Soltex® E Additive

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

Product information

Product Name: Soltex® E Additive
Material: 1110476

EC-No. Registration number

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Legal Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt, Sulfonated, Sodium Salt</td>
<td>68201-32-1</td>
<td>269-212-0</td>
<td>Chevron Phillips Chemicals International NV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>01-2119510713-49-0000</td>
</tr>
</tbody>
</table>

Relevant Identified Uses:
Supported: Use in Oil and Gas field drilling and production operations - Industrial

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

Local:
Chevron Phillips Chemicals International N.V.
Airport Plaza (Stockholm Building)
Leonardo Da Vincielaan 19
1831 Diegem
Belgium

SDS Requests: (800) 852-5530
Technical Information: (832) 813-4862
Responsible Party: Product Safety Group
Email: sds@cpchem.com

Emergency telephone:

Health:
SECTION 2: Hazards identification

Classification of the substance or mixture
REGULATION (EC) No 1272/2008

Not a hazardous substance or mixture.

Label elements
Labeling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

SECTION 3: Composition/information on ingredients

Synonyms:
DRILLING MUD ADDITIVE
Shale Inhibitor

Molecular formula: UVCB

Contains no hazardous ingredients according to GHS.

Remarks:
Contains no hazardous ingredients according to GHS.

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 eye contact:
Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.

If swallowed:
Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
**SAFETY DATA SHEET**

**Soltex® E Additive**

Version 1.8  
Revision Date 2017-02-28

### SECTION 5: Firefighting measures

<table>
<thead>
<tr>
<th>Description</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Special protective equipment for fire-fighters</td>
<td>Wear self-contained breathing apparatus for firefighting if necessary.</td>
</tr>
<tr>
<td>Further information</td>
<td>Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.</td>
</tr>
<tr>
<td>Fire and explosion protection</td>
<td>Provide appropriate exhaust ventilation at places where dust is formed.</td>
</tr>
</tbody>
</table>

### SECTION 6: Accidental release measures

<table>
<thead>
<tr>
<th>Description</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal precautions</td>
<td>Avoid dust formation.</td>
</tr>
<tr>
<td>Environmental precautions</td>
<td>If the product contaminates rivers and lakes or drains inform respective authorities.</td>
</tr>
<tr>
<td>Methods for cleaning up</td>
<td>Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.</td>
</tr>
</tbody>
</table>

### SECTION 7: Handling and storage

**Handling**

**Advice on safe handling**  
For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

**Advice on protection against fire and explosion**  
Provide appropriate exhaust ventilation at places where dust is formed.

**Storage**

**Requirements for storage areas and containers**  
Electrical installations / working materials must comply with the technological safety standards.

**Advice on common storage**  
No materials to be especially mentioned.

### SECTION 8: Exposure controls/personal protection

**DNEL**

**End Use:** Workers  
Routes of exposure: Skin contact  
Potential health effects: Chronic effects, Systemic effects  
Value: 14,3 mg/kg

**DNEL**

**End Use:** Workers  
Routes of exposure: Inhalation  
Potential health effects: Chronic effects, Systemic effects
**Soltex® E Additive**

<table>
<thead>
<tr>
<th>Value: 25.2 mg/m³</th>
</tr>
</thead>
</table>

| PNEC: Marine water |
| Value: 0.12 mg/l |

| PNEC: Marine sediment |
| Value: 0.097 mg/kg |

**Engineering measures**

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. Safety glasses.

**Skin and body protection:** Wear as appropriate: Choose body protection according to the amount and concentration of the dangerous substance at the work place. Lightweight protective clothing.

**Hygiene measures:** General industrial hygiene practice.

For additional details, see the Exposure Scenario in the Annex portion.

