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

### Product information

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Liquid Flowzan® Biopolymer XPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>1095838, 1101333, 1091030</td>
</tr>
</tbody>
</table>

**Use** : Drilling Fluid Additive

**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)-(11)59839431

**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** : Flammable liquids, Category 4

**Labeling**

**Signal Word** : Warning
Liquid Flowzan® Biopolymer XPT

Hazard Statements: H227: Combustible liquid.

Precautionary Statements:

Prevention:
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P280 Wear protective gloves/ eye protection/ face protection.

Response:
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.

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

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

Synonyms: Drilling Mud Additive

Molecular formula: Mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclic, &lt;2% aromatics</td>
<td>49 - 51</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

General advice: No hazards which require special first aid measures.

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.

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: Clean mouth with water and drink afterwards plenty of water. Keep respiratory tract clear. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.
SECTION 5: Firefighting measures

Flash point: 77 °C (171 °F)
Method: ASTM D 93

Autoignition temperature: 225 °C (437 °F)

Unsuitable extinguishing media: High volume water jet.

Specific hazards during firefighting: Standard procedure for chemical fires.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Fire and explosion protection: Do not spray on an open flame or any other incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Hazardous decomposition products: Carbon oxides.

SECTION 6: Accidental release measures

Personal precautions: Use personal protective equipment.

Environmental precautions: 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: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Handling

Advice on safe handling: Avoid formation of aerosol. 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: Do not spray on an open flame or any other incandescent material. Keep away from open flames, hot surfaces and sources of ignition.
Storage

Requirements for storage areas and containers: No smoking. 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: Drilling Fluid Additive

SECTION 8: Exposure controls/personal protection

Engineering measures

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace 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 NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: 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. Air-Purifying Respirator for 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. Tightly fitting safety goggles.

Skin and body protection: Choose body protection according to the amount and concentration of the dangerous substance at the workplace. Wear as appropriate: Safety shoes. Protective suit.

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

SDS Number:100000013524
**Appearance**
- Physical state: Liquid
- Color: Light brown
- Odor: Slight

**Safety data**
- **Flash point**: 77 °C (171 °F)
  - Method: ASTM D 93
- **Lower explosion limit**: 0.6 %(V)
- **Upper explosion limit**: 5.1 %(V)
- **Oxidizing properties**: no
- **Autoignition temperature**: 225 °C (437 °F)
- **Molecular formula**: Mixture
- **Molecular weight**: Not applicable
- **pH**: No data available
- **Pour point**: No data available
- **Boiling point/boiling range**: 217.8 - 237.8 °C (424.0 - 460.0 °F)
- **Vapor pressure**: No data available
- **Relative density**: 0.97
- **Water solubility**: Soluble
- **Partition coefficient: n-octanol/water**: No data available
- **Viscosity, kinematic**: 79983 mm²/s
  - at 40 °C (104 °F)
- **Relative vapor density**: No data available
- **Evaporation rate**: No data available

**SECTION 10: Stability and reactivity**

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

**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 polymerization does not occur.
Further information: No decomposition if stored and applied as directed.
Hazardous reactions: Vapors may form explosive mixture with air.

Conditions to avoid: Heat, flames and sparks.

Materials to avoid: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous decomposition products: Carbon oxides

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

SECTION 11: Toxicological information

Acute oral toxicity
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclic, <2% aromatics:
LD50: > 5,000 mg/kg
Species: Rat

Acute inhalation toxicity
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclic, <2% aromatics:
LC50: > 5 mg/l
Exposure time: 8 h
Species: Rat
Test atmosphere: vapor
Method: OECD Test Guideline 403

Acute dermal toxicity
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclic, <2% aromatics:
LD50: > 5,000 mg/kg
Species: Rabbit

Liquid Flowzan® Biopolymer XPT

Aspiration toxicity: No aspiration toxicity classification.

Liquid Flowzan® Biopolymer XPT
Further information: Solvents may degrease the skin.

SECTION 12: Ecological information

Toxicity to fish
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclic, <2% aromatics:
LL0: 1,000 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclic, <2% aromatics : EL0: 1,000 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclic, <2% aromatics : EL50: 1,000 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)

Biodegradability : Expected to be biodegradable

Elimination information (persistence and degradability)

Bioaccumulation

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclic, <2% aromatics : This material is not expected to bioaccumulate.

Mobility

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclic, <2% aromatics : After release, disperses into the air.

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. Do not burn, or use a cutting torch on, the empty drum.

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.

Testing (ASTM D4206) has shown product does not sustain combustion.

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
SDS Number:100000013524 8/11
SAFETY DATA SHEET

Liquid Flowzan® Biopolymer XPT

Version 1.6

Revision Date 2019-09-03

SARA 311/312 Hazards: Fire Hazard

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 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 SOCMI Intermediate or Final VOC’s (40 CFR 60.489).

US State Regulations

Pennsylvania Right To Know: No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know
SAFETY DATA SHEET

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Version 1.6

Revision Date 2019-09-03

: No components are subject to the New Jersey Right to Know Act.

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.

<table>
<thead>
<tr>
<th>Notification status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe REACH</td>
<td>This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH).</td>
</tr>
<tr>
<td>Switzerland CH INV</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>United States of America (USA) TSCA</td>
<td>Not On TSCA Inventory</td>
</tr>
<tr>
<td>Canada DSL</td>
<td>This product contains one or several components that are not on the Canadian DSL nor NDSL.</td>
</tr>
<tr>
<td>Australia AICS</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>New Zealand NZIoC</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>Japan ENCS</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>Korea KECI</td>
<td>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.</td>
</tr>
<tr>
<td>Philippines PICCS</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>China IECSC</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>Taiwan TCSI</td>
<td>Not in compliance with the inventory</td>
</tr>
</tbody>
</table>

For export from the U.S. only

SECTION 16: Other information

For export from the U.S. only

<table>
<thead>
<tr>
<th>NFPA Classification</th>
<th>Description</th>
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<tbody>
<tr>
<td>Health Hazard</td>
<td>1</td>
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<tr>
<td>Fire Hazard</td>
<td>1</td>
</tr>
<tr>
<td>Reactivity Hazard</td>
<td>0</td>
</tr>
</tbody>
</table>

Further information

Legacy SDS Number : E303

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

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
</tr>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
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<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
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</tbody>
</table>