

SAFETY DATA SHEET



Drill-Thin® Thinner

Version 1.8

Revision Date 2019-09-26

according to GB/T 16483 and GB/T 17519

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

Local : See Company Address

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 +32.14583516 (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

GHS Classification and Labeling: Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2011)

Emergency Overview

Danger

Form: Powder **Physical state:** Solid **Color:** Reddish brown **Odor:** musty

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Hazards : May be harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause cancer by inhalation. May cause damage to organs through prolonged or repeated exposure if inhaled. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Classification

: Acute toxicity, Category 5, Oral
 Skin corrosion/irritation, Category 2
 Serious eye damage/eye irritation, Category 1
 Skin sensitization, Category 1
 Carcinogenicity, Category 1A, Inhalation
 Specific target organ toxicity - repeated exposure, Category 2, Inhalation, Lungs
 Short-term (acute) aquatic hazard, Category 1
 Long-term (chronic) aquatic hazard, Category 1

Labeling**Symbol(s)****Signal Word**

: Danger

Hazard Statements

: H303: May be harmful if swallowed.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H318: Causes serious eye damage.
 H350i: May cause cancer by inhalation.
 H373: May cause damage to organs (Lungs) through prolonged or repeated exposure if inhaled.
 H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

: **Prevention:**
 P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P260: Do not breathe dust/fume/gas/mist/vapor/spray.
 P264: Wash skin thoroughly after handling.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P273: Avoid release to the environment.
 P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
 P302 + P352: IF ON SKIN: Wash with plenty of water.
 P305 + P351 + P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
 P312: Call a POISON CENTER/doctor if you feel unwell.
 P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.
 P362 + P364: Take off contaminated clothing and wash it before reuse.
 P391: Collect spillage.

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Storage:

P405: Store locked up.

Disposal:

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

SECTION 3: Composition/information on ingredients

Synonyms : Drilling Mud Additive

Molecular formula : Mixture

Chemical name	CAS-No. / EINECS-No.	Concentration [wt%]
Methyl ester of sulfonated tannin	Proprietary	50 - 80
Ferrous Sulfate	17375-41-6	1 - 10
Stannous Sulfate	7488-55-3	0 - 10
Copper sulfate, pentahydrate	7758-99-8	0 - 10
Crystalline Silica	14808-60-7	0.1 - 1

SECTION 4: First aid measures

General advice : Move out of dangerous area. Consult a physician. 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 : Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. 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

Unsuitable extinguishing media : High volume water jet.

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- Specific hazards during fire fighting : 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.

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

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

Components	Basis	Value	Control parameters	Note
Crystalline Silica	GBZ 2.1-2007	PC-TWA	0.7 mg/m3	G1, Respirable
	GBZ 2.1-2007	PC-TWA	1 mg/m3	G1, Total
	GBZ 2.1-2007	PC-TWA	0.2 mg/m3	G1, Respirable
	GBZ 2.1-2007	PC-TWA	0.5 mg/m3	G1, Total
	GBZ 2.1-2007	PC-TWA	0.3 mg/m3	G1, Respirable
	GBZ 2.1-2007	PC-TWA	0.7 mg/m3	G1, Total
	GBZ 2.1-2007	PC-TWA	0.5 mg/m3	G1, Total dust
	GBZ 2.1-2007	PC-TWA	0.2 mg/m3	G1, (respirable dust)
	GBZ 2.1-2007	PC-TWA	0.7 mg/m3	G1, Total dust
	GBZ 2.1-2007	PC-TWA	0.3 mg/m3	G1, (respirable dust)
	GBZ 2.1-2007	PC-TWA	1 mg/m3	G1, Total dust
	GBZ 2.1-2007	PC-TWA	0.7 mg/m3	G1, (respirable dust)

G1 G1 - Carcinogenic to humans

Not applicable

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.

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: Lightweight protective clothing. Remove and wash contaminated clothing before re-use. Footwear protecting against chemicals. Skin should be washed after contact.

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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 : Reddish brown
Odor : musty
Odor Threshold : No data available

Safety data

Flash point : Not applicable

Lower explosion limit : Not applicable

Upper explosion limit : Not applicable

Molecular formula : Mixture

Molecular weight : Not applicable

pH : 6

Melting point/range : No data available

Freezing point : No data available

Pour point : No data available

Boiling point/boiling range : Not applicable

Vapor pressure : Not applicable

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

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

Conditions to avoid : No data available.

