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

Product information
Product Name: AlphaPlus® C24-28
Material: 1083881, 1037065, 1037066, 1037067, 1036986, 1037068

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 (+61 2 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telex)
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:
Not a hazardous substance or mixture.

Labeling:
Not a hazardous substance or mixture.
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: C24-C28 Alpha Olefin Fraction
NAO 24-28

Molecular formula: UVCB

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
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<tr>
<td>Alpha Olefin Fraction, C24-28</td>
<td>93924-11-9</td>
<td>100</td>
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</table>

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. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

SECTION 5: Firefighting measures

Flash point: 218°C (424°F)
Method: PMCC

Autoignition temperature: 249°C (480°F)

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during firefighting: Do not use a solid water stream as it may scatter and spread fire. Cool closed containers exposed to fire with water spray.

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
**SECTION 6: Accidental release measures**

**Personal precautions**: Avoid dust formation.

**Environmental precautions**: No special environmental precautions required.

**Methods for cleaning up**: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**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**

**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 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. Safety glasses.

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: General industrial hygiene practice.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance
Form: Wax, Solid
Physical state: Solid
Color: White
Odor: No odor

Safety data
Flash point: 218°C (424°F)
  Method: PMCC
Lower explosion limit: No data available
Upper explosion limit: No data available
Oxidizing properties: no
Autoignition temperature: 249°C (480°F)
Molecular formula: UVCB
Molecular weight: Varies
pH: Not applicable
Melting point/range: 63°C (145°F)
  Method: ASTM D-87
Boiling point/boiling range: 390-430°C (734-806°F)
Vapor pressure: < 0.01 kPa
  at 65°C (149°F)
### Relative density:

- 0.82 at 15.6 °C (60.1 °F)

### Density:

- 821 kg/m³ at 15°C (59°F)
- 799 kg/m³ at 50°C (122°F)

### Water solubility:

- Soluble in hydrocarbon solvents; insoluble in water.

### Partition coefficient: n-octanol/water:

- No data available

### Viscosity, kinematic:

- 2.5 cSt at 98.9°C (210.0°F)

### Relative vapor density:

- 0.82 at 15.6°C (60.1°F)

### Evaporation rate:

- Not applicable

### 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: Further information: Stable under recommended storage conditions., No hazards to be specially mentioned.

- Conditions to avoid: No data available.

- Materials to avoid: No data available.

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

### SECTION 11: Toxicological information

#### Acute oral toxicity:

- **Alpha Olefin Fraction, C24-28**
  - LD50: >5000 mg/kg
  - Species: Rat
  - Information given is based on data obtained from similar substances.
  - LD50: > 2000 - < 5000 mg/kg
  - Species: Rat
Acute inhalation toxicity

Alpha Olefin Fraction, C24-28

- LC50: > 2.1 mg/L
  - Exposure time: 4 h
  - Species: Rat
  - Sex: male and female
  - Test atmosphere: vapor
  - Method: OECD Test Guideline 403
  - Information given is based on data obtained from similar substances.

- LC50: 110.1 mg/L
  - Exposure time: 4 h
  - Species: Rat
  - Test atmosphere: vapor
  - Method: OECD Test Guideline 403
  - Information given is based on data obtained from similar substances.

- LC50: > 8.5 mg/L
  - Exposure time: 1 h
  - Species: Rat
  - Test atmosphere: dust/mist
  - Method: OECD Test Guideline 403
  - Information given is based on data obtained from similar substances.

Acute dermal toxicity

Alpha Olefin Fraction, C24-28

- LD50: > 2020 mg/kg
  - Species: Rabbit
  - Method: OECD Test Guideline 402
  - Information given is based on data obtained from similar substances.

Skin irritation

Alpha Olefin Fraction, C24-28

- No skin irritation
  - Information given is based on data obtained from similar substances.

Eye irritation

Alpha Olefin Fraction, C24-28

- No eye irritation
  - Information given is based on data obtained from similar substances.

Sensitization

Alpha Olefin Fraction, C24-28

- Did not cause sensitization on laboratory animals.
  - Information given is based on data obtained from similar substances.

