



## Diaseal M® Lost Circulation Material

Version 2.4

Revision Date 2019-08-01

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

#### Product information

Product Name : Diaseal M® Lost Circulation Material  
 Material : 1016804, 1017933

Use : Lost Circulation Material

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


: Skin irritation, Category 2  
 Serious eye damage, Category 1  
 Carcinogenicity, Category 1A, Inhalation

#### Labeling

**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

Symbol(s) : 

Signal Word : Danger

Hazard Statements : H315: Causes skin irritation.  
H318: Causes serious eye damage.  
H350i: May cause cancer by inhalation.

Precautionary Statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P264 Wash skin thoroughly after handling.  
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 + 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.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
**Storage:**  
P405 Store locked up.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

**Carcinogenicity:**

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

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

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

Synonyms : LCM  
Lost Circulation Material

Molecular formula : Mixture

Component	CAS-No.	Weight %
Diatomaceous Earth	61790-53-2	60 - 90
Cellulose	9004-34-6	5 - 15
Calcium Hydroxide	1305-62-0	7 - 13

**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

Crystalline Silica

14808-60-7

0.1 - 1

**SECTION 4: First aid measures**

- General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Do not leave the victim unattended.
- If inhaled : Move to fresh air. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- If swallowed : Induce vomiting immediately and call a physician. Keep respiratory tract clear. Never give anything by mouth to an unconscious person. 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 : Standard procedure for chemical fires.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Fire and explosion protection : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
- Hazardous decomposition products : None.

**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

**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

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.

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. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Use : Lost Circulation Material

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

Components	Basis	Value	Control parameters	Note
Diatomaceous Earth	OSHA Z-1-A	TWA	6 mg/m3	
	OSHA Z-3	TWA	20 Million particles per cubic foot	a, Dust
	OSHA Z-3	TWA	80 mg/m3 / %SiO2	Dust
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
Cellulose	OSHA Z-1-A	TWA	5 mg/m3	i,
	ACGIH	TWA	10 mg/m3	URT irr, NA,
	OSHA Z-1	TWA	15 mg/m3	total dust
	OSHA Z-1	TWA	5 mg/m3	respirable fraction
	OSHA Z-1-A	TWA	15 mg/m3	Total dust
	OSHA Z-1-A	TWA	5 mg/m3	respirable dust fraction
Crystalline Silica	OSHA Z-3	TWA	250 mppcf / %SiO2+5	(f), a, b, respirable
	OSHA Z-3	TWA	10 mg/m3 / %SiO2+2	(f), e, respirable
	OSHA Z-3	TWA	0.1 mg/m3	Respirable fraction
	OSHA Z-1-A	TWA	0.1 mg/m3	respirable dust fraction
	ACGIH	TWA	0.025 mg/m3	lung cancer, pulm fibrosis, A2, Respirable fraction
	OSHA Z-1	TWA	0.05 mg/m3	Respirable fraction
	OSHA Z-1	TWA	0.05 mg/m3	(7), (respirable dust)

(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 Based on impinger samples counted by light-field techniques.

A2 Suspected human carcinogen

b The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.

e Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics: Aerodynamic diameter (unit density sphere): 2; Percent passing selector: 90 Aerodynamic

**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

diameter (unit density sphere): 2,5; Percent passing selector: 75 Aerodynamic diameter (unit density sphere): 3,5; Percent passing selector: 50 Aerodynamic diameter (unit density sphere): 5,0; Percent passing selector: 25 Aerodynamic diameter (unit density sphere): 10; Percent passing selector: 0 The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figure corresponding to that of 2.4 mg/m<sup>3</sup> in the table for coal dust is 4.5 mg/m<sup>3</sup>.

eye irr	Eye irritation
i	The TWA PEL of 5 mg/m <sup>3</sup> 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/m <sup>3</sup> respirable dust and 15 mg/m <sup>3</sup> total dust.
lung cancer	Lung cancer
NA	Not applicable
pulm fibrosis	Pulmonary fibrosis
skin irr	Skin irritation
URT irr	Upper Respiratory Tract irritation

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

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

**Engineering measures**

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

**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. Tightly fitting safety goggles.
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear as appropriate: Protective suit. Safety shoes.
- Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

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

Physical state : Solid  
 Color : Light brown  
 Odor : Mild, earthy

**Safety data**

Flash point : Not applicable

Lower explosion limit : Not applicable

Upper explosion limit : Not applicable

Oxidizing properties : no

Autoignition temperature : Not applicable

Molecular formula : Mixture

Molecular weight : Not applicable

pH : Not applicable

Pour point : No data available

Boiling point/boiling range : Not applicable

Vapor pressure : Not applicable

Relative density : 2  
Water = 1.0

Bulk density : 20.2 LB/FT3

Water solubility : No data available

Partition coefficient: n-octanol/water : No data available

Viscosity, kinematic : No data available

Relative vapor density : Not applicable

Evaporation rate : No data available

**SECTION 10: Stability and reactivity**

**Reactivity** : Stable at normal ambient temperature and pressure.

**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

**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** : Generation of Dusts.

**Materials to avoid** : Strong acids.

**Hazardous decomposition products** : None

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

**SECTION 11: Toxicological information****Acute oral toxicity**

Calcium Hydroxide : LD50: 7,340 mg/kg  
Species: Rat

**Diaseal M® Lost Circulation Material**

**Skin irritation** : Irritating to skin.

**Diaseal M® Lost Circulation Material**

**Eye irritation** : Risk of serious damage to eyes.

**Diaseal M® Lost Circulation Material**

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

**CMR effects**

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

**Further information**

Crystalline Silica : Chronic Health Hazard.

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

Calcium Hydroxide : LC50: 160 mg/l

**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

Exposure time: 96 h  
 Species: Gambusia affinis (Fish, fresh water)  
 static test

Biodegradability : Not applicable

Elimination information (persistence and degradability)

Bioaccumulation : This material is not expected to bioaccumulate.

Mobility : immobile

Results of PBT assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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 bill of lading.



**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

**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** : Serious eye damage or eye irritation  
Carcinogenicity  
Skin corrosion or irritation

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

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

**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

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 : Diatomaceous Earth - 61790-53-2  
Calcium Hydroxide - 1305-62-0  
Cellulose - 9004-34-6  
Crystalline Silica - 14808-60-7

California Prop. 65 Components : WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov/food](http://www.P65Warnings.ca.gov/food).

**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

Crystalline Silica

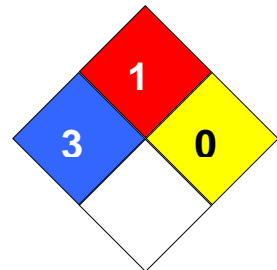
14808-60-7

**Notification status**

Europe REACH	:	This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH).
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	:	On the inventory, or 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	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

**NFPA Classification** : Health Hazard: 3  
Fire Hazard: 1  
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 59340

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%
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**Diaseal M® Lost Circulation Material**

Version 2.4

Revision Date 2019-08-01

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 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%		