

**AlphaPlus® 1-Hexadecene**

Version 2.4

Revision Date 2018-08-02

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

Product Name : AlphaPlus® 1-Hexadecene  
 Material : 1076762, 1037049, 1037048

**EC-No.Registration number**

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
1-Hexadecene	629-73-2 211-105-8	Chevron Phillips Chemical Company LP 01-2119474686-23-0002

Relevant Identified Uses Supported : Manufacture  
 Use as an intermediate  
 Formulation  
 Use in coatings – industrial  
 Use in coatings – professional  
 Use in Coatings - Consumer  
 Lubricants - Industrial  
 Lubricants - Professional  
 Lubricants - Consumer  
 Use in Oil and Gas field drilling and production operations – Professional  
 Use in Oil and Gas field drilling and production operations – Professional  
 Metal working fluids / rolling oils - Industrial  
 Metal working fluids / rolling oils – Professional  
 Functional Fluids - Industrial  
 Functional Fluids - Professional  
 Functional Fluids - Consumer  
 Use in polymer production – industrial  
 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 Vincilaan 19  
 1831 Diegem

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Belgium

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

**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)-1159839431

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.  
 Do NOT induce vomiting.  
**Storage:**  
 P405 Store locked up.  
**Disposal:**  
 P501 Dispose of contents/ container to an  
 approved waste disposal plant.

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Hazardous ingredients which must be listed on the label:

- 629-73-2 1-Hexadecene

**Additional Labeling:**

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 1 %

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 1 %

EUH066

Repeated exposure may cause skin dryness or cracking.

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

Synonyms : NAO 16  
1-Hexadecene  
(C16 H32)

Molecular formula : C16H32

**Hazardous ingredients**

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]
<b>1-Hexadecene</b>	<b>629-73-2</b> <b>211-105-8</b>	Asp. Tox. 1; H304	93
2-Butyl-1-Dodecene	115146-98-0	Asp. Tox. 1; H304	2
2-Ethyl-1-Tetradecene	56919-55-2	Asp. Tox. 1; H304	2
2-Hexyl-1-Decene	13043-55-5	Asp. Tox. 1; H304	2

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 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 : 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.

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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.  
Do not ingest. If swallowed then seek immediate medical assistance.

**SECTION 5: Firefighting measures**

Flash point : 132 °C (270 °F)  
Method: PMCC

Autoignition temperature : 240 °C (464 °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 : No data available.

**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 or spray mist. 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.  
Do not breathe vapors/dust. For personal protection see

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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**

PNEC : Fresh water  
Value: 0,001 mg/l

PNEC : Sea water  
Value: 0,001 mg/l

PNEC : Fresh water sediment  
Value: 426,58 mg/kg

PNEC : Sea sediment  
Value: 426,58 mg/kg

PNEC : Soil  
Value: 85,3 mg/kg

**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. 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

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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. If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

- 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 work-place. Wear as appropriate: Lightweight protective clothing.
- 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 : Clear, colorless

**Safety data**

- Flash point : 132 °C (270 °F)  
Method: PMCC
- Lower explosion limit : 0,5 %(V)
- Upper explosion limit : 5,8 %(V)
- Oxidizing properties : no
- Autoignition temperature : 240 °C (464 °F)
- Molecular formula : C16H32
- Molecular weight : 224,48 g/mol
- pH : Not applicable
- Melting point/range : 4 °C (39 °F)
- Freezing point : 4 °C (39 °F)
- Pour point : No data available

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Boiling point/boiling range	: 285 °C (545 °F)
Vapor pressure	: 0,00 MMHG at 25 °C (77 °F)  < 0,01 kPa at 65 °C (149 °F)
Relative density	: 0,78 at 15,6 °C (60,1 °F)
Density	: 785 kg/m3 at 15 °C (59 °F)  780 kg/m3 at 20 °C (68 °F)  760 kg/m3 at 50 °C (122 °F)
Water solubility	: Soluble in hydrocarbons; insoluble in water
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: 3,83 cSt at 20 °C (68 °F)
Relative vapor density	: 7,72 (Air = 1.0)
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.
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**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	: No data available
Other data	: No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information****Acute oral toxicity**

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1-Hexadecene : LD50: 10 g/kg  
Species: Rat  
Sex: male and female  
Method: OECD Test Guideline 401  
Test substance: yes

**Acute inhalation toxicity**

1-Hexadecene : LC50: > 8.5 mg/l/Exposure time: 1 h  
Species: Rat  
Sex: male  
Test atmosphere: dust/mist

**Acute dermal toxicity**

1-Hexadecene : LD50: > 2020 mg/kg  
Species: Rabbit  
Sex: male and female  
Information given is based on data obtained from similar substances.

**Skin irritation**

1-Hexadecene : Mild 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-Hexadecene : No eye irritation

**Sensitization**

1-Hexadecene : Did not cause sensitization on laboratory animals.

