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

Product information

Product Name: Desco® Deflocculant
Material: 1016805

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: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14.583516 (telefax)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431

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.

Classification

Combustible dust
Eye irritation, Category 2A
Skin sensitization, Category 1
Carcinogenicity, Category 1A
Desco® Deflocculant

Version 3.3

Revision Date: 2019-09-03

Labeling

Symbol(s): [Image]

Signal Word: Danger

Hazard Statements: May form combustible dust concentrations in air.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H350: May cause cancer.

Precautionary Statements:

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

IARC
Group 1: Carcinogenic to humans
Crystalline Silica 14808-60-7

NTP
Known to be human carcinogen
Crystalline Silica 14808-60-7

ACGIH
Suspected human carcinogen
Crystalline Silica 14808-60-7

SECTION 3: Composition/information on ingredients

Synonyms: Drilling Mud Deflocculant

SDS Number: 100000013921 2/15
Molecular formula : Mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ester of sulfonated tannin</td>
<td>Proprietary</td>
<td>60 - 80</td>
</tr>
<tr>
<td>Ferrous Sulfate</td>
<td>17375-41-6</td>
<td>5 - 9</td>
</tr>
<tr>
<td>Chromium Acetate</td>
<td>1066-30-4</td>
<td>3 - 10</td>
</tr>
<tr>
<td>Crystalline Silica</td>
<td>14808-60-7</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

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 : Call a physician or poison control center immediately. If unconscious, place in recovery position and seek medical advice.

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 : 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 firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

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. Provide appropriate exhaust ventilation at places where dust is formed.

Hazardous decomposition : No data available.
SECTION 6: Accidental release measures

Personal precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

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: Keep in suitable, closed containers for disposal.

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. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion: Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.

Storage

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.

Use: Drilling Mud Additive

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Sulfate</td>
<td>ACGIH</td>
<td>TWA</td>
<td>1 mg/m3</td>
<td>URT, skin irr, varies,</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>1 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Chromium Acetate</td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>0.5 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.5 mg/m3</td>
<td>URT, skin irr, A4, varies</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>0.5 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Crystalline Silica</td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>250mg/ccf / %SiO2+5</td>
<td>(f), a, b, respirable</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>10mg/m3 / %SiO2+2</td>
<td>(f), e, respirable</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-3</td>
<td>TWA</td>
<td>0.1 mg/m3</td>
<td>Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>0.1 mg/m3</td>
<td>Respirable dust fraction</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.025 mg/m3</td>
<td>lung cancer, pulm</td>
</tr>
</tbody>
</table>

SDS Number: 100000013921  4/15
S A F E T Y  D A T A  S H E E T

Desco® Deflocculant

Version 3.3

Revision Date 2019-09-03

OSHA Z-1 TWA 0.05 mg/m³ Respirable fraction

OSHA Z-1 TWA 0.05 mg/m³ Respirable fraction

(l) Adopted values or notations enclosed are those for which changes are proposed in the NRC.
(7) See Table Z-3 for the exposure limit for any operations or sectors where the exposure limit in § 1910.1053 is stayed or is otherwise not in effect.
(f) This standard applies to any operations or sectors for which the respirable crystalline silica standard, 1910.1053, is stayed or is otherwise not in effect.

a Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.
A2 Suspected human carcinogen
A4 Not classifiable as a 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/m³ in the table for coal dust is 4.5 mg/m³.

lung cancer Lung cancer
pulm fibrosis Pulmonary fibrosis
skin irr Skin irritation
URT irr Upper Respiratory Tract irritation
varies varies

Immediately Dangerous to Life or Health Concentrations (IDLH)

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium Acetate</td>
<td>1066-30-4</td>
<td>Immediately Dangerous to Life or Health Concentration Value 25 mg/m³</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Crystalline Silica</td>
<td>14808-60-7</td>
<td>Immediately Dangerous to Life or Health Concentration Value 50 mg/m³</td>
<td>1995-03-01</td>
</tr>
</tbody>
</table>

Engineerin 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.

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: Dust safety masks are recommended when the dust concentration is excessive. 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.: Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Footwear protecting against chemicals.

**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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Powder</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>Reddish brown</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### Safety data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>Mixture</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Pour point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>1.59 g/cm³</td>
</tr>
</tbody>
</table>
**Desco® Deflocculant**

**SAFETY DATA SHEET**

**Version 3.3**

**Revision Date 2019-09-03**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water solubility</td>
<td>Partly soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**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**

**Hazardous reactions**

Hazardous reactions: Hazardous polymerization does not occur.

Further information: No decomposition if stored and applied as directed.

**Conditions to avoid**

No data available.

**Thermal decomposition**

No data available.

**Hazardous decomposition products**

No data available.

**Other data**

No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information**

**Desco® Deflocculant**

**Acute oral toxicity**

Acute toxicity estimate: 3,310 mg/kg

Method: Calculation method

**Desco® Deflocculant**

**Acute dermal toxicity**

Acute toxicity estimate: > 5,000 mg/kg

Method: Calculation method

**Desco® Deflocculant**

**Skin irritation**

May cause skin irritation and/or dermatitis.

