



Drispac® Polymer

Drispac® Polymers are high-quality polyanionic cellulose polymers. They are used for inhibition, water-loss control and viscosity in water-based muds. Drispac® Polymer comes in two viscosity grades: regular (high viscosity) and Superlo® Polymer (medium viscosity).

Drispac® Plus Polymer resists the formation of "fisheyes," even under the poorest mixing conditions. The highly dispersible Drispac® Plus Polymer also comes in regular (high viscosity) and Superlo® Polymer (medium viscosity) grades.

Advantages

- Controls fluid loss
- Promotes fragile gels
- Inhibits hydratable, swelling shales
- Increases resistance of clay mud to contamination
- Non-fermenting, no preservative needed
- Good thermal stability
- Produces thin, slick, tough filter cake
- Environmentally compatible
- Retards drilled solids build-up
- Eliminates fisheyes in mud
- Reduces friction and can reduce ECD
- Works well on rigs with poor mixing facilities
- Works well at any salinity

Cost

The mixing efficiency of Drispac® Plus Polymer reduces loss of active product and promotes lower mud and total well costs. The purity and assured high quality of the products are also strong contributors to lower overall mud cost.

Mud Types

Water-based drilling and drill-in fluids, work over fluids and completion fluids of any salinity. Most efficient performance with calcium below 500 ppm. Slightly more polymer needed at higher calcium levels.

Mixing Requirements

Drispac® Polymer and Drispac® Plus Polymer: Mix slowly through conventional jet hopper.

Handling

Application	Material Needed
Drispac® Polymer & Drispac® Plus Polymer	
Fluid-loss control	.1 to 3 ppb (.3 to 9 kg/m ³)



Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Drispac® (Regular and Superlo®) Polymer

Product Use: Drilling Mud Additive

Product Number(s): 0001016803, 0001016806, 0001016806, 0001016803

Synonyms: Viscosifier, Water loss control agent

Product CAS No.: Proprietary

Company Identification:

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

Product Information:

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

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

24-Hour Emergency Telephone Numbers

HEALTH:Chevron Phillips Emergency Information Center 866.442.9628 (North America) and 1.832.813.4984 (International)

TRANSPORTATION: North America: CHEMTREC 800.424.9300 or 703.527.3887
ASIA: +1.703.527.3887
EUROPE: BIG .32.14.584545 (phone) or .32.14.583516 (telefax)
SOUTH AMERICA SOS-Cotec Inside Brazil: 0800.111.767
Outside Brazil: 55.19.3467.1600

SECTION 2 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Free flowing powder.

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

Signal Word:

NA - Not Applicable

Safety Phrases:

S22: Do not breathe dust.

IMMEDIATE HEALTH EFFECTS:**Eye:** Not expected to cause prolonged or significant eye irritation. Material is dusty and may scratch the surface of the eye.**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.**Ingestion:** Not expected to be harmful if swallowed.**Inhalation:** Not expected to be harmful if inhaled.**SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS**

COMPONENT	CAS NUMBER	AMOUNT	EINECS	SYM	R-PHRASES
Proprietary Materials		100 % weight	EXEMPT	NA	NA

Occupational Exposure Limits:

Component	Limit	TWA	STEL	Ceiling / Peak	Notation
Proprietary Materials	CPCHEM	Not Established	NA	NA	NA

Control as Particulate Not Otherwise Classified (PNOC). The ACGIH Guideline* for respirable dust is 3.0 mg/m³ and 10.0 mg/m³ for total dust. The OSHA PEL for respirable dust is 5.0 mg/m³ and 15.0 mg/m³ for total dust.

* This value is for inhalable (total) particulate matter containing no asbestos and < 1.0% crystalline silica.

SECTION 4 FIRST AID MEASURES**Eye:** Flush eyes with running water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get immediate medical attention.**Skin:** To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. Get medical attention if any symptoms develop.**Ingestion:** If swallowed, do not induce vomiting. Give the person a glass of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person.**Inhalation:** Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.**SECTION 5 FIRE FIGHTING MEASURES****FIRE CLASSIFICATION:**

OSHA Classification (29 CFR 1910.1200): Not classified as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 0 Reactivity: 0**FLAMMABLE PROPERTIES:**

Flashpoint: NA

Autoignition: NA

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

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

PROTECTION OF FIRE FIGHTERS:

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

Combustion Products: No data available.

SECTION 6 ACCIDENTAL RELEASE MEASURES

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

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

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

SECTION 7 HANDLING AND STORAGE

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

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

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations, which have the potential of generating an accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids, National Fire Protection Association (NFPA 77), Recommended Practice on Static Electricity' (liquids, powders and dusts), and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents' (liquids).

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

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

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

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

PERSONAL PROTECTIVE EQUIPMENT:

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

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

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

Occupational Exposure Limits:

Component	Limit	TWA	STEL	Ceiling / Peak	Notation
Proprietary Materials	CPCHEM	Not Established	NA	NA	NA

Control as Particulate Not Otherwise Classified (PNOC). The ACGIH Guideline* for respirable dust is 3.0 mg/m³ and 10.0 mg/m³ for total dust. The OSHA PEL for respirable dust is 5.0 mg/m³ and 15.0 mg/m³ for total dust.

* This value is for inhalable (total) particulate matter containing no asbestos and < 1.0% crystalline silica.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Free flowing powder.

pH: NA

Flashpoint: NA

VAPOR PRESSURE: NA

VAPOR DENSITY (AIR=1): NA

BOILING POINT: NDA

SOLUBILITY (in water): Completely Soluble

DENSITY: 1.5 g/cm³ @ 20 °C (60°F)

SECTION 10 STABILITY AND REACTIVITY

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

Conditions to Avoid: No Data Available

Incompatibility With Other Materials: No data available

Hazardous Decomposition Products: No Data.

