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

Product information
Product Name: AlphaPlus® 1-Octadecene
Material: 1064095, 1037052, 1037053, 1036984, 1037051, 1037050

EC-No. Registration number

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Legal Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Octadecene</td>
<td>112-88-9</td>
<td>Chevron Phillips Chemical Company LP</td>
</tr>
<tr>
<td></td>
<td>204-012-9</td>
<td>01-2119474213-44-0001</td>
</tr>
</tbody>
</table>

Relevant Identified Uses
Supported: Manufacture, Distribution, Formulation, Use in Oil and Gas field drilling and production operations - Industrial, Use in Oil and Gas field drilling and production operations – Professional, Use in polymer production – industrial, Use as an intermediate, Use in coatings – industrial, Use in coatings – professional, Use in Coatings - Consumer, Use in mining – industrial

Company
Chevron Phillips Chemical Company LP
Normal Alpha Olefins (NAO)
10001 Six Pines Drive
The Woodlands, TX 77380

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

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

SDS Number: 100000067758

1/12
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)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
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
REGULATION (EC) No 1272/2008

Aspiration hazard, Category 1
H304: May be fatal if swallowed and enters airways.

Label elements
Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

Signal Word: Danger

Hazard Statements:
H304: May be fatal if swallowed and enters airways.

Precautionary Statements:
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331 Do NOT induce vomiting.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous ingredients which must be listed on the label:
- 112-88-9 1-Octadecene

Additional Labeling:
EUH066 Repeated exposure may cause skin dryness or cracking.
SECTION 3: Composition/information on ingredients

Synonyms: C18, NAO 18, Octadecene-1, C18H36

Molecular formula: C18H36

Mixtures

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No. Index No.</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration [wt%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Octadecene</td>
<td>112-88-9, 204-012-9</td>
<td>Asp. Tox. 1; H304</td>
<td>90 - 100</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

General advice: Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.

If inhaled: If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of eye contact: Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed: Keep respiratory tract clear. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point: 154 °C (309 °F)  
Method: PMCC

Autoignition temperature: 250 °C (482 °F)

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: Normal measures for preventive fire protection.

Hazardous decomposition products: Carbon Dioxide. Carbon monoxide.

SECTION 6: Accidental release measures

Personal precautions: Use personal protective equipment. Ensure adequate ventilation.

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: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

A quantitative risk assessment is not required for the environment.
A quantitative risk assessment is not required for human health.

SECTION 7: Handling and storage

Handling

Advice on safe handling: Do not breathe vapors/dust. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion: Normal measures for preventive fire protection.

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

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 Organic Vapors, 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 in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. 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.

A quantitative risk assessment is not required for the environment.
A quantitative risk assessment is not required for human health.

**SECTION 9: Physical and chemical properties**

**Information on basic physical and chemical properties**

**Appearance**

Physical state: Liquid
Color: Colorless liquid or white solid

**Safety data**

Flash point: 154 °C (309 °F)
Method: PMCC

Lower explosion limit: 0,4 %(V)
Upper explosion limit: 6,9 %(V)

Oxidizing properties: no

Autoignition temperature: 250 °C (482 °F)
Molecular formula: C18H36
Molecular weight: 252,54 g/mol
pH: Not applicable
Pour point: No data available
**AlphaPlus® 1-Octadecene**

**Version 2.6**

**Revision Date 2017-01-23**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freezing point</td>
<td>17,5 °C (63,5 °F)</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>315 °C (599 °F)</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0,00 Pa at 25 °C (77 °F)</td>
</tr>
<tr>
<td></td>
<td>&lt; 0,01 kPa at 65 °C (149 °F)</td>
</tr>
<tr>
<td>Relative density</td>
<td>0,79 at 15,6 °C (60,1 °F)</td>
</tr>
<tr>
<td>Density</td>
<td>792 kg/m3 at 15 °C (59 °F)</td>
</tr>
<tr>
<td></td>
<td>789 kg/m3 at 20 °C (68 °F)</td>
</tr>
<tr>
<td></td>
<td>768 kg/m3 at 50 °C (122 °F)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble in hydrocarbon solvents; insoluble in water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>3,8 cSt at 37,8 °C (100,0 °F)</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>8,71 (Air = 1,0)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</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**

**Conditions to avoid**

No data available.

