SAFETY DATA SHEET

AlphaPlus® C20-24
Version 1.7
Revision Date 2015-02-18

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

Product information

Product Name : AlphaPlus® C20-24

Company : Qatar Chemical Company LTD (QChem)
1st Floor Salam Tower Al Corniche
P.O. Box 24646
Doha, Qatar

SDS Requests: (+974) 4484-7110
Technical Information: (+974) 4477-0047
Responsible Party: Product Safety Group
Email: MSDSInquiry@qchem.com.qa

Emergency telephone:

Health:
866.442.9628 (North America)
1.832.813.4984 (International)

Transport:
North America: CHEMTREC 800.424.9300 or 703.527.3887
Asia: +800 CHEMCALL (+800 2436 2255) China:+86-21-22157316
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
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
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.

Emergency Overview

Danger
Form: Wax, Solid    Physical state: Solid    Color: White
OSHA Hazards : Aspiration hazard

Classification
Aspiration hazard , Category 1

Labeling

MSDS Number:100000068832
1/13
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 or doctor/physician. 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.

ACGIH No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3: Composition/information on ingredients

Synonyms: NAO 20-24 C20-24 Alpha Olefin Fraction

Molecular formula: UVCB

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkenes, C20-24 α-</td>
<td>93924-10-8</td>
<td>100</td>
</tr>
<tr>
<td>1-Eicosene</td>
<td>3452-07-1</td>
<td>35 - 55</td>
</tr>
<tr>
<td>1-Docosene</td>
<td>1599-67-3</td>
<td>25 - 45</td>
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<tr>
<td>1-Tetracosene</td>
<td>10192-32-2</td>
<td>10 - 26</td>
</tr>
<tr>
<td>1-Hexacosene</td>
<td>18835-33-1</td>
<td>0 - 2</td>
</tr>
<tr>
<td>1-Octadecene</td>
<td>112-88-9</td>
<td>0 - 0.1</td>
</tr>
</tbody>
</table>

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.

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<table>
<thead>
<tr>
<th>Scenario</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>If inhaled</td>
<td>If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.</td>
</tr>
<tr>
<td>In case of eye contact</td>
<td>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.</td>
</tr>
<tr>
<td>If swallowed</td>
<td>Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.</td>
</tr>
</tbody>
</table>

**SECTION 5: Firefighting measures**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>183 °C (361 °F)</td>
</tr>
<tr>
<td>Method</td>
<td>PMCC</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>239 °C (462 °F)</td>
</tr>
<tr>
<td>Unsuitable extinguishing media</td>
<td>High volume water jet.</td>
</tr>
<tr>
<td>Special protective equipment</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>
<tr>
<td>Hazardous decomposition products</td>
<td>Carbon oxides.</td>
</tr>
</tbody>
</table>

**SECTION 6: Accidental release measures**

| Personal precautions              | Use personal protective equipment. Avoid dust formation. Avoid breathing dust. 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           | Keep in suitable, closed containers for disposal. |

**SECTION 7: Handling and storage**

**Handling**

| Advice on safe handling          | Avoid formation of respirable particles. 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 |
**AlphaPlus® C20-24**

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

| Hand protection | The suitability for a specific workplace should be discussed with the producers of the protective gloves. |
| Eye protection | Eye wash bottle with pure water. Tightly fitting safety goggles. |
| Skin and body protection | Dust impervious protective suit. Choose body protection according to the amount and concentration of the dangerous substance at the work place. |
| 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**: Wax, Solid
- **Physical state**: Solid
- **Color**: White

**Safety data**

- **Flash point**: 183 °C (361 °F)  
  Method: PMCC
- **Lower explosion limit**: No data available
- **Upper explosion limit**: No data available
- **Oxidizing properties**: no
- **Autoignition temperature**: 239 °C (462 °F)
- **Molecular formula**: UVCB
- **Molecular weight**: Varies
- **pH**: Not applicable
Melting point/range: 35 °C (95 °F)
pour point: No data available

Boiling point/boiling range: 342 - 390 °C (648 - 734 °F)
Vapor pressure: < 0.01 kPa at 65 °C (149 °F)
Relative density: 0.8, 15.6 °C(60.1 °F)
Density:
- 815 kg/m³ at 15 °C (59 °F)
- 792 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: 6.356 cSt at 40 °C (104 °F)
Relative vapor density: Not applicable
Evaporation rate: Not applicable

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

SECTION 11: Toxicological information

Acute oral toxicity
Alkenes, C20-24 α-:
- LD50 Oral: > 5000 mg/kg bw
  - Species: rat
  - Sex: male and female
AlphaPlus® C20-24

Method: OECD Test Guideline 423

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.

