of contents/ container to an approved waste disposal plant.

**Potential Health Effects**

Physical Hazards

: Mechanical processing may form combustible dust concentrations in air and thermal processing at elevated temperatures may generate simple hydrocarbons and carbon oxides.

**Carcinogenicity:****IARC**

Group 1: Carcinogenic to humans

Crystalline Silica

14808-60-7

**NTP**

Known to be human carcinogen

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**ACGIH**

|                            |            |
|----------------------------|------------|
| Crystalline Silica         | 14808-60-7 |
| Suspected human carcinogen |            |
| Crystalline Silica         | 14808-60-7 |

**SECTION 3: Composition/information on ingredients**

Synonyms : Drilling Mud Additive

Molecular formula : Mixture

| Component                         | CAS-No.     | Weight % |
|-----------------------------------|-------------|----------|
| Methyl ester of sulfonated tannin | Proprietary | 50 - 80  |
| Ferrous Sulfate                   | 17375-41-6  | 5 - 9    |
| Stannous Sulfate                  | 7488-55-3   | 3 - 7    |
| Crystalline Silica                | 14808-60-7  | 0.1 - 1  |

**SECTION 4: First aid measures**

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.

If inhaled : If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Induce vomiting immediately and call a physician. Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

**SECTION 5: Firefighting measures**

Flash point : Not applicable

Autoignition temperature : No data available

Unsuitable extinguishing media : High volume water jet.

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses. Risks of ignition followed by flame propagation or secondary explosions can be caused by the accumulation of dust, e.g. on floors and ledges.

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- |                                                |   |                                                                                                                                                                                                                                                               |
|------------------------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary.                                                                                                                                                                                        |
| Further information                            | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.                                          |
| Fire and explosion protection                  | : | Avoid dust formation. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed. |
| Hazardous decomposition products               | : | Carbon oxides. Sulfur oxides.                                                                                                                                                                                                                                 |

**SECTION 6: Accidental release measures**

- |                           |   |                                                                                                                                                                                                                                                                    |
|---------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions      | : | Use personal protective equipment. Avoid dust formation. Avoid breathing dust.                                                                                                                                                                                     |
| Environmental precautions | : | Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.                                                                                  |
| Methods for cleaning up   | : | Pick up and arrange disposal without creating dust. Clean up promptly by sweeping or vacuum. Keep in suitable, closed containers for disposal.                                                                                                                     |
| Additional advice         | : | Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). |

**SECTION 7: Handling and storage****Handling**

- |                                                 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Advice on safe handling                         | : | Avoid formation of respirable particles. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations. Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary, but may not by themselves be sufficient. |
| Advice on protection against fire and explosion | : | Avoid dust formation. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed.                                                                                                                                                                                                                                                                                                           |

**Storage**

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Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

**SECTION 8: Exposure controls/personal protection****Ingredients with workplace control parameters****US**

| Ingredients        | Basis      | Value      | Control parameters                         | Note                                                |
|--------------------|------------|------------|--------------------------------------------|-----------------------------------------------------|
| Ferrous Sulfate    | ACGIH      | TWA        | 1 mg/m <sup>3</sup>                        | URT irr, skin irr, varies,                          |
|                    | OSHA Z-1-A | TWA        | 1 mg/m <sup>3</sup>                        |                                                     |
| Stannous Sulfate   | OSHA Z-1   | TWA        | 2 mg/m <sup>3</sup>                        |                                                     |
|                    | ACGIH      | TWA        | 2 mg/m <sup>3</sup>                        | pneumoconiosis (or stannosis), varies,              |
|                    | OSHA Z-1-A | TWA        | 2 mg/m <sup>3</sup>                        |                                                     |
| Crystalline Silica | ACGIH      | TWA        | 0.025 mg/m <sup>3</sup>                    | lung cancer, pulm fibrosis, A2, Respirable fraction |
|                    | OSHA Z-3   | TWA        | 30mg/m <sup>3</sup> / %SiO <sub>2</sub> +2 | total dust                                          |
|                    | OSHA Z-3   | TWA        | 250mppcf / %SiO <sub>2</sub> +5            | a, b, respirable                                    |
|                    | OSHA Z-3   | TWA        | 10mg/m <sup>3</sup> / %SiO <sub>2</sub> +2 | e, respirable                                       |
|                    | OSHA Z-1-A | TWA        | 0.1 mg/m <sup>3</sup>                      | Respirable fraction                                 |
|                    | OSHA Z-3   | TWA        | 0.1 mg/m <sup>3</sup>                      | Respirable fraction                                 |
|                    | OSHA Z-1-A | TWA        | 0.1 mg/m <sup>3</sup>                      | respirable dust fraction                            |
|                    | ACGIH      | TWA        | 0.025 mg/m <sup>3</sup>                    | lung cancer, pulm fibrosis, A2, Respirable fraction |
|                    | OSHA Z-1   | <b>TWA</b> | <b>0.05 mg/m<sup>3</sup></b>               | <b>Respirable fraction</b>                          |