Repeated dose toxicity

Alpha Olefin Fraction, C24-28

- 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 d/wk  
NOEL: 1000 mg/kg bw/day  

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/d, 5 d/wk  
NOEL: 3000 ppm  

**Genotoxicity in vitro**  
Alpha Olefin Fraction, C24-28  

Test Type: E. Coli bacterial reverse mutation assay  
Metabolic activation: with and without metabolic activation  
Method: Mutagenicity (Escherichia coli - reverse mutation assay)  
Result: negative  

Test Type: E. Coli bacterial reverse mutation assay  
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: Mouse lymphoma assay  
Metabolic activation: with and without metabolic activation  
Method: OECD Guideline 476  
Result: negative  

Test Type: Chromosome aberration test in vitro  
Method: OECD Guideline 473  
Result: negative  

Test Type: Chromosome aberration test in vitro  
Method: OECD Guideline 473  
Result: negative  

**Genotoxicity in vivo**  
Alpha Olefin Fraction, C24-28  

Test Type: Mouse micronucleus assay  
Species: Mouse  
Dose: 500, 1000, 2000 mg/kg  
Method: Mutagenicity (micronucleus test)  
Result: negative
Reproductive toxicity

Alpha Olefin Fraction, C24-28
- Species: Rat
- Sex: male and 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/day
NOAEL F1: 1000 mg/kg/day

Species: Rat
Sex: male and female
Application Route: oral gavage
Dose: 100, 500, 1000 mg/kg/day
Number of exposures: Daily
Test period: 42-51 days
Method: OECD Guideline 422
NOAEL Parent: 1000 mg/kg/day
NOAEL F1: 1000 mg/kg/day

CMR effects

Alpha Olefin Fraction, C24-28
- 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® C24-28
Further information
- No data available.

SECTION 12: Ecological information

Ecotoxicity effects
Toxicity to fish

Alpha Olefin Fraction, C24-28
- LL50: > 1000 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

Alpha Olefin Fraction, C24-28 : EL100: 1000 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

Alpha Olefin Fraction, C24-28 : EL50: >1000 mg/l
 Exposure time: 72 h
 Species: Selenastrum capricornutum (algae)
 Method: OECD Test Guideline 201
 Information given is based on data obtained from similar substances.

Biodegradability

Alpha Olefin Fraction, C24-28 : This material is not expected to be readily biodegradable.

Elimination information (persistence and degradability)

Bioaccumulation : This material is not expected to bioaccumulate.

Mobility : No data available

Results of PBT assessment

Alpha Olefin Fraction, C24-28 : Non-classified PBT substance, Non-classified vPvB substance

Additional ecological information : This material is not expected to be harmful to aquatic organisms.

No data available

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.

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

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.

When shipment is offered for transport above 100°C it is regulated as:

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C24-28), 9, III

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

When shipment is offered for transport above 100°C it is regulated as:

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C24-28), 9, III (218°C)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

When shipment is offered for transport above 100°C it is regulated as:

UN3257, 9: NOT PERMITTED FOR TRANSPORT

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

When shipment is offered for transport above 100°C it is regulated as:

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C24-28), 9, III, (D)
RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

When shipment is offered for transport above 100°C it is regulated as:

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C24-28), 9, III

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.

When shipment is offered for transport above 100°C it is regulated as:

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C24-28), 9, III

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

National legislation

SARA 311/312 Hazards : No SARA Hazards

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 : This material does not contain any components with a section 302 EHS TPQ.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.
SAFETY DATA SHEET

AlphaPlus® C24-28

Version 1.9

Revision Date 2019-12-12

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: Alpha Olefin Fraction, C24-28 - 93924-11-9

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: This product is in full compliance according to REACH regulation 1907/2006/EC.

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 DSL: On the inventory, or in compliance with the inventory

Australia AICS: Not 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: A substance or substances in this product is not registered or notified to be registered. Importation or manufacture of this product is still permitted provided that it does not exceed the REACH minimum threshold quantity of the non-regulated substances.

SDS Number: 100000067879 12/14
## SECTION 16: Other information

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

### Further information
- Legacy SDS Number: PE0027

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>
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</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
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<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
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<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
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<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
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<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
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<td>CNS</td>
<td>Central Nervous System</td>
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<td>NTP</td>
<td>National Toxicology Program</td>
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<td>CAS</td>
<td>Chemical Abstract Service</td>
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<td>New Zealand Inventory of Chemicals</td>
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<td>Effective Concentration</td>
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<td>International Agency for Research</td>
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<td>Threshold Limit Value</td>
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