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS:

Acute Oral Toxicity: LD50 / rat / > 2500 mg/kg

Acute Dermal Toxicity: LD50 / rabbit / > 2000 mg/kg

Acute Inhalation Toxicity: LC50 / rat / > 2000 mg/m³ / 4 hour(s)

Eye Irritation: This material is not expected to be irritating to the eyes.

Skin Irritation: This material is not expected to be irritating to the skin.

ADDITIONAL TOXICOLOGY INFORMATION:

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

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

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY:

The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

ENVIRONMENTAL FATE:

This material is expected to be readily biodegradable.

SECTION 13 DISPOSAL CONSIDERATIONS

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.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

Shipping Descriptions per regulatory authority.

US DOT

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION

ICAO / IATA

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR

TRANSPORTATION

IMO / IMDG

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION

RID / ADR

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION

SECTION 15 REGULATORY INFORMATION

SARA 311/312 CATEGORIES:

- | | |
|---------------------------------------|----|
| 1. Immediate (Acute) Health Effects: | NO |
| 2. Delayed (Chronic) Health Effects: | NO |
| 3. Fire Hazard: | NO |
| 4. Sudden Release of Pressure Hazard: | NO |
| 5. Reactivity Hazard: | NO |

REGULATORY LISTS SEARCHED:

- | | | |
|-----------------------------|----------------------------|-------------------------------|
| 01 = CA Prop 65 | 17 = FDA 178 | 33 = RCRA Waste Appendix VIII |
| 02 = LA RTK | 18 = FDA 179 | 34 = RCRA Waste D-List |
| 03 = MA RTK | 19 = FDA 180 | 35 = RCRA Waste P-List |
| 04 = MN Hazardous Substance | 20 = FDA 181 | 36 = RCRA Waste U-List |
| 05 = NJ RTK | 21 = FDA 182 | 37 = SARA Section 302 |
| 06 = PA RTK | 22 = FDA 184 | 38 = SARA Section 313 |
| 07 = CAA Section 112 HAPs | 23 = FDA 186 | 39 = TSCA 12 (b) |
| 08 = CWA Section 307 | 24 = FDA 189 | 40 = TSCA Section 4 |
| 09 = CWA Section 311 | 25 = IARC Group 1 | 41 = TSCA Section 5(a) |
| 10 = DOT Marine Pollutant | 26 = IARC Group 2A | 42 = TSCA Section 8(a) CAIR |
| 11 = FDA 172 | 27 = IARC Group 2B | 43 = TSCA Section 8(a) PAIR |
| 12 = FDA 173 | 28 = IARC Group 3 | 44 = TSCA Section 8(d) |
| 13 = FDA 174 | 29 = IARC Group 4 | 45 = WHIMS - IDL |
| 14 = FDA 175 | 30 = NTP Carcinogen | 46 = Germany D TAL |
| 15 = FDA 176 | 31 = OSHA Carcinogen | 47 = Germany WKG |
| 16 = FDA 177 | 32 = OSHA Highly Hazardous | 48 = DEA List 1 |
| | | 49 = DEA List 2 |

No components of this material were found on the regulatory lists above.

WHMIS CLASSIFICATION:

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

CHEMICAL INVENTORY LISTINGS:

AUSTRALIA	YES (AUS)
CANADA	YES (DSL)
CHINA	YES (IECSC)
EUROPEAN UNION	NO - Exempt (EINECS/ELINCS)

JAPAN YES (ENCS)
KOREA YES (ECL)
PHILIPPINES YES (PICCS)
UNITED STATES YES (TSCA)

LABEL INFORMATION

Signal Word:

NA - Not Applicable

Symbols:

NA - Not Applicable

Risk and Safety Phrases:

S22: Do not breathe dust.

SECTION 16 OTHER INFORMATION

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

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

REVISION STATEMENT: This MSDS was updated to meet a 3-year review.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

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

This data sheet is prepared according to the latest adaptation of the EEC Guideline 67/548.
This data sheet is prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
This data sheet is prepared according to the ANSI MSDS Standard (Z400.1).
This data sheet was prepared by EHS Product Stewardship Group, Chevron Phillips Chemical Company LP, 10001 Six Pines Drive, The Woodlands, TX 77380.

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

Inhibition/ encapsulation	.75 to 3 ppb (2 to 9 kg/m ³)
Improved filter cake	.5 ppb (2 kg/m ³)
Improved & stabilized rheology	.5 to 1 ppb (2 to 3 kg/m ³)
Reduced stuck pipe frequency	.5 to .75 ppb (1 to 2 kg/m ³)
Improved hole cleaning	.5 to 3 ppb (2 to 9 kg/m ³)

For specific instructions on handling, refer to the MSDS.

Packaging

Drispac® Polymer and Drispac® Plus Polymer: 50-pound, multiwall paper sacks

Before using this product, the user is advised and cautioned to make its own determination and assessment of the safety and suitability of the product for the specific use in question and is further advised against relying on the information contained herein as it may relate to any specific use or application. It is the ultimate responsibility of the user to ensure that the product is suited and the information is applicable to the user's specific application. Drilling Specialties Company does not make, and expressly disclaims, all warranties, including warranties of merchantability or fitness for a particular purpose, regardless of whether oral or written, express or implied, or allegedly arising from any usage of any trade or from any course of dealing in connection with the use of the information contained herein or the product itself. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or the product itself. Further, information contained herein is given without reference to any intellectual property issues, as well as federal, state or local laws which may be encountered in the use thereof. Such questions should be investigated by the user.