

Version 1.13 Revision Date 2022-09-09

MSDS number: AA00974-0000000099

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

Product Name : Synfluid® PAO 2 cSt

Material : 1111737, 1111736, 1111732, 1082190, 1079695, 1079661,

1079651, 1079671

Recommended use of the

product

Restrictions on use

: Synthetic Lubricants

None known.

Address : Chevron Phillips Chemical Company LP

10001 Six Pines Drive The Woodlands, TX 77380

Address : CHEVRON PHILLIPS CHEMICALS ASIA PTE. LTD.

C/O DONG WOO CORPORATION

#B-2601,JEONGJAIL-RO,

BUNDANG-GU, SEONGNAMI-SI,

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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

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

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)

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Belgium: 070 245 245 (24 hours/day, 7 days/week)

Bulgaria: +359 2 9154 233

Croatia: +3851 2348 342 (24 hours/day, 7 days/week)

Cyprus: 1401

Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402

Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212 Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Finland: 0800 147 111 09 471 977 (24 hours/day)

France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)

Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Greece: (0030) 2107793777 (24 hours/day, 7 days/week) Hungary: +36-80-201-199 (24 hours/day, 7 days/week)

Iceland: 543 2222 (24 hours/day, 7 days/week)

Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371

67042473. (24 hours.)

Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Lithuania: +370 (85) 2362052

Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)

Malta: +356 2395 2000

The Netherlands: NVIC: +31 (0)88 755 8000 Norway: 22 59 13 00 (24 hours/day, 7 days/week)

Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Portugal: CIAV phone number: +351 800 250 250

Romania: +40213183606 Slovakia: +421 2 5477 4166 Slovenia: Phone number: 112

Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24

hours/day, 7 days/week)

Sweden: 112 - ask for Poisons Information

Responsible Department : Product Safety and Toxicology Group

E-mail address : SDS@CPChem.com Website : www.CPChem.com

 Appointees
 : 회사명: 리이치 24 시코리아㈜.

주소: 서울시 서초구 헌릉로 7,

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(IKP) 908-909호 전화: +82-1067838981

SECTION 2: Hazards identification

Hazard classification

Standards for classification and labeling of chemical substances and material safety data sheet (ministry of employment and labor public notice No. 2020-130)

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Classification

: Acute toxicity, Category 4, Inhalation Aspiration hazard, Category 1

Warning label elements including precautionary statements

Symbol(s) :





Signal Word : Danger

Hazard Statements : H304: May be fatal if swallowed and enters airways.

H332: Harmful if inhaled.

Precautionary Statements : Prevention:

P261: Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. P271: Use only outdoors or in a well-ventilated area.

Response:

P301 + P310: IF SWALLOWED: Immediately call a POISON

CENTER or doctor/ physician.

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.

P331: Do NOT induce vomiting.

Storage:

P405: Store locked up.

Disposal:

P501: Dispose of contents and container according to wastes

control act.

Other hazards which do not result in classification

: None

SECTION 3: Composition/information on ingredients

Synonyms : 1-Decene, Dimer, Hydrogenated

Synfluid PAO 2 CST

PAO 2 MIL Polyalphaolefin

PAO

Molecular formula : UVCB

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Common name	Synonyms	CAS-No.	Concentration	KECI Number
1-Decene, Dimer, Hydrogenated	Dec-1-ene, dimers, hydrogenated	68649-11-6	100%	KE-09501

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.

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 inhaled : Consult a physician after significant exposure. If unconscious,

place in recovery position and seek medical advice.

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.

Other cautions for Doctors

Symptoms : No information available.

Risks : No information available.

Treatment : No information available.

SECTION 5: Firefighting measures

Flash point : 160°C (320°F)

Method: Cleveland Open Cup

Autoignition temperature : 324°C (615°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.

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Fire and explosion

protection

: Normal measures for preventive fire protection.

Hazardous decomposition

products

: Carbon oxides.

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 : Avoid formation of aerosol. Do not breathe vapors/dust. For

personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose

of rinse water in accordance with local and national

regulations.

Advice on protection against fire and explosion

: Normal measures for preventive fire protection.

Secure 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.

Uses advised against

None known.

Specific Use : Synthetic Lubricants

SECTION 8: Exposure controls/personal protection

Chemical exposure standards, biological exposure standards, etc.

Adequate ventilation to control airborned concentrations below the exposure guidelines/limits.

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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 : If ventilation or other engineering controls are not adequate to

maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as:. Air-Purifying Respirator for Dusts and Mists / P100. A positive pressure, air-supplying respirator may be appropriate if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators

may not provide adequate protection.

Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.

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.

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:. 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

Physical state : liquid

Color : Clear, Colorless

Odor : Odorless

Odor Threshold : No data available

pH : Not applicable

Pour point : No data available

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Melting point/freezing point -73°C (-99°F)

Boiling point/boiling range : 223°C (433°F)

Flash point : 160°C (320°F)

Method: Cleveland Open Cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Lower explosion limit : Not applicable

Upper explosion limit : Not applicable

Vapor pressure : 1.00 MMHG

at 75°C (167°F)

Solubility : Soluble in hydrocarbon solvents; insoluble in water.

Relative density : 0.8

at 15.6 °C (60.1 °F)

Density : 795.7 g/l

Vapor density : 9

(Air = 1.0)

Partition coefficient: n-

octanol/water

: No data available

Autoignition temperature : 324°C (615°F)

Decomposition temperature : No data available

Molecular weight : Varies

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

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Hazardous reactions : Hazardous polymerization does not

occur.