**SECTION 9: Physical and chemical properties**

**Information on basic physical and chemical properties**

**Appearance**

| Form: Powder |
| Physical state: Solid |

SDS Number: 100000101140 4/13
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Dark Brown, Black</td>
</tr>
<tr>
<td>Odor</td>
<td>No odor</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**Safety data**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular formula</td>
<td>UVCB</td>
</tr>
<tr>
<td>pH</td>
<td>7 - 10</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>1.54 g/cm³</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Partly soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions to avoid</td>
<td>No data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>Other data</td>
<td>No decomposition if stored and applied as directed.</td>
</tr>
</tbody>
</table>
SECTION 11: Toxicological information

Soltex® E Additive
Acute oral toxicity: LD50: > 5,000 mg/kg
Species: Rat
Sex: male and female

Soltex® E Additive
Acute inhalation toxicity: LC50: > 5.3 mg/l
Exposure time: 4 h
Species: Rat
Sex: male and female
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Rats exposed to a 5.3 mg/L dust aerosol for 4-hr resulted in effects generally expected with high concentrations of dust aerosols made of relatively dense particles. Higher lung weight and atelectasis persisted after the 14-day recovery period. There were no reports of lethality or any significant clinical observations. There was however an acute inflammatory response with evidence of recovery after 14-days. The presence of particulate matter with indication of partial clearance from the lung after the 14-day recovery period was noted. These effects would not be expected during normal operating conditions when using this substance.

Soltex® E Additive
Acute dermal toxicity: No data available

Soltex® E Additive
Skin irritation: No skin irritation

Soltex® E Additive
Eye irritation: No eye irritation

Soltex® E Additive
Sensitization: Did not cause sensitization on laboratory animals.

Soltex® E Additive
Repeated dose toxicity: Species: Rat, male and female
Sex: male and female
Application Route: oral gavage
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

Soltex® E Additive
Reproductive toxicity: Species: Rat
Sex: male and female
Soltex® E Additive

Application Route: oral gavage
Dose: 0, 250, 500, 1000 mg/kg
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

Soltex® E Additive Developmental Toxicity
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

Toxicology Assessment

Soltex® E Additive CMR effects
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.

SECTION 12: Ecological information

Ecotoxicity effects

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

Toxicity to daphnia and other aquatic invertebrates
LC50: 380 mg/l
Exposure time: 48 h
Species: Acartia tonsa (Marine Copepod)
static test Method: ISO TC147/SC5/WG2

Toxicity to algae
Ebc50: 240 mg/l
Exposure time: 72 h
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
Elimination information (persistence and degradability)

Biodegradability : 3 %
   Testing period: 28 d
   Method: Closed Bottle test
   According to the results of tests of biodegradability this product is not readily biodegradable.

Ecotoxicology Assessment

Additional ecological information : 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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

For additional details, see the Exposure Scenario in the Annex portion

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.
# SAFETY DATA SHEET

## Soltex® E Additive

**Version 1.8**

**Revision Date** 2017-02-28

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**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**

**Chemical Safety Assessment**

- **Ingredients:** Asphalt, sulfonated, sodium salt  269-212-0

- **Major Accident Hazard Legislation:** 96/82/EC Update: 2003 Directive 96/82/EC does not apply

- **Water contaminating class (Germany):** WGK 1 slightly water endangering Classification according VwVwS, Annex 3.

#### Other Registrations

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Registration number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danish PR number:</td>
<td>2318865</td>
</tr>
</tbody>
</table>

#### Notification status

- **Europe REACH:** This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH).

- **United States of America (USA) 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:** Not 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: 1
- 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.

<table>
<thead>
<tr>
<th>Key or legend to abbreviations and acronyms used in the safety data sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACGIH</strong></td>
</tr>
<tr>
<td><strong>AICS</strong></td>
</tr>
<tr>
<td><strong>DSL</strong></td>
</tr>
<tr>
<td><strong>NDSL</strong></td>
</tr>
<tr>
<td><strong>CNS</strong></td>
</tr>
<tr>
<td><strong>CAS</strong></td>
</tr>
<tr>
<td><strong>EC50</strong></td>
</tr>
<tr>
<td><strong>EC50</strong></td>
</tr>
<tr>
<td><strong>EGEST</strong></td>
</tr>
<tr>
<td><strong>EOSCA</strong></td>
</tr>
<tr>
<td><strong>EINECS</strong></td>
</tr>
<tr>
<td><strong>MAK</strong></td>
</tr>
<tr>
<td><strong>GHS</strong></td>
</tr>
<tr>
<td><strong>==</strong></td>
</tr>
<tr>
<td><strong>IC50</strong></td>
</tr>
<tr>
<td><strong>IARC</strong></td>
</tr>
<tr>
<td><strong>IECSC</strong></td>
</tr>
<tr>
<td><strong>ENCS</strong></td>
</tr>
<tr>
<td>KECl</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>&lt;=</td>
</tr>
<tr>
<td>LC50</td>
</tr>
</tbody>
</table>
Annex

