SAFETY DATA SHEET

Synfluid® PAO 9 cSt

Version 1.16 Revision Date 2023-04-13

MSDS number: AA00974-0000000108

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

Product Name	:	Synfluid® PAO 9 cSt
Material	:	1121045, 1079853, 1079714
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)
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, 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 Polyalphaolefin
Molecular formula	:	UVCB

SECTION 4: First aid measures

General advice	:	No hazards which require special first aid measures.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If inhaled	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
If swallowed	:	Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

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	:	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.
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	:	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.

Secure storage

Requirements for storage areas and containers	:	Electrical installations / working materials must comply with the technological safety standards.
Uses advised against	:	None known.

Advice on common storage	:	No materials to be especially mentioned.
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. 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 according to the amount and concentration of the substance and the task performed at the work place. Appropriate PPE may include:. 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	:	Colorless
Odor	:	Odorless
Odor Threshold	:	No data available
pH	:	Not applicable
Pour point	:	<-40°C (<-40°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
		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
		No data available
Viscosity, kinematic	:	53 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 : No decomposition if stored and applied as directed.

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.

Thermal decomposition : No data available

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 9 cSt
Acute oral toxicity : LD50: > 5,000 mg/kg
Species: Rat
Information given is based on data obtained from similar substances.

Synfluid® PAO 9 cSt
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 9 cSt
Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: Rat
Information given is based on data obtained from similar substances.

Synfluid® PAO 9 cSt
Skin corrosion or irritation : No skin irritation
Information given is based on data obtained from similar substances.

Synfluid® PAO 9 cSt
Eye corrosion or irritation : No eye irritation
Information given is based on data obtained from similar substances.

Synfluid® PAO 9 cSt
Respiratory Sensitization : No data available

Synfluid® PAO 9 cSt
Skin sensitization Did not cause sensitization on laboratory animals.

Synfluid® PAO 9 cSt
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 9 cSt
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 9 cSt
Germ cell mutagenicity (in vivo) : Test Type: Mouse micronucleus assay
Result: negative
Remarks: Information refers to the main ingredient.

Synfluid® PAO 9 cSt

Developmental Toxicity : Animal testing did not show any effects on fetal development.
Information given is based on data obtained from similar substances.

Specific Target Organ Toxicity (Single Exposure)

Not classified due to data which are conclusive although insufficient for classification.
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.Not classified due to data which are conclusive although insufficient for classification.

Synfluid® PAO 9 cSt
Aspiration toxicity : No aspiration toxicity classification.
Toxicology Assessment

Synfluid® PAO 9 cSt
CMR effects : Carcinogenicity:
Contains no ingredient listed as a 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

Synfluid® PAO 9 cSt
Reproductive toxicity : Animal testing did not show any effects on fertility.
Information given is based on data obtained from similar substances.

Synfluid® PAO 9 cSt
Further information : No data available.

SECTION 12: Ecological information

Ecological Toxicity

Toxicity to fish : Not a hazardous substance or mixture.
Estimated based on individual component values.

Toxicity to daphnia and other aquatic invertebrates : Not a hazardous substance or mixture.
Estimated based on individual component values.

Toxicity to algae : Not a hazardous substance or mixture.
Estimated based on individual component values.

Persistence and degradability Persistence : Result: Expected to be inherently biodegradable.

and degradability

Bioaccumulative : This material is not expected to bioaccumulate.

Mobility : No data 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 precaution : 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.

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

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

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

Dangerous Substances Safety Management Act
Dangerous Substances Safety Management Act : Flammable liquids, Type 4 petroleums

Regulations by the Waste Management Act : Not applicable

Regulations by other domestic and foreign laws
Europe REACH : This product is in full compliance according to REACH regulation 1907/2006/EC.
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

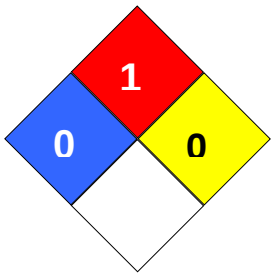
		DSL
Other AICS	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	On the inventory, or in compliance with the inventory
Japan ENCS	:	On the inventory, or in compliance with the inventory
Korea KECI	:	All substances in this product were registered, notified to be registered, or 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	:	
Date of initial writing	:	2021-02-01
Revision number	:	1
Last revision date	:	2023-04-13

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%
AIIC	Australian Inventory of Industrial Chemicals	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%	ATE	Acute toxicity estimate