



Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

CF Desco® II Deflocculant

Product Use: Drilling Mud Additive
Product Number(s): 0001036678, 0001068748
Synonyms: Drilling Mud Deflocculant
Product CAS No.: Mixture

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

Product Information:
MSDS Requests: (800) 852-5530
Technical Information: (800) 221-1956
Responsible Party: Product Safety Group
Email: msds@cpchem.com

Chevron Phillips Chemicals International N.V.
Brusselsesteenweg 355
B-3090 Overijse
Belgium

24-Hour Emergency Telephone Numbers: HEALTH: Chevron Phillips Emergency Information Center 866.442.9628 (North America) and 1.832.813.4984 (International)
TRANSPORTATION: North America: CHEMTREC 800.424.9300 or 703.527.3887
ASIA: +1.703.527.3887
EUROPE: BIG .32.14.584545 (phone) or .32.14.583516 (telefax)
SOUTH AMERICA SOS-Cotec Inside Brazil: 0800.111.767
Outside Brazil: 55.19.3467.1600

SECTION 2 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Fine reddish-brown powder with small white specks, odorless.

NFPA RATINGS: Health: 2 Flammability: 0 Reactivity: 0

GHS Classification and Labeling:

Acute aquatic toxicant: Category 3.
Chronic aquatic toxicant: Category 3.
Carcinogen: Category 1A.
Eye irritation: Category 2A.
Skin irritation: Category 2.
Target organ toxicant (repeated exposure): Category 2.
Signal Word: Danger



GHS Symbol:

Target Organ: May cause damage to organs through prolonged or repeated exposure.
Environmental Hazards: Harmful to aquatic life. Harmful to aquatic life with long lasting effects.
Health Hazards: May cause cancer. Causes serious eye irritation. Causes skin irritation.
Precautionary Hazard - Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. Wash thoroughly after handling. Avoid release to the environment.
Precautionary Hazard - Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: If skin irritation occurs: Take off contaminated clothing and wash before reuse. Wash with plenty of soap and water. IF exposed or concerned: Get medical advice/attention. Specific treatment (see Notes to Physician on this label). Collect spillage.
Precautionary Hazard - Storage: Store locked up.
Precautionary Hazard - Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

EU Classification:

Signal Word:
Danger
Risk Phrases:
R36/37/38: Irritating to eyes, respiratory system and skin.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Additional Hazards:
MAY CAUSE DAMAGE TO:
- - - - LUNGS
- - - - LIVER
- - - - GASTROINTESTINAL SYSTEM
- - - - BLOOD/BLOOD FORMING ORGANS
Safety Phrases:
S53: Avoid exposure - obtain special instructions before use.
S24/25: Avoid contact with skin and eyes.
S22: Do not breathe dust.

IMMEDIATE HEALTH EFFECTS:

Eye: Contact with the eyes causes irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision. Not expected to cause prolonged or significant eye irritation. Material is dusty and may scratch the surface of the eye.
Skin: Contact with the skin causes irritation. Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: The dust from this material may cause respiratory irritation. Symptoms of respiratory irritation may include

coughing and difficulty in breathing.

DELAYED OR OTHER HEALTH EFFECTS:

Cancer: This product contains crystalline quartz silica. Prolonged or repeated exposure to crystalline quartz silica contained in this material can cause cancer. IARC has classified crystalline quartz silica as a Group 1 Human Carcinogen based on sufficient evidence in humans. NTP has listed crystalline quartz silica as a Group K Human Carcinogen based on sufficient evidence in humans. ACGIH has classified crystalline quartz silica as a category A2 Suspected Human Carcinogen based on limited evidence in humans and sufficient evidence in experimental animals with relevance to humans.

Target Organs:- Liver - Blood/Blood Forming Organs - Lung Gastrointestinal System

See Section 11 for additional information. Risk depends on duration and level of exposure.