- a Based on impinger samples counted by light-field techniques.
- A2 Suspected human carcinogen
- b The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.
- e Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics: Aerodynamic diameter (unit density sphere): 2; Percent passing selector: 90 Aerodynamic diameter (unit density sphere): 2.5; Percent passing selector: 75 Aerodynamic diameter (unit density sphere): 3.5; Percent passing selector: 50 Aerodynamic diameter (unit density sphere): 5.0; Percent passing selector: 25 Aerodynamic diameter (unit density sphere): 10; Percent passing selector: 0 The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figure corresponding to that of 2.4 mg/m<sup>3</sup> in the table for coal dust is 4.5 mg/m<sup>3</sup>.
- lung cancer Lung cancer
- pneumoconiosis Pneumoconiosis (or Stannosis)
- s (or stannosis)
- pulm fibrosis Pulmonary fibrosis
- skin irr Skin irritation
- URT irr Upper Respiratory Tract irritation
- varies varies

**Immediately Dangerous to Life or Health Concentrations (IDLH)**

| Substance name     | CAS-No.    | Control parameters                                                                      | Update     |
|--------------------|------------|-----------------------------------------------------------------------------------------|------------|
| Stannous Sulfate   | 7488-55-3  | Immediately Dangerous to Life or Health<br>Concentration Value<br>100 mg/m <sup>3</sup> | 1995-03-01 |
| Crystalline Silica | 14808-60-7 | Immediately Dangerous to Life or Health<br>Concentration Value<br>50 mg/m <sup>3</sup>  | 1995-03-01 |

**Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

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**Personal protective equipment**

- Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as:. Air-Purifying Respirator for Dusts and Mists / P100. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.
- Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Eye wash bottle with pure water. Safety glasses.
- Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Protective suit. Safety shoes.
- Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****Appearance**

- Form : Powder
- Physical state : Solid
- Color : Brown
- Odor : Odorless
- Odor Threshold : Not applicable

**Safety data**

- Flash point : Not applicable
- Lower explosion limit : Not applicable
- Upper explosion limit : Not applicable
- Oxidizing properties : No
- Autoignition temperature : No data available

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|                                        |                               |
|----------------------------------------|-------------------------------|
| Thermal decomposition                  | : No data available           |
| Molecular formula                      | : Mixture                     |
| Molecular weight                       | : Not applicable              |
| pH                                     | : No data available           |
| Freezing point                         | : No data available           |
| Pour point                             | No data available             |
| Boiling point/boiling range            | : Not applicable              |
| Vapor pressure                         | : Not applicable              |
| Relative density                       | : 1.5<br>at 15.6 °C (60.1 °F) |
| Density                                | : No data available           |
| Water solubility                       | : Completely Soluble          |
| Partition coefficient: n-octanol/water | : No data available           |
| Viscosity, kinematic                   | : Not applicable              |
| Relative vapor density                 | : Not applicable              |
| Evaporation rate                       | : Not applicable              |

**SECTION 10: Stability and reactivity**

|                    |                                                                                                                                        |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Chemical stability | : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------|

**Possibility of hazardous reactions**

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| Conditions to avoid              | : Generation of Dusts.                                |
| Materials to avoid               | : Avoid contact with strong oxidizing agents.         |
| Thermal decomposition            | : No data available                                   |
| Hazardous decomposition products | : Carbon oxides<br>Sulfur oxides                      |
| Other data                       | : No decomposition if stored and applied as directed. |

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**SECTION 11: Toxicological information****Drill-Thin® Thinner****Acute oral toxicity**