Acute inhalation toxicity

Alkenes, C20-24 α-  
LC50: 110.1 mg/L  
Exposure time: 4 h  
Species: rat  
Sex: male  
Test atmosphere: vapor  
Method: OECD Test Guideline 403  
Information given is based on data obtained from similar substances.

AlphaPlus® C20-24  
Skin irritation  
No skin irritation.

AlphaPlus® C20-24  
Eye irritation  
Vapors may cause irritation to the eyes, respiratory system and the skin.

Sensitization

Alkenes, C20-24 α-  
Did not cause sensitization on laboratory animals.

1-Octadecene  
Did not cause sensitization on laboratory animals.

Repeated dose toxicity

Alkenes, C20-24 α-  
Species: rat, Male and female  
Sex: Male and female  
Application Route: oral gavage  
Dose: 100, 500, 1000 mg/kg/d  
Exposure time: 42-51 days  
Number of exposures: Daily  
NOEL: 1000 mg/kg bw/day  
Method: OECD Guideline 422
Species: rat, Male and female  
Sex: Male and female  
Application Route: oral gavage  
Dose: 100, 500, 1000 mg/kg/d  
Exposure time: 13 weeks  
Number of exposures: 7 d/wk  
NOEL: 1000 mg/kg bw/day  
Method: OCED Guideline 408

Species: rat, Male and female  
Sex: Male and female  
Application Route: Inhalation  
Dose: 300, 1000, 3000 ppm  
Exposure time: 13 weeks  
Number of exposures: 5 d/wk, 6 hrs/d  
NOEL: 3000 ppm  
Method: OECD Guideline 413

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  
Alkenes, C20-24 α-  
Species: rat  
Sex: male and female  
Application Route: oral gavage  
Dose: 100, 500, 1000 mg/kg/day  
Number of exposures: Daily  
Test period: 41-55 days  
Method: OECD Guideline 422  
NOAEL Parent: 1000 mg/kg bw/day  
NOAEL F1: 1000 mg/kg bw/day

Species: rat  
Sex: male and female  
Application Route: oral gavage  
Dose: 100, 500, 1000 mg/kg/d  
Number of exposures: Daily  
Test period: 42-51 days  
Method: OECD Guideline 421  
NOAEL Parent: 1000 mg/kg bw/day  
NOAEL F1: 1000 mg/kg bw/day

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® C20-24**

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

**CMR effects**
- **Alkenes, C20-24 α-**
  - Carcinogenicity: Not available
  - Mutagenicity: Did not show mutagenic effects in animal experiments.
  - Teratogenicity: Did not show teratogenic effects in animal experiments.
  - Reproductive toxicity: No toxicity to reproduction

- **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

**Further information**
- Solvents may degrease the skin.

### SECTION 12: Ecological information

**Toxicity to fish**
- **Alkenes, C20-24 α-**
  - LL50: > 1,000 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.

- **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**
- **Alkenes, C20-24 α-**
  - EL50: 1,000 mg/l
  - Exposure time: 48 h
  - Species: Daphnia magna (Water flea)
  - Method: OECD Test Guideline 202

- **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

Alkenes, C20-24 α- : EL50: > 1,000 mg/l
Exposure time: 72 h
Species: Selenastrum capricornutum (algae)
static test Method: OECD Test Guideline 201
The product has low solubility in the test medium. An aqueous dispersion was tested.

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

Bioaccumulation

Alkenes, C20-24 α- : Bioconcentration factor (BCF): < 436.5
This material is not expected to bioaccumulate.

1-Octadecene : Bioconcentration factor (BCF): 5,128
Method: Estimated based on individual component values.

Biodegradability

Alkenes, C20-24 α- : This material is expected to be readily biodegradable.
Information given is based on data obtained from similar substances.

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

Ecotoxicology Assessment

Results of PBT assessment
Alkenes, C20-24 α- : Non-classified PBT substance, Non-classified vPvB substance
1-Octadecene : 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.

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

SARA 311/312 Hazards : Acute Health Hazard

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

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 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

SARA 313 Ingredients : SARA 313: 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).

US State Regulations
Pennsylvania Right To Know

: Alkenes, C20-24 α- - 93924-10-8
  1-Eicosene - 3452-07-1
  1-Docosene - 1599-67-3
  1-Tetracosene - 10192-32-2

New Jersey Right To Know

: Alkenes, C20-24 α- - 93924-10-8
  1-Eicosene - 3452-07-1
  1-Docosene - 1599-67-3
  1-Tetracosene - 10192-32-2
  1-Hexacosene - 18835-33-1

California Prop. 65 Ingredients

: 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: On the inventory, or in compliance with the inventory
United States of America 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 KECl: 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: QCHEM016

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>ACGIH</td>
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<tr>
<td>AICS</td>
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<td>DSL</td>
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