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

Product information

Product Name: Synfluid® PAO 8 cSt
Material: 1111743, 1111742, 1111735, 1079836, 1079942, 1079666

Use: Synthetic Lubricants

Company: Chevron Phillips Chemical Company LP
10001 Six Pines Drive
The Woodlands, TX 77380

Local: CHEVRON PHILLIPS CHEMICALS ASIA PTE. LTD.
C/O DONG WOO CORPORATION
#B-2601, JEONGJAIL-RO,
BUNDANG-GU, SEONGNAMI-SI,
GYEONGGI-DO, 13557
SOUTH KOREA
Telephone no.: +612-9186-1132

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
Standards for classification and labeling of chemical substances and material safety data sheet (ministry of employment and labor public notice No. 2016-19) (GHS 2011)
Classification

: Serious eye damage/eye irritation, Category 2
Specific target organ toxicity - single exposure, Category 3,
Respiratory system

Labeling

Symbol(s) :

Signal Word : Warning

Hazard Statements :
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Precautionary Statements :
Prevention:
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P264: Wash the contact area thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear eye protection/face protection.

Response:
P304 + P340 + P312: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313: If eye irritation persists: Get medical advice/attention.

Storage:
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.

Disposal:
P501: Dispose of contents and container according to wastes control act.

SECTION 3: Composition/information on ingredients

Synonyms : Polyalphaolefin
PAO

Molecular formula : UVCB

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration</th>
<th>KECI Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Decene Homopolymer Hydrogenated</td>
<td>68037-01-4</td>
<td>100%</td>
<td>KE-09505</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

General advice : No hazards which require special first aid measures.

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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. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. 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: 257 °C (495 °F)  
Method: Cleveland Open Cup

Autoignition temperature: 369 °C (696 °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 surrounding environment.

Fire and explosion protection: Normal measures for preventive fire protection.

SECTION 6: Accidental release measures

Personal precautions: Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Material can create slippery conditions.

Environmental precautions: No special environmental precautions required.

Methods for cleaning up: Wipe up with absorbent material (e.g. cloth, fleece). 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

Normal measures for preventive fire protection.

### 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.

**Use:** Synthetic Lubricants

### 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 workplace 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: Full-Face 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:** Wear as appropriate. Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Lightweight protective clothing.

**Hygiene measures:** General industrial hygiene practice.
### SECTION 9: Physical and chemical properties

**Information on basic physical and chemical properties**

**Appearance**
- Physical state: Liquid
- Color: Clear, Colorless
- Odor: Odorless

**Safety data**
- **Flash point**: 257 °C (495 °F)
  Method: Cleveland Open Cup
- **Lower explosion limit**: Not applicable
- **Upper explosion limit**: Not applicable
- **Oxidizing properties**: no
- **Autoignition temperature**: 369 °C (696 °F)
- **Molecular formula**: UVCB
- **Molecular weight**: Varies
- **pH**: Not applicable
- **Melting point/range**: Not applicable
- **Boiling point/boiling range**: 430 °C (806 °F)
- **Vapor pressure**: 0.10 MMHG
  at 232 °C (450 °F)
- **Relative density**: 0.83
  at 15.6 °C (60.1 °F)
- **Water solubility**: Soluble in hydrocarbon solvents; insoluble in water.
- **Partition coefficient: n-octanol/water**: No data available
- **Viscosity, kinematic**: 46 cSt
  at 40 °C (104 °F)
- **Relative vapor density**: 10
  (Air = 1.0)
- **Evaporation rate**: 3
  Method: ASTM D5800

### 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

1-Decene Homopolymer Hydrogenated: LD50 Oral: > 5,000 mg/kg Species: Rat

Acute inhalation toxicity

1-Decene Homopolymer Hydrogenated: LC50: > 5.2 mg/l Exposure time: 4 h Species: Rat Test atmosphere: dust/mist

Acute dermal toxicity

1-Decene Homopolymer Hydrogenated: LD50: > 2,000 mg/kg Species: Rabbit

Skin irritation

1-Decene Homopolymer Hydrogenated: No skin irritation

Eye irritation

1-Decene Homopolymer Hydrogenated: No eye irritation

Sensitization

1-Decene Homopolymer Hydrogenated: Did not cause sensitization on laboratory animals.

