SAFETY DATA SHEET

Synfluid® PAO 8 cSt HVI

Version 1.9 Revision Date 2022-09-09

MSDS number: AA00974-0000000111

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

Product Name	:	Synfluid® PAO 8 cSt HVI
Material	:	1116770, 1116769, 1079706, 10603520
Recommended use of the product	:	Synthetic Lubricants
Restrictions on use	:	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, 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
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)
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)
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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)
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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, 외국기업창업지원연구센터 (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)

Classification

Not a hazardous substance or mixture.

Warning label elements including precautionary statements

Not a hazardous substance or mixture.

Other hazards which do not result in classification : None

SECTION 3: Composition/information on ingredients

Synonyms : PAO 8A
Polyalphaolefin
PAO
PAO 8 cSt Blend

Molecular formula : Polymer

Common name	Synonyms	CAS-No.	Concentration	KECI Number
1-Dodecene, Homopolymer, Hydrogenated	1-Dodecene, homopolymer, hydrogenated	151006-63-2	100%	2003-3-2379

SECTION 4: First aid measures

General advice : No hazards which require special first aid measures. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Show this material safety data sheet to the doctor in attendance.

In case of eye contact : Flush eyes with water as a precaution. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention. Wash off immediately with plenty of water.

If inhaled : Move to fresh air in case of accidental inhalation of vapors. Consult a physician after significant exposure.

If swallowed : If swallowed, DO NOT induce vomiting. Never give anything

by mouth to an unconscious person. Consult a physician if necessary.

Other cautions for Doctors

Symptoms	:	No information available.
Risks	:	No information available.
Treatment	:	No information available.

SECTION 5: Firefighting measures

Flash point	:	246-271°C (475-520°F) Method: Cleveland Open Cup
Autoignition temperature	:	351°C (664°F)
Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	:	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	:	In the event of fire, wear self-contained breathing apparatus.
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.
Hazardous decomposition products	:	Carbon oxides.

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	:	Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

Additional advice	:	No conditions to be specially mentioned.

SECTION 7: Handling and storage

Handling

Advice on safe handling	:	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 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.

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.
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:. Lightweight protective clothing.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
Protective measures	:	Wear suitable protective equipment. When using do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state	:	liquid
Color	:	Colorless
Odor	:	Odorless
Odor Threshold	:	No data available
pH	:	Not applicable
Pour point	:	<-50°C (<-58°F)
Melting point/freezing point		No data available
Boiling point/boiling range	:	>260°C (>500°F)
Flash point	:	246-271°C (475-520°F) Method: Cleveland Open Cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available
Vapor pressure	:	No data available
Solubility	:	Soluble in hydrocarbon solvents; insoluble in water.
Density	:	6.87 - 6.96 L/G
Vapor density	:	No data available

Autoignition temperature	:	351°C (664°F)
Decomposition temperature	:	No data available
Viscosity, kinematic	:	46.2 cSt at 40°C (104°F) Method: ASTM D 445
Molecular weight	:	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 : Hazardous reactions: No dangerous reaction known under conditions of normal use.

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

Synfluid® PAO 8 cSt HVI
Acute oral toxicity : LD50: > 5,000 mg/kg

Species: Rat
Information given is based on data obtained from similar substances.

Synfluid® PAO 8 cSt HVI
Acute inhalation toxicity : LC50: > 5 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: dust/mist
Information given is based on data obtained from similar substances.

Synfluid® PAO 8 cSt HVI
Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: Rat
Information given is based on data obtained from similar substances.

Synfluid® PAO 8 cSt HVI
Skin corrosion or irritation : No skin irritation
Information given is based on data obtained from similar substances.

Synfluid® PAO 8 cSt HVI
Eye corrosion or irritation : No eye irritation
Information given is based on data obtained from similar substances.

Synfluid® PAO 8 cSt HVI
Respiratory Sensitization : No data available

Synfluid® PAO 8 cSt HVI
Skin sensitization Did not cause sensitization on laboratory animals.

Synfluid® PAO 8 cSt HVI
Repeated dose toxicity : Species: Rat, Male and female
Sex: Male and female
Application Route: oral gavage
Dose: 0, 1000 mg/kg/day
Exposure time: 28 days
NOEL: 1,000 mg/kg
Method: OECD Test Guideline 407
Information given is based on data obtained from similar substances.

Synfluid® PAO 8 cSt HVI
Germ cell mutagenicity (in vitro) : Test Type: Ames test
Result: negative
Remarks: Information refers to the main ingredient.

Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Information refers to the main ingredient.

Synfluid® PAO 8 cSt HVI
Germ cell mutagenicity (in vivo) : Test Type: Mouse micronucleus assay
Result: negative
Remarks: Information refers to the main ingredient.

Specific Target Organ Toxicity (Single Exposure)

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.

Synfluid® PAO 8 cSt HVI
Aspiration toxicity
Toxicology Assessment : No aspiration toxicity classification.

Synfluid® PAO 8 cSt HVI
CMR effects : Carcinogenicity:
Not classifiable as a human carcinogen.
Mutagenicity:
Animal testing did not show any mutagenic effects.
Teratogenicity:
Did not show teratogenic effects in animal experiments.
Reproductive toxicity:
No toxicity to reproduction

SECTION 12: Ecological information

Ecological Toxicity

Toxicity to fish : LL50: > 1,000 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
static test Test substance: no
Method: OECD Test Guideline 203

Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EL50: > 1,000 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
static test Test substance: no
Method: OECD Test Guideline 202
Information given is based on data obtained from similar substances.

Toxicity to algae : NOEC: > 1,000 mg/l
Exposure time: 96 h
Species: Selenastrum capricornutum (algae)
Method: OECD Test Guideline 201
Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 125 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: no
The product has low solubility in the test medium. An aqueous dispersion was tested.
Information given is based on data obtained from similar substances.

Persistence and degradability

Persistence and degradability : Result: This material is not expected to be readily biodegradable.
Expected to be ultimately biodegradable

Bioaccumulative : No data available

Mobility : No data available

Results of PBT assessment : Not available

Other adverse effects : 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.

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

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.

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	
		Not relevant	
Harmful Substances Required Permission for Manufacture	:	Not applicable	
		Not relevant	

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

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

Dangerous Substances Safety Management Act

Dangerous Substances Safety Management Act : Not relevant

Regulations by the Waste Management Act : Not applicable

Regulations by other domestic and foreign laws

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

Switzerland CH INV : Not 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

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.

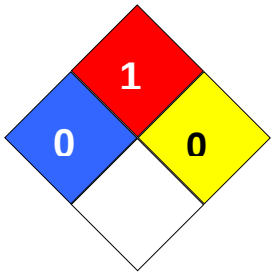
Philippines PICCS	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory

Other regulations : No data available

SECTION 16: Other information

Source of data	:	Korea. GHS based classification
Date of initial writing	:	2020-11-03
Revision number	:	1
Last revision date	:	2022-09-08

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



Other information
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			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
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%		