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	AMOUNT	EINECS / ELINCS	SYM	R-PHRASE S
Methyl ester of sulfonated tannin	Proprietary	45 - 55 % weight	NA	NA	NA
Proprietary		35 % weight	NA	NA	NA
Ferrous Sulfate	17375-41-6	< 10 % weight	NA	NA	NA
Crystalline Silica	14808-60-7	< 1 % weight	238-878-4	NA	NA

Occupational Exposure Limits:

Component	Limit	TWA	STEL	Ceiling / Peak	Notation
Crystalline Silica	ACGIH	.025 mg/m3	NA	NA	NA
Crystalline Silica	CPCHEM	.05 mg/m3	NA	NA	Respirable Dust
Crystalline Silica	German MAK	.15 mg/m3	NA	NA	NA
Ferrous Sulfate	ACGIH	1 mg/m3	NA	NA	as Fe
Methyl ester of sulfonated tannin	ACGIH	Not Established	NA	NA	NA

SECTION 4 FIRST AID MEASURES

Eye: Flush eyes with running water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get immediate medical attention.

Skin: To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. Get medical attention if any symptoms develop.

Ingestion: If swallowed, do not induce vomiting. Give the person a glass of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:

Classification (29 CFR 1910.1200): Not flammable or combustible. This material will burn although it is not easily ignited.

NFPA RATINGS: Health: 2 Flammability: 0 Reactivity: 0

FLAMMABLE PROPERTIES:

Flashpoint: NA

Autoignition: NDA

Flammability (Explosive) Limits (% by volume in air): Lower: NA Upper: NA

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: Material will not burn unless preheated. Clear fire area of all non-emergency personnel. Only enter confined fire space with full gear, including a positive pressure, NIOSH-approved, self-contained breathing apparatus. Cool surrounding equipment, fire-exposed containers and structures with water. Container areas exposed to direct flame contact should be cooled with large quantities of water (500 gallons water per minute flame impingement exposure) to prevent weakening of container structure. Evacuate area of all unnecessary personnel. Wear appropriate safety equipment for fire conditions including NIOSH self-contained breathing apparatus (SCBA) and other protective equipment as described in Section 8 if exposure conditions warrant.

Combustion Products: Combustion may form: Carbon Oxides, Iron Oxides, Sulfur Oxides

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Spill Management: Reduce airborne dust and prevent scattering by moistening with water. Avoid creating dust clouds. Shovel, sweep up or use industrial vacuum cleaner to pick up. Place in container for proper disposal.

Reporting: U.S.A. regulations may require reporting spills of this material that could reach any surface waters. Report spills to local authorities and/or the National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL . REFER TO PRODUCT LABEL OR MANUFACTURERS TECHNICAL BULLETINS FOR THE PROPER USE AND HANDLING OF THIS MATERIAL .

Precautionary Measures: Use caution to avoid creation of dusts and to prevent inhalation of product dust (fines). Avoid contact with product dust. Airborne dust concentrations above 20 mg/L may create a dust explosion hazard. Avoid breathing vapors or fumes which may be released during thermal processing. Do not breathe dust at levels above the recommended exposure limits. Avoid breathing material. Keep container closed. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Discard contaminated clothing and shoes or thoroughly clean before reuse. Do not get in eyes. Do not breathe dust.

General Handling Information: Avoid work practices that may release volatile components in the atmosphere. Local air pollution regulations should be consulted to determine if the release of volatile components is regulated or restricted in the area in which this material is used. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Static Hazard: 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. Review all operations, which have the potential of generating an accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids, National Fire Protection Association (NFPA 77), Recommended Practice on Static Electricity' (liquids, powders and dusts), and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents' (liquids).

General Storage Information: Treat as a solid that can burn. Store away from oxidizing materials, in a cool, dry place with adequate ventilation. Bond and ground transfer equipment. DO NOT USE OR STORE near heat, sparks or open flames. USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly. Containers, even those

that have been emptied, can contain residues of dusts or solid particulates which may create both health and fire/explosion hazards.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), 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.

ENGINEERING CONTROLS:

If heated material generates vapor or fumes, use process enclosures, local exhaust ventilation, or other engineering controls to control exposure.