Repeated dose toxicity

1-Decene Homopolymer Hydrogenated: Species: Rat Application Route: Oral
Synfluid® PAO 8 cSt

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Dose: 0, 8000, 20000, 50000 ppm
Exposure time: 28 day
Number of exposures: daily
NOEL: 6,245 mg/kg
Method: OECD Test Guideline 407

Species: Rat
Application Route: oral gavage
Dose: 0, 1000, 7000, 50000 ppm
Exposure time: 13 weeks
Number of exposures: daily
NOEL: 4,159.4 mg/kg
Method: OCED Guideline 408

Carcinogenicity
1-Decene Homopolymer Hydrogenated
: Remarks: This information is not available.

Reproductive toxicity
1-Decene Homopolymer Hydrogenated
: Species: Rat
Sex: male and female
Application Route: oral gavage
Dose: 0, 100, 500, 1000 mg/kg
Number of exposures: daily
Test period: 10 weeks
Method: OECD Test Guideline 415
NOAEL Parent: 1,000 mg/kg

Aspiration toxicity
1-Decene Homopolymer Hydrogenated
: No aspiration toxicity classification.

CMR effects
1-Decene Homopolymer Hydrogenated
: Carcinogenicity: Not classifiable as a human carcinogen.
Mutagenicity: Animal testing did not show any mutagenic effects.
Teratogenicity: Not available
Reproductive toxicity: No toxicity to reproduction

Synfluid® PAO 8 cSt
Further information
: No data available.

SECTION 12: Ecological information

Ecotoxicity effects
Toxicity to fish
1-Decene Homopolymer Hydrogenated
: LL50: > 1,000 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates

1-Decene Homopolymer Hydrogenated: EL50: > 1,000 mg/l
Species: Daphnia magna (Water flea)
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae

1-Decene Homopolymer Hydrogenated: NOELR: 1,000 mg/l
Species: Scenedesmus capricornutum (fresh water algae)
Exposure time: 72 h
Method: OECD Test Guideline 201

Biodegradability

1-Decene Homopolymer Hydrogenated: This material is not expected to be readily biodegradable.
Expected to be inherently biodegradable.

Elimination information (persistence and degradability)

Bioaccumulation

1-Decene Homopolymer Hydrogenated: This material is not expected to bioaccumulate.

Mobility: No data available

Results of PBT assessment

1-Decene Homopolymer Hydrogenated: Non-classified PBT substance, Non-classified vPvB 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.

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.

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
Regulation under the Occupational Safety and Health Act
A Material Safety Datasheet (MSDS) for this product is not required according to article 41 of the ISHA.

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Chemical name</th>
<th>Threshold</th>
</tr>
</thead>
</table>

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SAFETY DATA SHEET

Synfluid® PAO 8 cSt

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| Harmful Substances Prohibited from Manufacturing | Not applicable |
| Harmful Substances Required Permission for Manufacture | Not applicable |

**Act on the Registration and Evaluation, etc. of Chemical Substances, Chemicals Control Act**

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Chemical name</th>
<th>Threshold limits</th>
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</thead>
<tbody>
<tr>
<td>Toxic Chemicals</td>
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<td></td>
</tr>
<tr>
<td>Prohibited Chemicals</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Restricted Chemicals</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Toxic Release Inventory</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>

**Dangerous Substances Safety Management Act**

Dangerous Substances Safety Management Act

**Notification status**

Europe REACH : This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH).

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 : All components of this product are on the Canadian DSL

Australia AICS : On the inventory, or in compliance with the inventory

New Zealand NZIoC : On the inventory, or in compliance with the inventory Notification number: HSR002606

Japan ENCS : On the inventory, or in compliance with the inventory

Korea KECI : All substances in this product were registered, notified to be registered, or exempted from registration by CPChem through an Only Representative according to K-REACH regulations. Importation of this product is permitted if the Korean Importer of Record was included on CPChem’s notifications or if the Importer of Record themselves notified the substances.

Philippines PICCS : On the inventory, or in compliance with the inventory

China IECSC : On the inventory, or in compliance with the inventory

Taiwan TCSI : On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

**Further information**

Legacy SDS Number : 3334

NSF H1, HX-1 Registered, meets USDA 1998 H1 Guidelines

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>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
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<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
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<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
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<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
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<td>GHS</td>
<td>Globally Harmonized System</td>
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<td>&gt;=</td>
<td>Greater Than or Equal To</td>
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<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>Japan, Inventory of Existing and New Chemical Substances</td>
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<td>Korea, Existing Chemical Inventory</td>
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<td>LC50</td>
<td>Lethal Concentration 50%</td>
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<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
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<tr>
<td>Muh</td>
<td>Maximum Concentration Value</td>
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<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
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<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 Observable 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>
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<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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<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>
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