**Repeated dose toxicity**

1-Hexadecene : Species: Rat, Male and female  
Sex: Male and female  
Application Route: oral gavage  
Dose: 100, 500, or 1000 mg/kg/day  
Exposure time: 42- 51 days  
Number of exposures: Daily  
NOEL: 1000 mg/kg bw/day  
Method: OECD Guideline 422  
Information given is based on data obtained from similar substances.



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Species: Rat, male  
Sex: male  
Application Route: oral gavage  
Dose: 10, 101, 1010, 3365 mg/kg/day  
Exposure time: 4 weeks  
Number of exposures: 7 days/week  
NOEL: 101 mg/kg bw/day  
Method: OECD Test Guideline 407  
Target Organs: Stomach  
Information given is based on data obtained from similar substances.

Species: Rat, female  
Sex: female  
Application Route: oral gavage  
Dose: 10, 101, 1010, 3365 mg/kg/day  
Exposure time: 4 weeks  
Number of exposures: 7 days/week  
NOEL: 1010 mg/kg bw/day  
Method: OECD Test Guideline 407  
Information given is based on data obtained from similar substances.

Species: Rat, Male and female  
Sex: Male and female  
Application Route: oral gavage  
Dose: 100, 500, 1000 mg/kg/day  
Exposure time: 13 weeks  
Number of exposures: 7 days/week  
NOEL: 1000 mg/kg bw/day  
Information given is based on data obtained from similar substances.

Species: Rat, Male and female  
Sex: Male and female  
Application Route: Inhalation  
Dose: 300, 1000, 3000 ppm  
Exposure time: 13 weeks  
Number of exposures: 6 hrs/day, 5 days/week  
NOEL: 3000 ppm  
Information given is based on data obtained from similar substances.

**Reproductive toxicity**

1-Hexadecene

: Species: Rat  
Sex: female  
Application Route: oral gavage  
Dose: 100, 500, 1000 mg/kg/day  
Number of exposures: Daily  
Test period: 41 to 55 days  
Method: OECD Guideline 421  
NOAEL Parent: 1000 mg/kg bw/day  
NOAEL F1: 1000 mg/kg bw/day  
Information given is based on data obtained from similar substances.

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Species: Rat  
 Sex: male and female  
 Application Route: oral gavage  
 Dose: 100, 500, 1000 mg/kg/day  
 Number of exposures: Daily  
 Test period: 42- 51days  
 Method: OECD Guideline 422  
 NOAEL Parent: 1000 mg/kg bw/day  
 NOAEL F1: 1000 mg/kg bw/day  
 Information given is based on data obtained from similar substances.

**AlphaPlus® 1-Hexadecene  
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**

1-Hexadecene : Carcinogenicity: Not classifiable as a human carcinogen.  
 Mutagenicity: Did not show mutagenic effects in animal experiments.  
 Teratogenicity: Did not show teratogenic effects in animal experiments.  
 Reproductive toxicity: No toxicity to reproduction

**AlphaPlus® 1-Hexadecene  
Further information**

: Solvents may degrease the skin.

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

1-Hexadecene : LL50: > 1000 mg/L  
 Exposure time: 96 h  
 Species: Oncorhynchus mykiss (rainbow trout)  
 Method: OECD Test Guideline 203  
 The product has low solubility in the test medium. An aqueous dispersion was tested.

**Toxicity to daphnia and other aquatic invertebrates**

1-Hexadecene : EL50: < 1000 mg/L  
 Exposure time: 48 h  
 Species: Daphnia magna (Water flea)  
 static test Method: OECD Test Guideline 202  
 The product has low solubility in the test medium. An aqueous dispersion was tested.

**Toxicity to algae**

1-Hexadecene : EC50: > 1000 mg/L  
 Exposure time: 72 h  
 Species: Selenastrum capricornutum (algae)

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static test Method: OECD Test Guideline 201  
The product has low solubility in the test medium. An aqueous dispersion was tested.

**Bioaccumulation**

1-Hexadecene : Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.

**Biodegradability**

1-Hexadecene : According to the results of tests of biodegradability this product is considered as being readily biodegradable.

**Ecotoxicology Assessment****Results of PBT assessment**

1-Hexadecene : Non-classified PBT substance, Non-classified vPvB substance

**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.

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.

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**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** : hexadec-1-ene 211-105-8

**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

**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

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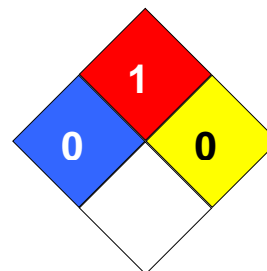
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Canada DSL	:	On the inventory, or in compliance with the inventory
Australia AICS	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	On the inventory, or in compliance with the inventory
Japan ENCS	:	On the inventory, or in 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 : PE0021

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**

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

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			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%		

**Full text of H-Statements referred to under sections 2 and 3.**

H304                      May be fatal if swallowed and enters airways.