**Desco® Deflocculant**

**Eye irritation**

Irritating to eyes.

**Desco® Deflocculant**

**Sensitization**

Causes sensitization.
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

Chromium Acetate:
Species: Mouse
Application Route: oral gavage
Dose: 5 ppm
Exposure time: lifetime
Number of exposures: in drinking water

Genotoxicity in vitro
Methyl ester of sulfonated tannin:
Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Method: OECD Guideline 473
Result: negative

Chromium Acetate:
Test Type: Sister Chromatid Exchange Assay
Result: negative

Test Type: Chromosome aberration test in vitro
Result: positive

Carcinogenicity
Chromium Acetate:
Species: Rat
Dose: 5 mg/l
Exposure time: lifetime
Number of exposures: in drinking water
Remarks: no increase incidence of tumors

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  
Fertility and developmental toxicity tests did not reveal any effect on reproduction.

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.

CMR effects
Crystalline Silica : Carcinogenicity: Positive evidence from human epidemiological studies (inhalation)

Desco® Deflocculant
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)  
semi-static test Method: OECD Test Guideline 203

Chromium Acetate : LC50: > 100 mg/l  
Exposure time: 96 h  
Species: Danio rerio (Zebra Fish)  
semi-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)  
Method: ISO TC147/SC5/WG2
**Desco® Deflocculant**

**Version 3.3**

**Revision Date** 2019-09-03

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50: &gt; 100 mg/l</th>
<th>Exposure time: 48 h</th>
<th>Species: Daphnia magna (Water flea)</th>
<th>semi-static test Method: OECD Test Guideline 202</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chromium Acetate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Toxicity to algae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl ester of sulfonated tannin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ErC50: &gt; 100 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure time: 72 h</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species: Desmodesmus subspicatus (green algae)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EbC50: 79 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure time: 72 h</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species: Desmodesmus subspicatus (green algae)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ferrous Sulfate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EL50: 45 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure time: 72 h</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species: Skeletonema costatum (Marine Algae)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method: ISO 10253</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Biodegradability**

Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification.

**Elimination information (persistence and degradability)**

**Additional ecological information**

**Ecotoxicology Assessment**

**Short-term (acute) aquatic hazard**

Methyl ester of sulfonated tannin: Harmful to aquatic life.

Chromium Acetate: Harmful to aquatic life.

**Long-term (chronic) aquatic hazard**

Methyl ester of sulfonated tannin: 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.

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)
UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S., (FERROUS SULFATE), 9, III, RQ (FERROUS SULFATE)

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
SAFETY DATA SHEET

Desco® Deflocculant

Version 3.3

Revision Date 2019-09-03

SARA 311/312 Hazards: Combustible dust
Serious eye damage or eye irritation
Respiratory or skin sensitization
Carcinogenicity

CERCLA Reportable Quantity: Calculated RQ exceeds reasonably attainable upper limit.
Chromium Acetate

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 Components: The following components are subject to reporting levels established by SARA Title III, Section 313:
Chromium Acetate - 1066-30-4

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).
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):
Chromium Acetate - 1066-30-4

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 SOCMI Intermediate or Final VOC’s (40 CFR 60.489).

US State Regulations
SAFETY DATA SHEET
Desco® Deflocculant
Version 3.3
Revision Date 2019-09-03

Pennsylvania Right To Know
: Ferrous Sulfate - 17375-41-6
  Chromium Acetate - 1066-30-4

Pennsylvania Right To Know
: Sulfomethylated Quebracho - 68201-64-9
  Sodium Lignite - 68131-04-4
  Ferrous Sulfate - 17375-41-6
  Chromium Acetate - 1066-30-4

New Jersey Right To Know
: Ferrous Sulfate - 17375-41-6
  Chromium Acetate - 1066-30-4
  Crystalline Silica - 14808-60-7

New Jersey Right To Know
: Sulfomethylated Quebracho - 68201-64-9
  Sodium Lignite - 68131-04-4
  Ferrous Sulfate - 17375-41-6
  Chromium Acetate - 1066-30-4
  Crystalline Silica - 14808-60-7

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

WARNING! This product contains a chemical known in the State of California to cause cancer.
  Crystalline Silica 14808-60-7

Notification status
Europe REACH : Not in compliance with the inventory
Switzerland CH INV : On the inventory, or in compliance with the inventory
United States of America (USA) TSCA : On or in compliance with the active portion of the 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 : Not in compliance with the inventory
Japan ENCS : Not in compliance with the inventory
Korea KECI : A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPCChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance.
Philippines PICCS : Not in compliance with the inventory
China IECSC : On the inventory, or in compliance with the inventory
Taiwan TCSI : Not in compliance with the inventory
NFPA Classification:
Health Hazard: 2
Fire Hazard: 2
Reactivity Hazard: 0

Further information:
Legacy SDS Number: 59390

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:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>KECl</td>
<td>New Chemical Substances</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
</tr>
</tbody>
</table>