PERSONAL PROTECTIVE EQUIPMENT:

Eye/Face Protection: Wear eye protection such as safety glasses, chemical goggles, or faceshields if engineering controls or work practices are not adequate to prevent eye contact.

Skin Protection: Wear impervious protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing. Suggested materials for protective gloves include: Neoprene

Respiratory Protection: If user operations generate harmful levels of airborne material that is not adequately controlled by ventilation, wear a NIOSH approved respirator that provides adequate protection. Use the following elements for air-purifying respirators: Air-Purifying Respirator for Particulates (HEPA)

Occupational Exposure Limits:

Component	Limit	TWA	STEL	Ceiling / Peak	Notation
Crystalline Silica	ACGIH	.025 mg/m ³	NA	NA	NA
Crystalline Silica	CPCHEM	.05 mg/m ³	NA	NA	Respirable Dust
Crystalline Silica	German MAK	.15 mg/m ³	NA	NA	NA
Ferrous Sulfate	ACGIH	1 mg/m ³	NA	NA	as Fe
Methyl ester of sulfonated tannin	ACGIH	Not Established	NA	NA	NA

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Fine reddish-brown powder with small white specks, odorless.

Autoignition: NDA

Boiling Point: NA

Evaporation Rate: NA

Flammability (Explosive) Limits (% by volume in air): Lower: NA Upper: NA

Flashpoint: NA

Molecular Formula: Mixture

Molecular Weight: NDA

Melting Point: NDA

Octanol / Water Partition Coefficient: log-Kow: NDA

pH: NA

Pour Point: NDA

Solubility (in water): Appreciable

Specific Gravity: 1.5 - 1.7

Vapor Pressure: NA
Vapor Density (AIR=1): NA
Viscosity: NA
Percent Volatile: NA

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.

Conditions to Avoid: No Data Available

Incompatibility With Other Materials: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous Decomposition Products: Sulfur and carbon.

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS:

Acute Oral Toxicity: LD50 / not known

Acute Dermal Toxicity: LD50 / not known

Acute Inhalation Toxicity: LC50 / not known

Eye Irritation: This material is irritating to the eyes.

Skin Irritation: This material is irritating to the skin.

Respiratory Tract Irritation: This material maybe irritating to the respiratory tract.

ADDITIONAL TOXICOLOGY INFORMATION:

The toxicological properties of this product have not been tested or have not been tested completely and its handling or use may be hazardous. EXERCISE DUE CARE.

Long-term exposure to high dust concentrations may cause non-debilitating lung changes.

This material contains IRON DUSTS.

Target organs: inhalation: lung (siderosis); ingestion: liver (periportal necrosis), gastrointestinal tract (hemorrhagic necrosis), blood (decrease coagulation)

This product contains CRYSTALLINE SILICA:

Repeated Dose Toxicity: Up to 420 days / inhalation / rat / Doses: 30,000 particles/ml 18 hrs/day 5days/wk / Silicotic nodules

Genetic Toxicity: AMES test = Negative / Recombination Assay = Negative

Carcinogenicity: 2 yrs / inhalation / rat / Dose: 1 mg/m³ / primary lung tumors in control (3) and treated (18); 150, 300 or 570 days / inhalation / mouse / Doses: 1475 ug/m³ for 150 days, 1800 ug/m³ for 300 days or 1950 ug/m³ for 570 days 8 hrs/day 5days/wk / pulmonary adenomas found in both control (7) and treated (9)

Other: International Agency for Research on Cancer (IARC) classifies crystalline silica as a human carcinogen

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY:

This material is expected to be harmful to aquatic organisms.