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

**Drill-Thin® Thinner
Acute oral toxicity** : Acute toxicity estimate: 2,065 mg/kg
Method: Calculation method

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Acute inhalation toxicity** : No data available

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Acute dermal toxicity** : No data available

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Skin irritation** : Skin irritation

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Eye irritation** : May cause irreversible eye damage.

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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

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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

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

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)

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Further information**

: Chronic Health Hazard.

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

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Methyl ester of sulfonated tannin	: LL50: > 1,800 mg/l Exposure time: 96 h Species: <i>Scophthalmus maximus</i> (Flatfish, Flounder) Method: OECD Test Guideline 203
Ferrous Sulfate	LL50: > 6.25 mg/l Exposure time: 96 h Species: <i>Cyprinodon variegatus</i> (sheepshead minnow) semi-static test Method: OECD Test Guideline 203
Stannous Sulfate	> 0.0625 mg/l Exposure time: 96 h Species: <i>Cyprinodon variegatus</i> (sheepshead minnow) static test Method: OECD Test Guideline 203
Copper sulfate, pentahydrate	LC50: 38.4 µg/l Exposure time: 96 h Species: <i>Pimephales promelas</i> (fathead minnow) flow-through test

Toxicity to daphnia and other aquatic invertebrates

Methyl ester of sulfonated tannin	: EL50: 73.2 mg/l Exposure time: 48 h Species: <i>Acartia tonsa</i> (Marine Copepod) Method: ISO TC147/SC5/WG2
Ferrous Sulfate	LC50: 190 mg/l Exposure time: 48 h Species: <i>Acartia tonsa</i> (Marine Copepod) Method: ISO TC147/SC5/WG2
Stannous Sulfate	EC50: 230 mg/l Species: <i>Acartia tonsa</i> (Marine Copepod) Method: ISO TC147/SC5/WG2
Copper sulfate, pentahydrate	10 µg/l Exposure time: 48 h Species: <i>Daphnia magna</i> (Water flea) static test

Toxicity to algae

Methyl ester of sulfonated tannin	: ErC50: > 100 mg/l Exposure time: 72 h Species: <i>Desmodesmus subspicatus</i> (green algae) Method: OECD Test Guideline 201
	EbC50: 79 mg/l Exposure time: 72 h Species: <i>Desmodesmus subspicatus</i> (green algae) Method: OECD Test Guideline 201
Ferrous Sulfate	EL50: 45 mg/l Exposure time: 72 h Species: <i>Skeletonema costatum</i> (Marine Algae) Method: ISO 10253
Stannous Sulfate	EC50: 0.55 mg/l Exposure time: 72 h

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	Species: Skeletonema costatum (Marine Algae) Method: ISO 10253
Copper sulfate, pentahydrate	EbC50: 32 µg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (green algae) static test
Biodegradability	
Methyl ester of sulfonated tannin	: aerobic 38 % Testing period: 28 d According to the results of tests of biodegradability this product is not readily biodegradable.
Elimination information (persistence and degradability)	
Bioaccumulation	: This material is not expected to bioaccumulate.
Mobility	: No data available
Additional ecological information	: Very toxic to aquatic life with long lasting effects.
Ecotoxicology Assessment	
Short-term (acute) aquatic hazard	: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard	: Very toxic 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

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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., (COPPER SULFATE, PENTAHYDRATE, FERROUS SULFATE), 9, III, MARINE POLLUTANT, (COPPER SULFATE, PENTAHYDRATE), RQ (FERROUS SULFATE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (STANNOUS SULFATE, COPPER SULFATE, PENTAHYDRATE), 9, III, MARINE POLLUTANT, (STANNOUS SULFATE, COPPER SULFATE, PENTAHYDRATE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (STANNOUS SULFATE, COPPER SULFATE, PENTAHYDRATE), 9, III

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

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (STANNOUS SULFATE, COPPER SULFATE, PENTAHYDRATE), 9, III

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

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (STANNOUS SULFATE, COPPER SULFATE, PENTAHYDRATE), 9, III

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

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (STANNOUS SULFATE, COPPER SULFATE, PENTAHYDRATE), 9, III

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

SECTION 15: Regulatory information**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	:	On the inventory, or in compliance with the inventory
Japan ENCS	:	Not in compliance with the inventory
Korea KECI	:	A substance(s) in this product was not registered,

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notified to be registered, or exempted from registration by CPChem 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

Other regulations : Law on the Prevention and Control of Occupational Diseases

SECTION 16: Other information**Further information**

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 Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
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	TSCA	Toxic Substance Control Act

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	New Chemical Substances		
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%		