**Materials to avoid**

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

**Hazardous decomposition products**

Carbon Dioxide
Carbon monoxide

**Other data**

No decomposition if stored and applied as directed.
SECTION 11: Toxicological information

Acute oral toxicity
1-Octadecene : LD50: > 10,000 mg/kg
Species: Rat
Sex: male and female
Method: OECD Test Guideline 401
Test substance: no
Information given is based on data obtained from similar substances.

Skin irritation
1-Octadecene : No skin irritation
Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.

Eye irritation
1-Octadecene : No eye irritation

Sensitization
1-Octadecene : Did not cause sensitization on laboratory animals.

Repeated dose toxicity
1-Octadecene : Species: rat (female)
Application Route: oral gavage
Dose: 0, 100, 500, 1000 mg/kg/d
NOEL: 1.000 mg/kg
Method: OECD Guideline 422
Information given is based on data obtained from similar substances.

Reproductive toxicity
1-Octadecene : Species: Rat
Sex: male and female
Application Route: oral gavage
Dose: 0, 100, 500, 1000 mg/kg/d
Method: OECD Guideline 421
NOAEL Parent: 1.000 mg/kg
NOAEL F1: 1.000 mg/kg
Information given is based on data obtained from similar substances.

AlphaPlus® 1-Octadecene
Aspiration toxicity : May be fatal if swallowed and enters airways.
Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

CMR effects

SDS Number: 100000067758
# AlphaPlus® 1-Octadecene

**Carcinogenicity**: Not available  
**Mutagenicity**: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.  
**Teratogenicity**: Not available  
**Reproductive toxicity**: No toxicity to reproduction

## SECTION 12: Ecological information

### Toxicity to fish

1-Octadecene  
**LL50**: > 1.000 mg/l  
**Exposure time**: 96 h  
**Species**: Oncorhynchus mykiss (rainbow trout)  
**Method**: OECD Test Guideline 203  
Information given is based on data obtained from similar substances.

### Toxicity to daphnia and other aquatic invertebrates

1-Octadecene  
**EL50**: > 1.000 mg/l  
**Exposure time**: 48 h  
**Species**: Daphnia magna (Water flea)  
**Method**: OECD Test Guideline 202  
Information given is based on data obtained from similar substances.

### Toxicity to algae

1-Octadecene  
**EC50**: > 1.000 mg/l  
**Exposure time**: 72 h  
**Species**: Raphidocellus subcapitata (algae)  
**Method**: OECD Test Guideline 201  
Information given is based on data obtained from similar substances.

### Toxicity to bacteria

1-Octadecene  
**NOEC**: 3 mg/l  
**Exposure time**: 120 h  
**Respiration inhibition**

### Biodegradability

1-Octadecene  
This material is expected to be readily biodegradable.  
Information given is based on data obtained from similar substances.

### Ecotoxicology Assessment
SAFETY DATA SHEET

AlphaPlus® 1-Octadecene

Version 2.6

Revision Date 2017-01-23

Results of PBT assessment
1-Octadecene : Non-classified PBT substance, Non-classified vPvB substance
Additional ecological information : No data available

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.

A quantitative risk assessment is not required for the environment. A quantitative risk assessment is not required for human health.

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 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 : octadec-1-ene  
A Chemical Safety Assessment 204-012-9 has been carried out for this substance.

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

Water contaminating class (Germany) : nwg  
not water endangering

Notification status

Europe  REACH : On the inventory, or in compliance with the inventory
United States of America (USA) : On the inventory, or in compliance with the inventory
TSCA : On the inventory, or in compliance with the inventory
Canada  DSL : On the inventory, or in compliance with the inventory
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: 0  
Fire Hazard: 1  
Reactivity Hazard: 0
Further information

Legacy SDS Number : PE0023

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>Full Form</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>
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<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
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<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
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<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
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<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
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<td>IARC</td>
<td>International Agency for Research on Cancer</td>
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<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
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<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
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<td>Korea, Existing Chemical Inventory</td>
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<td>Less Than or Equal To</td>
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<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>
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<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
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<tr>
<td>NOAEL</td>
<td>No Observe Adverse Effect Level</td>
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<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
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<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
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<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
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<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
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<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
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<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
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<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
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<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
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<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
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<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>
</tr>
</tbody>
</table>

Full text of H-Statements referred to under sections 2 and 3.
H304 May be fatal if swallowed and enters airways.