

**Diaseal M® Lost Circulation Material**

Version 2.1

Revision Date 2016-06-28

**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: +800 CHEMCALL (+800 2436 2255) China: +86-21-22157316  
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

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.

**Emergency Overview****Danger**

**Physical state:** Solid    **Color:** Light brown    **Odor:** Mild, earthy  
OSHA Hazards : Carcinogen, Corrosive to eyes

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**Classification**: Serious eye damage, Category 1  
Carcinogenicity, Category 1A**Labeling**

Symbol(s)



Signal Word

: Danger

Hazard Statements

: H318: Causes serious eye damage.  
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.

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

**ACGIH**

Suspected human carcinogen

Crystalline Silica 14808-60-7

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

Synonyms

: LCM

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## 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
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.
- 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.

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**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 : 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.

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

Ingredients	Basis	Value	Control parameters	Note
Diatomaceous Earth	OSHA Z-1-A	TWA	6 mg/m3	
	OSHA Z-3	TWA	20Million particles per cubic foot	a, Dust
	OSHA Z-3	TWA	80mg/m3 / %SiO2	Dust
	NIOSH REL	TWA	6 mg/m3	
	OSHA Z-3	TWA	20Million particles per cubic foot	a, Dust
Calcium Hydroxide	OSHA Z-3	TWA	80mg/m3 / %SiO2	Dust
	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,
Cellulose	CAL PEL	PEL	5 mg/m3	
	ACGIH	TWA	10 mg/m3	URT irr,
	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
Crystalline Silica	OSHA Z-1-A	TWA	5 mg/m3	respirable dust fraction
	ACGIH	TWA	0.025 mg/m3	lung cancer, pulm fibrosis, A2, Respirable fraction
	OSHA Z-3	TWA	30mg/m3 / %SiO2+2	total dust
	OSHA Z-3	TWA	250mppcf / %SiO2+5	a, b, respirable
	OSHA Z-3	TWA	10mg/m3 / %SiO2+2	e, respirable

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	OSHA Z-1-A	TWA	0.1 mg/m3	Respirable fraction
	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

- 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 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.
- 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.
- lung cancer Lung cancer
- pulm fibrosis Pulmonary fibrosis
- 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. In the case of dust or aerosol formation use respirator with an approved filter. Dust safety masks are recommended when the dust concentration is more than 10 mg/m3.
- 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.

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

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**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

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**

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions**

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Conditions to avoid	: Generation of Dusts.
Materials to avoid	: Fluorine, Oxygen difluoride, Chlorine Trifluoride, Hydrofluoric Acid.
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

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**Skin irritation** : May cause skin irritation and/or dermatitis.

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**Eye irritation** : Risk of serious damage to eyes.  
Product dust may be irritating to eyes, skin and respiratory system.

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

**CMR effects**

Crystalline Silica : Carcinogenicity: Human carcinogen.

**Further information**

Crystalline Silica : Chronic Health Hazard.

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

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

Elimination information (persistence and degradability)

Bioaccumulation

Calcium Hydroxide : Does not accumulate in organisms.

Biodegradability : Not applicable

**Ecotoxicology Assessment**

Additional ecological : No data available

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information

**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.

**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**



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**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** : Acute Health Hazard  
Chronic Health Hazard

**EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW**

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.

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 Ingredients : 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).

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**US State Regulations**

## Pennsylvania Right To Know

: Diatomaceous Earth - 61790-53-2  
 Calcium Hydroxide - 1305-62-0  
 Cellulose - 9004-34-6

## New Jersey 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  
Ingredients

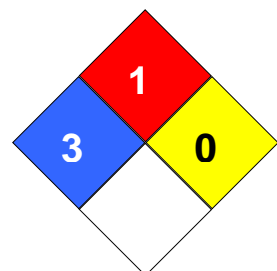
: WARNING! This product contains a chemical known in the State of California to cause cancer.

**Notification status**

Europe REACH : On the inventory, or in compliance with the inventory  
 United States of America TSCA : On 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 : On the inventory, or in compliance with the inventory  
 Philippines PICCS : On the inventory, or in compliance with the inventory  
 China IECSC : 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.

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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 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%		