: Acute toxicity estimate: 3,281 mg/kg  
Method: Calculation method

**Drill-Thin® Thinner****Acute dermal toxicity**

: No data available

**Drill-Thin® Thinner****Skin irritation**

: Skin irritation

**Drill-Thin® Thinner****Eye irritation**

: Eye irritation

**Repeated dose toxicity**

Methyl ester of sulfonated  
tannin

: Species: Rat, male  
Sex: male  
Application Route: oral gavage  
Dose: 100, 300, 1000 mg/kg  
Exposure time: 32 d  
Number of exposures: Daily  
NOEL: 1,000 mg/kg  
Method: OECD Guideline 422  
No adverse effects expected

Species: Rat, female  
Sex: female  
Application Route: oral gavage  
Dose: 100, 300, 1000 mg/kg  
Exposure time: 39 - 47 d  
Number of exposures: Daily  
NOEL: 1,000 mg/kg  
Method: OECD Guideline 422  
No adverse effects expected

**Reproductive toxicity**

Methyl ester of sulfonated  
tannin

: Species: Rat  
Sex: male  
Application Route: oral gavage  
Dose: 100, 300, 1000 mg/kg  
Exposure time: 32 d  
Number of exposures: Daily  
Method: OECD Guideline 422  
NOAEL Parent: 1,000 mg/kg  
NOAEL F1: 1,000 mg/kg  
Fertility and developmental toxicity tests did not reveal any  
effect on reproduction.



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Species: Rat  
 Sex: female  
 Application Route: oral gavage  
 Dose: 100, 300, 1000 mg/kg  
 Exposure time: 39 - 47 d  
 Number of exposures: Daily  
 Method: OECD Guideline 422  
 NOAEL Parent: 1,000 mg/kg  
 NOAEL F1: 1,000 mg/kg  
 Fertility and developmental toxicity tests did not reveal any effect on reproduction.

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**Aspiration toxicity** : No aspiration toxicity classification.

**CMR effects**

Crystalline Silica : Carcinogenicity: Human carcinogen.

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**Further information** : No data available.

**SECTION 12: Ecological information****Toxicity to fish**

Methyl ester of sulfonated tannin : LL50: > 1,800 mg/l  
 Exposure time: 96 h  
 Species: *Scophthalmus maximus* (Flatfish, Flounder)  
 Method: OECD Test Guideline 203

Ferrous Sulfate LL50: > 6.25 mg/l  
 Exposure time: 96 h  
 Species: *Cyprinodon variegatus* (sheepshead minnow)  
 Method: OECD Test Guideline 203

Stannous Sulfate > 0.0625 mg/l  
 Exposure time: 96 h  
 Species: *Cyprinodon variegatus* (sheepshead minnow)  
 static test Method: OECD Test Guideline 203

**Toxicity to daphnia and other aquatic invertebrates**

Methyl ester of sulfonated tannin : EL50: 73.2 mg/l  
 Exposure time: 48 h  
 Species: *Acartia tonsa* (Marine Copepod)  
 Method: ISO TC147/SC5/WG2

Ferrous Sulfate LC50: 190 mg/l  
 Exposure time: 48 h  
 Species: *Acartia tonsa* (Marine Copepod)

Stannous Sulfate EC50: 230 mg/l  
 Species: *Acartia tonsa* (Marine Copepod)  
 Method: ISO TC147/SC5/WG2

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**Toxicity to algae**

Methyl ester of sulfonated tannin : ErC50: > 100 mg/l  
 Exposure time: 72 h  
 Species: *Desmodesmus subspicatus* (green algae)  
 Method: OECD Test Guideline 201

EbC50: 79 mg/l  
 Exposure time: 72 h  
 Species: *Desmodesmus subspicatus* (green algae)  
 Method: OECD Test Guideline 201

Ferrous Sulfate EL50: 45 mg/l  
 Exposure time: 72 h  
 Species: *Skeletonema costatum* (Marine Algae)

Stannous Sulfate EC50: 0.55 mg/l  
 Exposure time: 72 h  
 Species: *Skeletonema costatum* (Marine Algae)  
 Method: ISO 10253

**Elimination information (persistence and degradability)**

Biodegradability : Expected to be inherently biodegradable.

**Ecotoxicology Assessment**

Acute aquatic toxicity  
 Methyl ester of sulfonated tannin : Harmful to aquatic life.  
 Stannous Sulfate : Very toxic to aquatic life.

