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

Product information
Product Name : AlphaPlus® C16 IS
Material : 1080595, 1088623, 1093000

Company : Chevron Phillips Chemical Company LP
Normal Alpha Olefins (NAO)
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)-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
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 : Aspiration hazard, Category 1

Labeling
Symbol(s) :
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.

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

Molecular formula : UVCB

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
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<tbody>
<tr>
<td>Hexadecene</td>
<td>26952-14-7</td>
<td>90 - 98</td>
</tr>
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</table>

SECTION 4: First aid measures

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.
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.
If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SDS Number:100000013080 2/12
SECTION 5: Firefighting measures

Flash point: 127°C (261°F)
Method: Cleveland Open Cup

Autoignition temperature: No data available

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.

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.

SECTION 7: Handling and storage

Handling

Advice on safe handling: Do not breathe vapors/dust. Avoid contact with skin and eyes. 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

Engineering measures
Adequate ventilation to control air-borned 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 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.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance
Form: Liquid
Physical state: Liquid
Color: Clear, colorless to light yellow

Safety data
Flash point: 127°C (261°F)
Method: Cleveland Open Cup
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

Hazardous reactions : Further information: No decomposition if stored and applied as directed.

Conditions to avoid : No data available.

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

AlphaPlus® C16 IS
Acute oral toxicity: LD50: > 5,050 mg/kg
Species: Rat
Sex: male and female

AlphaPlus® C16 IS
Acute inhalation toxicity: LC50: > 5.0 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: dust/mist
Method: Acute toxicity estimate
Information given is based on data obtained from similar substances.

AlphaPlus® C16 IS
Acute dermal toxicity: LD50 Dermal: > 2,020 mg/kg
Species: Rabbit
Sex: male and female

AlphaPlus® C16 IS
Skin irritation: Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.

AlphaPlus® C16 IS
Eye irritation: No eye irritation.

AlphaPlus® C16 IS
Sensitization: Did not cause sensitization on laboratory animals. Information given is based on data obtained from similar substances.

Repeated dose toxicity
Hexadecene
Species: Rat, Male and female
Sex: Male and female
Application Route: Oral
Dose: 0, 25, 150, 1000 mg/kg
Exposure time: 4 wks
Number of exposures: daily
NOEL: 1,000 mg/kg
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: Inhalation
Dose: 0, 300, 1000, 3000 ppm
Exposure time: 13 wks
Number of exposures: 6 hrs/d, 5 d/wk
NOEL: 3000 ppm
Method: OECD Guideline 413
Information given is based on data obtained from similar substances.

Genotoxicity in vitro
Hexadecene : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: Mutagenicity (Escherichia coli - reverse mutation assay)
Result: negative

Test Type: Mammalian cell gene mutation assay
Metabolic activation: with and without metabolic activation
Method: OECD Guideline 476
Result: negative

Test Type: Unscheduled DNA synthesis assay
Method: OECD Guideline 473
Result: negative

Genotoxicity in vivo
Hexadecene : Test Type: Mouse micronucleus assay
Method: Mutagenicity (micronucleus test)
Result: negative

Reproductive toxicity
Hexadecene : Species: Rat
Sex: male and female
Application Route: Oral diet
Dose: 0, 100, 500, or 1000 mg/kg/
Number of exposures: once daily
Method: OECD Guideline 421
NOAEL F1: 1,000 mg/kg
Information given is based on data obtained from similar substances.

Aspiration toxicity
Hexadecene : May be fatal if swallowed and enters airways.

CMR effects
Hexadecene : Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Reproductive toxicity: Animal testing did not show any effects on fertility.
Further information: Solvents may degrease the skin.

SECTION 12: Ecological information

Toxicity to fish
Hexadecene: LL50: > 1,000 mg/l
Exposure time: 96 h
Species: Cyprinodon variegatus (sheepshead minnow)
static test Method: OECD Test Guideline 203
Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates
Hexadecene: EL50: > 1,000 mg/l
Exposure time: 96 h
Species: Mysidopsis bahia (mysid shrimp)
static test

Toxicity to algae
Hexadecene: EL50: > 1,000 mg/l
Exposure time: 72 h
Species: Skeletonema costatum (marine diatom)
static test

Biodegradability: This material is expected to be readily biodegradable.

Elimination information (persistence and degradability)

Results of PBT assessment
Hexadecene: Non-classified vPvB substance, Non-classified PBT substance

Additional ecological information

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.

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**

<table>
<thead>
<tr>
<th>SARA 311/312 Hazards</th>
<th>Aspiration hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>CERCLA Reportable Quantity</td>
<td>This material does not contain any components with a CERCLA RQ.</td>
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<tr>
<td>SARA 302 Reportable Quantity</td>
<td>This material does not contain any components with a SARA 302 RQ.</td>
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<tr>
<td>SARA 302 Threshold Planning Quantity</td>
<td>This material does not contain any components with a section 302 EHS TPQ.</td>
</tr>
<tr>
<td>SARA 304 Reportable Quantity</td>
<td>This material does not contain any components with a section 304 EHS RQ.</td>
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<tr>
<td>SARA 313 Components</td>
<td>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.</td>
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</tbody>
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**Clean Air Act**

<table>
<thead>
<tr>
<th>Ozone-Depletion Potential</th>
<th>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).</th>
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</thead>
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<tr>
<td></td>
<td>This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).</td>
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<tr>
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<td>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).</td>
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<tr>
<td></td>
<td>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).</td>
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</table>
US State Regulations

Pennsylvania Right To Know: Hexadecene - 26952-14-7

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.

Notification status

Europe REACH: Not in compliance with the inventory
Switzerland CH INV: On the inventory, or in compliance with the inventory
United States of America (USA) TSCA: On or in compliance with the active portion of the TSCA inventory
Canada NDSL: This product contains one or several components listed in the Canadian NDSL.
Australia AICS: Not in compliance with the inventory
New Zealand NZIoC: This substance may be used as a component in a product covered by a group standard but it is not approved for use as a chemical in its own right
Japan ENCS: On the inventory, or in compliance with the inventory
Korea KECI: 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.

Philippines PICCS: On the inventory, or in compliance with the inventory
China IECSC: On the inventory, or in compliance with the inventory
Taiwan TCSI: Not in compliance with the inventory

SECTION 16: Other information

NFPA Classification: Health Hazard: 1
Fire Hazard: 1
Reactivity Hazard: 0

Further information
Legacy SDS Number: 7890
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>
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<td>ACGIH</td>
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