

**TRIBEX™ ERD Additive**

Version 1.2

Revision Date 2019-11-12

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

Product Name : TRIBEX™ ERD Additive
Material : 1123862

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 +32.14583516 (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**

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

Labeling

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- Symbol(s) : 
- Signal Word : Warning
- Hazard Statements : May form combustible dust concentrations in air.
H319: Causes serious eye irritation.
- Precautionary Statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

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**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3: Composition/information on ingredients

Component	CAS-No.	Weight %
Acid modified petroleum residuum	Proprietary	20 - 80
Calcium Hydroxide	1305-62-0	0.2 - 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 : 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.

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- 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. Do NOT induce vomiting. Do not give milk or alcoholic beverages. 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 : Not applicable
- Unsuitable extinguishing media : High volume water jet.
- Specific hazards during fire fighting : Risks of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust, e.g. on floors and ledges.
- 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 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.

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

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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 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.

Advice on protection against fire and explosion : 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

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

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

Components	Basis	Value	Control parameters	Note
Calcium Hydroxide	ACGIH	TWA	5 mg/m3	URT irr, eye irr, skin irr,
	OSHA Z-1	TWA	15 mg/m3	total dust
	OSHA Z-1	TWA	5 mg/m3	respirable fraction
	OSHA Z-1-A	TWA	5 mg/m3	i,

eye irr Eye irritation

i The TWA PEL of 5 mg/m3 is not in effect as a result of reconsideration. Calcium hydroxide is covered by the exposure limits for particulates not otherwise regulated of 5 mg/m3 respirable dust and 15 mg/m3 total dust.

skin irr Skin irritation

URT irr Upper Respiratory Tract irritation

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:. Full-Face Air-Purifying Respirator for Organic

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	Vapors, Dusts and Mists. 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.
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:. Complete head face and neck protection. 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**

Form	: Powder
Physical state	: Solid
Color	: Brown
Odor	: Slight, characteristic

Safety data

Flash point	: Not applicable
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Flammability (solid, gas)	: May form combustible dust concentrations in air.
Autoignition temperature	: Not applicable
Thermal decomposition	: Not applicable
Molecular weight	: Not applicable
pH	: 7 - 10
Freezing point	: Not applicable
Melting point/range	Not applicable

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Pour point	Not applicable
Boiling point/boiling range	: Not applicable
Vapor pressure	: Not applicable
Relative density	: Not applicable
Density	: 1 g/cm ³
Water solubility	: Partly soluble
Partition coefficient: n-octanol/water	: Not applicable
Solubility in other solvents	: Not applicable
Viscosity, kinematic	: No data available
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	
Hazardous reactions	: Further information: No decomposition if stored and applied as directed.
Conditions to avoid	: Generation of Dusts.
Thermal decomposition	: Not applicable
Other data	: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Acute oral toxicity	
Acid modified petroleum residuum	: LD50: > 5,000 mg/kg
Calcium Hydroxide	LD50: 7,340 mg/kg Species: Rat

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TRIBEX™ ERD Additive**Acute inhalation toxicity**

: Acute toxicity estimate: 6.56 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: Calculation method

Acute dermal toxicity

Acid modified petroleum
 residuum

:
 No data available

TRIBEX™ ERD Additive**Skin irritation**

: May irritate skin.

TRIBEX™ ERD Additive**Eye irritation**

: May cause irreversible eye damage.

Sensitization

Acid modified petroleum
 residuum

: Did not cause sensitization on laboratory animals.