Further information: No decomposition if stored and applied as

directed.

Conditions to avoid : No data available.

Materials to avoid : May react with oxygen and strong oxidizing agents, such as

chlorates, nitrates, peroxides, etc.

Thermal decomposition : No data available

Hazardous decomposition

products

: Carbon oxides

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

SECTION 11: Toxicological information

Information on exposure routes

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Acute oral toxicity : LD50: >5000 mg/kg Species: Rat

Sex: male and female

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Acute inhalation toxicity : LC50: 1.17 mg/l

Exposure time: 4 h Species: Rat

Test atmosphere: dust/mist

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Acute dermal toxicity : LD50: > 3 g/kg

Species: Rabbit Sex: Not Specified

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Skin corrosion or irritation : No skin irritation

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Eye corrosion or irritation : No eye irritation

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Respiratory Sensitization : No data available

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Skin sensitization Did not cause sensitization on laboratory animals.

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Germ cell mutagenicity (in

vitro)

: Remarks: No data available

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Germ cell mutagenicity (in

vivo)

Specific Target Organ Toxicity (Single Exposure) : Remarks: No data available

Not classified due to data which are conclusive although

insufficient for classification.

Specific Target Organ Toxicity (Repeated

Exposure)

Not classified due to data which are conclusive although

insufficient for classification.

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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-Decene, Dimer, Hydrogenated

: Carcinogenicity: Not classifiable as a human carcinogen. Mutagenicity: Contains no ingredient listed as a mutagen

Teratogenicity: No toxicity to reproduction

Reproductive toxicity: No toxicity to reproduction

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Further information : None known.

No data available.

SECTION 12: Ecological information

Ecological Toxicity

Toxicity to fish

1-Decene, Dimer, : LL50: > 1,000 mg/l Hydrogenated Exposure time: 96 h

Species: Oncorhynchus mykiss (rainbow trout)

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semi-static test Test substance: yes

The product has low solubility in the test medium. An aqueous

dispersion was tested.

Toxicity to daphnia and other aquatic invertebrates

1-Decene, Dimer, : EL50: > 1,000 mg/l Hydrogenated : Exposure time: 48 h

Species: Daphnia magna (Water flea) static test Test substance: yes

The product has low solubility in the test medium. An aqueous

dispersion was tested.

Toxicity to algae

1-Decene, Dimer, : EL50: > 1,000 mg/l Hydrogenated : Exposure time: 72 h

Species: Scenedesmus capricornutum (fresh water algae)

static test Test substance: yes

The product has low solubility in the test medium. An aqueous

dispersion was tested.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

1-Decene, Dimer, : NOEC: 125 mg/l Hydrogenated : Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test substance: yes

The product has low solubility in the test medium. An aqueous

dispersion was tested.

Persistence and degradability

Persistence and degradability

: Expected to be inherently biodegradable.

Bioaccumulative : No data available

Mobility : No data available

Results of PBT assessment

1-Decene, Dimer, Hydrogenated : This substance is not considered to be persistent, bioaccumulating and toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating

(vPvB).

Other adverse effects : No data available

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No data available

Ecotoxicology Assessment

Short-term (acute) aquatic hazard

1-Decene, Dimer, : This material is not expected to be harmful to aquatic

Hydrogenated organisms.

Long-term (chronic) aquatic hazard

1-Decene, Dimer, : This material is not expected to be harmful to aquatic

Hydrogenated 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.

Disposal method : 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.

Disposal precaution : 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.

UN Number	:	not regulated
UN Product Shipping Name	:	Not regulated as a dangerous good
Hazard Class	:	
Packing Group	:	Not applicable
Marine Pollutant	:	Not applicable
Special Safety Measures on Mode of Transport	:	No data available

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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.

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Other information :	Not applicable

Maritime transport in bulk according to IMO instruments

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.

Regulation		Chemical name	Threshold limits
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

Regulation		Chemical name	Threshold limits
Toxic Chemicals	:	Not applicable	
Prohibited Chemicals	:	Not applicable	
Restricted Chemicals	:	Not applicable	
Toxic Release Inventory	:	Not applicable	

Dangerous Substances Safety Management Act

Dangerous Substances : Flammable liquids, Type 3 petroleums, Water insoluble liquid

Safety Management Act

Regulations by the Waste : 1-Decene, Dimer, Hydrogenated: Designated Waste

Management Act

Regulations by other domestic and foreign laws

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) : On or in compliance with the active portion of the

TSCA TSCA inventory

Canada DSL : All components of this product are on the Canadian

DSL

Other AIIC : 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
Philippines PICCS : On the inventory, or in compliance with the inventory
Korea KECI : All substances in this product were registered, notified

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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.

Notification number: KE-09501

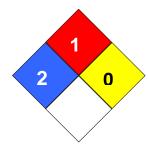
Taiwan TCSI : On the inventory, or in compliance with the inventory China IECSC : On the inventory, or in compliance with the inventory

SECTION 16: Other information

Source of data	:	
Date of initial writing	:	2019-10-15
Revision number	:	2
Last revision date	:	2022-09-08

NFPA Classification : Health Hazard: 2

Fire Hazard: 1 Reactivity Hazard: 0



Other information

None.

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	LD50	Lethal Dose 50%				

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	Government Industrial Hygienists		
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 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%		