Chronic aquatic toxicity  
 Methyl ester of sulfonated tannin : Harmful to aquatic life with long lasting effects.  
 Additional ecological information : Harmful to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations**

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

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**SECTION 14: Transport information**

**The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).**

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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

**SECTION 15: Regulatory information****National legislation**

**SARA 311/312 Hazards** : Fire Hazard  
Chronic Health Hazard

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CERCLA Reportable Quantity : This material does not contain any components with a CERCLA RQ.

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Ingredients : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

**US State Regulations****Pennsylvania Right To Know**

: Ferrous Sulfate - 17375-41-6  
Crystalline Silica - 14808-60-7

**New Jersey Right To Know**

: Crystalline Silica - 14808-60-7  
Ferrous Sulfate - 17375-41-6

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California Prop. 65 : WARNING! This product contains a chemical known in the  
Ingredients State of California to cause cancer.

**Notification status**

Europe REACH : This mixture contains only ingredients which have been  
subject to a pre-registration according to Regulation  
(EU) No. 1907/2006 (REACH).

Switzerland CH INV : On the inventory, or in compliance with the inventory

United States of America TSCA : On TSCA Inventory

Canada DSL : All components of this product are on the Canadian  
DSL

Australia AICS : On the inventory, or in compliance with the inventory

New Zealand NZIoC : On the inventory, or in compliance with the inventory

Japan ENCS : Not in compliance with the inventory

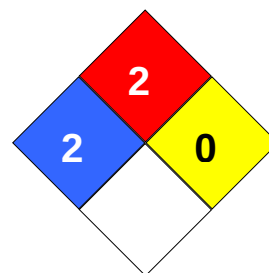
Korea KECI : On the inventory, or in compliance with the inventory

Philippines PICCS : Not in compliance with the inventory

China IECSC : On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

**NFPA Classification** : Health Hazard: 2  
Fire Hazard: 2  
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 315030

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

|       |                                                            |       |                                         |
|-------|------------------------------------------------------------|-------|-----------------------------------------|
| ACGIH | American Conference of<br>Government Industrial Hygienists | LD50  | Lethal Dose 50%                         |
| AICS  | Australia, Inventory of Chemical<br>Substances             | LOAEL | Lowest Observed Adverse Effect<br>Level |
| DSL   | Canada, Domestic Substances                                | NFPA  | National Fire Protection Agency         |

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|        | List                                                     |       |                                                                                      |
|--------|----------------------------------------------------------|-------|--------------------------------------------------------------------------------------|
| NDSL   | Canada, Non-Domestic Substances List                     | NIOSH | National Institute for Occupational Safety & Health                                  |
| CNS    | Central Nervous System                                   | NTP   | National Toxicology Program                                                          |
| CAS    | Chemical Abstract Service                                | NZIoC | New Zealand Inventory of Chemicals                                                   |
| EC50   | Effective Concentration                                  | NOAEL | No Observable Adverse Effect Level                                                   |
| EC50   | Effective Concentration 50%                              | NOEC  | No Observed Effect Concentration                                                     |
| EGEST  | EOSCA Generic Exposure Scenario Tool                     | OSHA  | Occupational Safety & Health Administration                                          |
| EOSCA  | European Oilfield Specialty Chemicals Association        | PEL   | Permissible Exposure Limit                                                           |
| EINECS | European Inventory of Existing Chemical Substances       | PICCS | Philippines Inventory of Commercial Chemical Substances                              |
| MAK    | Germany Maximum Concentration Values                     | PRNT  | Presumed Not Toxic                                                                   |
| GHS    | Globally Harmonized System                               | RCRA  | Resource Conservation Recovery Act                                                   |
| >=     | Greater Than or Equal To                                 | STEL  | Short-term Exposure Limit                                                            |
| IC50   | Inhibition Concentration 50%                             | SARA  | Superfund Amendments and Reauthorization Act.                                        |
| IARC   | International Agency for Research on Cancer              | TLV   | Threshold Limit Value                                                                |
| IECSC  | Inventory of Existing Chemical Substances in China       | TWA   | Time Weighted Average                                                                |
| ENCS   | Japan, Inventory of Existing and New Chemical Substances | TSCA  | Toxic Substance Control Act                                                          |
| KECI   | Korea, Existing Chemical Inventory                       | UVCB  | Unknown or Variable Composition, Complex Reaction Products, and Biological Materials |
| <=     | Less Than or Equal To                                    | WHMIS | Workplace Hazardous Materials Information System                                     |
| LC50   | Lethal Concentration 50%                                 |       |                                                                                      |