Repeated dose toxicity

Acid modified petroleum
 residuum

: Species: Rat, male and female
 Sex: male and female
 Application Route: Oral
 Dose: 0, 250, 500, 1000 mg/kg
 Exposure time: 43-54 D
 Number of exposures: daily
 NOEL: 1,000 mg/kg
 Method: OECD Guideline 422

Genotoxicity in vitro

Acid modified petroleum
 residuum

: Test Type: Ames test
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 471
 Result: negative
 Remarks: In vitro tests did not show mutagenic effects

Test Type: Chromosome aberration test in vitro
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 473
 Result: negative

Test Type: Mouse lymphoma assay
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: negative
 Remarks: In vitro tests did not show mutagenic effects

Reproductive toxicity

Acid modified petroleum
 residuum

: Species: Rat
 Sex: male and female
 Application Route: oral gavage
 Dose: 0, 250, 500, 1000 mg/kg

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Exposure time: 43-54 D
 Number of exposures: daily
 Method: OECD Guideline 422
 NOAEL Parent: 1,000 mg/kg
 NOAEL F1: 1,000 mg/kg

Developmental Toxicity

Acid modified petroleum residuum : Species: Rat
 Application Route: oral gavage
 Dose: 0, 250, 500, 1000 mg/kg
 Number of exposures: daily
 Test period: 54 D
 NOAEL Teratogenicity: 1,000 mg/kg
 NOAEL Maternal: 1,000 mg/kg

CMR effects

Acid modified petroleum residuum : Carcinogenicity: Not available
 Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 Teratogenicity: Animal testing did not show any effects on fetal development.
 Reproductive toxicity: Animal testing did not show any effects on fertility.

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Further information**

: No data available.

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

Acid modified petroleum residuum : LC50: > 240 mg/l
 Exposure time: 96 h
 Species: Scophthalmus maximus (Flatfish, Flounder)
 semi-static test Method: OECD Test Guideline 203

Calcium Hydroxide LC50: 160 mg/l
 Exposure time: 96 h
 Species: Gambusia affinis (Fish, fresh water)
 static test

Toxicity to daphnia and other aquatic invertebrates

Acid modified petroleum residuum : LC50: 380 mg/l
 Exposure time: 48 h
 Species: Acartia tonsa (Marine Copepod)
 static test Method: ISO TC147/SC5/WG2

Toxicity to algae

Acid modified petroleum residuum : EbC50: 240 mg/l
 Exposure time: 72 h

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Species: Skeletonema costatum (Marine Algae)
static test Method: ISO 10253

ErC50: 390 mg/l
Exposure time: 72 h
Species: Skeletonema costatum (Marine Algae)
static test Method: ISO 10253

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)

Bioaccumulation : The product may be accumulated in organisms.

Mobility : No data available

Additional ecological information : This material is not expected to be harmful to aquatic organisms.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : This material is not expected to be harmful to aquatic organisms.

Long-term (chronic) aquatic hazard : This material is not expected to be harmful to aquatic organisms.

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 : Do not dispose of waste into sewer. 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

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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 : Combustible dust
Serious eye damage or eye irritation

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW

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

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- SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.
- SARA 302 Threshold Planning Quantity : This material does not contain any components with a section 302 EHS TPQ.
- SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.
- SARA 313 Components : 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 Intermediate or Final VOC's (40 CFR 60.489).

US State Regulations

Pennsylvania Right To Know : Calcium Hydroxide - 1305-62-0

California Prop. 65 Components : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

Europe REACH : This mixture contains only ingredients which have been

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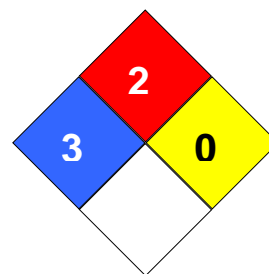
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	registered according to Regulation (EU) No. 1907/2006 (REACH).
Switzerland CH INV	: Not in compliance with the inventory
United States of America (USA) TSCA	: On or in compliance with the active portion of the TSCA inventory
Canada DSL	: All components 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 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	: Not in compliance with the inventory
Taiwan TCSI	: Not in compliance with the inventory

SECTION 16: Other information

NFPA Classification : Health Hazard: 3
Fire Hazard: 2
Reactivity Hazard: 0

**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

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			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%		