Ferrous Sulfate - 48 hour(s) / LC50 / mysid shrimp (*Mysidopsis bahia*) / 56 ppm

Methyl ester of sulfonated tannin - 96 hour(s) / LC50 / Flatfish, Flounder (*Scophthalmus maximus*) / >1800 mg/l

02 = LA RTK	18 = FDA 179	34 = -
03 = MA RTK	19 = FDA 180	35 = -
04 =MN Hazardous Substance	20 = FDA 181	36 = -
05 =NJ RTK	21 = FDA 182	37 = SARA Section 302
06 = PA RTK	22 = FDA 184	38 = SARA Section 313
07 = -	23 = FDA 186	39 = TSCA 12 (b)
08 = -	24 = FDA 189	40 = TSCA Section 4
09 = CWA Section 311	25 = IARC Group 1	41 = TSCA Section 5(a)
10 =DOT Marine Pollutant	26 = IARC Group 2A	42 = TSCA Section 8(a) CAIR
11 = FDA 172	27 = IARC Group 2B	43 = TSCA Section 8(a) PAIR
12 = FDA 173	28 = IARC Group 3	44 = TSCA Section 8(d)
13 = FDA 174	29 = IARC Group 4	45 = WHIMS - IDL
14 = FDA 175	30 = NTP Carcinogen	46 = Germany D TAL
15 = FDA 176	31 = OSHA Carcinogen	47 = Germany WKG
16 = FDA 177	32 = OSHA Highly Hazardous	48 = DEA List 1
		49 = DEA List 2

The following components of this material are found on the regulatory lists indicated.

Ferrous Sulfate	3, 4, 5, 6, 9, 45
Crystalline Silica	1, 3, 4, 5, 6, 25, 30, 45

CERCLA REPORTABLE QUANTITIES(RQ)/SARA 302 THRESHOLD PLANNING QUANTITIES(TPQ):

Component	Component RQ	Component TPQ	Product RQ
Ferrous Sulfate	1000 lbs	None	11111 lbs

WHMIS CLASSIFICATION:

Class D, Division 2, Subdivision A: Very Toxic Material
 Carcinogenicity
 Class D, Division 2, Subdivision B: Toxic Material
 Skin or Eye Irritation

CHEMICAL INVENTORY LISTINGS:

AUSTRALIA	NO (AUS)
CANADA	YES (DSL)
CHINA	NO (IECSC)
EUROPEAN UNION	NO - Exempt (EINECS/ELINCS)
JAPAN	NO (ENCS)
KOREA	NO (ECL)
PHILIPPINES	NO (PICCS)
UNITED STATES	YES (TSCA)

EU LABELING:

Signal Word:

Danger

Symbols:

Xi - Irritant

Risk and Safety Phrases:

R36/37/38: Irritating to eyes, respiratory system and skin.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S53: Avoid exposure - obtain special instructions before use.
S24/25: Avoid contact with skin and eyes.
S22: Do not breathe dust.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 Flammability: 0 Reactivity: 0 Special: NA

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *-Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA).

REVISION STATEMENT: This MSDS was updated to include a GHS review.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV	- Threshold Limit Value	TWA	- Time Weighted Average
STEL	- Short-term Exposure Limit	PEL	- Permissible Exposure Limit
ACGIH	- American Conference of Government Industrial Hygienists	OSHA	- Occupational Safety & Health Administration
NIOSH	- National Institute for Occupational Safety & Health	NFPA	- National Fire Protection Agency
WHMIS	- Workplace Hazardous Materials Information System	IARC	- Intl. Agency for Research on Cancer
EINECS	- European Inventory of existing Commercial Chemical Substances	RCRA	- Resource Conservation Recovery Act
SARA	- Superfund Amendments and Reauthorization Act.	TSCA	- Toxic Substance Control Act
EC50	- Effective Concentration	LC50	- Lethal Concentration
LD50	- Lethal Dose	CAS	- Chemical Abstract Service
NDA	- No Data Available	NA	- Not Applicable
<=	- Less Than or Equal To	>=	- Greater Than or Equal To
CNS	- Central Nervous System	MAK	- Germany Maximum Concentration Values

This data sheet is prepared according to the latest adaptation of the EEC Guideline 67/548.

This data sheet is prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

This data sheet is prepared according to the ANSI MSDS Standard (Z400.1).

This data sheet was prepared by EHS Product Stewardship Group, Chevron Phillips Chemical Company LP, 10001 Six Pines Drive, The Woodlands, TX 77380.

This data sheet is prepared according to the Globally Harmonized System (GHS).

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