1. Short title of Exposure Scenario: **Use in Oil and Gas field drilling and production operations - Industrial**

<table>
<thead>
<tr>
<th>Main User Groups</th>
<th>SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector of use</td>
<td>SU2b: Offshore industries</td>
</tr>
<tr>
<td>Process category</td>
<td>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</td>
</tr>
<tr>
<td>Environmental release category</td>
<td>ERC4: Industrial use of processing aids in processes and products, not becoming part of articles</td>
</tr>
<tr>
<td>Further information</td>
<td>Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.</td>
</tr>
</tbody>
</table>

2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

<table>
<thead>
<tr>
<th>Product characteristics Remarks</th>
<th>Substance is complex UVCB.</th>
</tr>
</thead>
</table>

Other given operational conditions affecting environmental exposure

Continuous use/release

Technical conditions and measures / Organizational measures

<table>
<thead>
<tr>
<th>Remarks</th>
<th>Not applicable</th>
</tr>
</thead>
</table>

Conditions and measures related to municipal sewage treatment plant

<table>
<thead>
<tr>
<th>Remarks</th>
<th>Not applicable as there is no release to wastewater.</th>
</tr>
</thead>
</table>

Conditions and measures related to external treatment of waste for disposal

<table>
<thead>
<tr>
<th>Waste treatment</th>
<th>Drilling muds are recycled and reused</th>
</tr>
</thead>
</table>

Conditions and measures related to external recovery of waste

<table>
<thead>
<tr>
<th>Remarks</th>
<th>Drilling muds are recycled and reused</th>
</tr>
</thead>
</table>

2.2 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

<table>
<thead>
<tr>
<th>Product characteristics Remarks</th>
<th>Substance is complex UVCB.</th>
</tr>
</thead>
</table>

Physical Form (at time of use)

<table>
<thead>
<tr>
<th>Solid, low dustiness</th>
</tr>
</thead>
</table>

Frequency and duration of use

| SDS Number: 100000101140 12/13 | 12/13 |
**Soltex® E Additive**

**Version 1.8**

**Frequency of use:** 3 hours/day

**Other operational conditions affecting workers exposure**

- **Outdoor / Indoor:** Indoor, Outdoor
- **Remarks:** Assumes a good basic standard of occupational hygiene is implemented., Operation is carried out at elevated temperature (> 20°C above ambient temperature).

**Technical conditions and measures**

Provide adequate ventilation., Bags of dry powder should be emptied into hopper and pulled down by Venturi effect to minimize dust in the air., Hoppers should be regularly washed down with water to rinse any residual product., Empty bags into hopper when facing downwind.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Respirator with a dust filter, Wear protective gloves/ protective clothing/ eye protection/ face protection.

### 3. Exposure estimation and reference to its source

#### Environment

<table>
<thead>
<tr>
<th>Contributing Scenario</th>
<th>Exposure Assessment Method</th>
<th>Specific conditions</th>
<th>Compartement</th>
<th>Value type</th>
<th>Level of Exposure</th>
<th>Risk characterization ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERC4</td>
<td>EGEST</td>
<td>Marine water</td>
<td>0.0005 mg/L</td>
<td>0.00413</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine sediment</td>
<td>31.4 mg/L</td>
<td>0.598</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

#### Workers/Consumers

<table>
<thead>
<tr>
<th>Contributing Scenario</th>
<th>Exposure Assessment Method</th>
<th>Specific conditions</th>
<th>Value type</th>
<th>Level of Exposure</th>
<th>Risk characterization ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROC4</td>
<td>ECETOC TRA</td>
<td>Worker – dermal, long-term – systemic</td>
<td>6.86 mg/kg/d</td>
<td>0.480</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker – inhalation, long-term – systemic</td>
<td>0.420 mg/m3</td>
<td>0.017</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker – long-term – systemic Combined routes</td>
<td></td>
<td>0.497</td>
<td></td>
</tr>
</tbody>
</table>

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

#### 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterization ratios are expected to be less than 1.

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterisation ratios are expected to be less than 1.

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

**SDS Number:** 100000101140