

Version 1.8 Revision Date 2024-01-17

MSDS number: AA00000-0000000000

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

Product Name : Synfluid® PAO 2.5 cSt Material : 1124731, 1079862, 1079691

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, JEONG JAIL-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)

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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: POISON CENTER MILAN – Azienda Ospedaliera Niguarda Ca` Grande Tel. +39 02 66101029; POISON CENTER ROME – Policlinico "Agostino Gemelli", Servizio di tossicologia clinica Tel. +39 06 3054343; POISON CENTER ROME – Ospedale Pediatrico Bambino Gesù Tel. +39 06 68593726; POISON CENTER ROME – Policlinico "Umberto I" Tel. +39 06 4997 8000; POISON CENTER FOGGIA – Azienda Ospedaliera Universitaria Riuniti Tel. +39 0881 732326; POISON CENTER NAPLES – Azienda Ospedaliera "Antonio Cardarelli" Tel. +39 081 7472870; POISON CENTER FLORENCE – Azienda Ospedaliera universitaria Careggi Tel. +39 055 7947819; POISON CENTER PAVIA – IRCCS Fondazione Salvatore Maugeri Tel. +39 0382 24444; POISON CENTER BERGAMO – Azienda Ospedaliera "Papa Giovanni XXIII" Tel. 800 883 300; POISON CENTER VERONA – Azienda Ospedaliera Universitaria integrata Tel. 800 011 858;

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: 리이치24시코리아㈜.

주소: 서울특별시 강남구 강남대로 94길 34,4층

전화: +82-02-6245-1610

#### **SECTION 2: Hazards identification**

#### **Hazard classification**

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

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 Polyalphaolefin

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Molecular formula	: UVCB			
Common name	Synonyms	CAS-No.	Concentration	KECI Number
1-Dodecene, Dimer Hydrogenated	1-Dodecene dimer, hydrogenated	151006-61-0	100%	

#### **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.

3 3,1 .... , 1 .... , 1 .... , 1 ....

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 data available.

Risks : No data available.

Treatment : No data available.

#### **SECTION 5: Firefighting measures**

Flash point : 186°C (367°F)

Method: Cleveland Open Cup

Autoignition temperature : 324°C (615°F)

Unsuitable extinguishing

media

: High volume water jet.

Specific hazards during fire

fighting

: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the

surrounding environment.

Special protective : Wear self-contained breathing apparatus for firefighting if

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equipment for fire-fighters

necessary.

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.

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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. 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 according to the amount and

concentration of the substance and the task performed at the work place. Appropriate PPE may include: 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

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Freezing point : -52°C (-62°F)

Boiling point/boiling range : 277°C (531°F)

Flash point : 186°C (367°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 150°C (302°F)

Solubility : Soluble in hydrocarbon solvents; insoluble in water.

Relative density : 0.81

at 15.6 °C (60.1 °F)

Density : 806.8 g/l

Vapor density

(Air = 1.0)

Partition coefficient: n- : log Pow: > 4.82

octanol/water

at 21°C (70°F)

Autoignition temperature : 324°C (615°F)

Viscosity, kinematic : 8.3 cSt

at 40°C (104°F)

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 : Further information: No decomposition if stored and applied as

directed.

Conditions to avoid : No data available.

Materials to avoid

Hazardous decomposition

products

: No data available. : Carbon oxides

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

#### **SECTION 11: Toxicological information**

#### Information on exposure routes

#### **Acute oral toxicity**

1-Dodecene, Dimer : LD50 Oral: > 5,000 mg/kg

Species: Rat Hydrogenated

Test substance: yes

#### Acute inhalation toxicity

1-Dodecene, Dimer Hydrogenated

: LC50: 1.71 mg/l Exposure time: 4 h Species: Rat

Sex: female

Test atmosphere: dust/mist

Test substance: yes

LC50: > 5.06 mg/lExposure time: 4 h Species: Rat

Sex: male

Test atmosphere: dust/mist

Test substance: yes

#### **Acute dermal toxicity**

1-Dodecene, Dimer : LD50 Dermal: >2000 milligram per kilogram

Hydrogenated Species: Rat

Test substance: yes

#### Skin corrosion or irritation

1-Dodecene, Dimer Hydrogenated

: No skin irritation

Secure storage

1-Dodecene, Dimer

: No eye irritation

Hydrogenated

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Sensitization

1-Dodecene, Dimer Hydrogenated

: Did not cause sensitization on laboratory animals.

Synfluid® PAO 2.5 cSt Skin sensitization

Repeated dose toxicity

1-Dodecene, Dimer

: Species: Rat Hydrogenated Application Route: oral gavage

Dose: 0 up to 1000 mg/kg Exposure time: 28 day Number of exposures: daily

NOEL: 1,000 mg/kg

Germ cell mutagenicity (in vitro)

1-Dodecene, Dimer : Test Type: Ames test Hydrogenated Result: negative

Germ cell mutagenicity (in vivo)

1-Dodecene, Dimer : Test Type: Mouse micronucleus assay

Hydrogenated Result: negative

**Developmental Toxicity** 

1-Dodecene, Dimer Hydrogenated

: 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.

**Specific Target Organ Toxicity (Repeated Exposure**)

Not classified due to data which are conclusive although

insufficient for classification.

**Aspiration toxicity** 

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1-Dodecene, Dimer Hydrogenated : May be fatal if swallowed and enters airways.

**CMR** effects

1-Dodecene, Dimer Hydrogenated : Carcinogenicity: Not classifiable as a human carcinogen. Mutagenicity: Weight of evidence does not support

classification as a germ cell mutagen.

Teratogenicity: Did not show teratogenic effects in animal

experiments.

Reproductive toxicity: Animal testing did not show any effects

on fertility.

Reproductive toxicity

1-Dodecene, Dimer Hydrogenated : Fertility and developmental toxicity tests did not reveal any

effect on reproduction.

Information given is based on data obtained from similar

substances.

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

#### **SECTION 12: Ecological information**

**Ecological Toxicity** 

Toxicity to fish

1-Dodecene, Dimer Hydrogenated

: LL50: > 1,000 mg/l Exposure time: 96 h

Species: Oncorhynchus mykiss (rainbow trout)

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-Dodecene, Dimer

: EL50: > 1,000 mg/l

Hydrogenated Exposure time: 48 h

Species: Daphnia magna (Water flea)

Test substance: yes

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

dispersion was tested.

Toxicity to algae

1-Dodecene, Dimer Hydrogenated

: EbC50: > 1,000 mg/l Exposure time: 96 h

Species: Selenastrum capricornutum (algae)

Test substance: yes

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

Persistence and degradability

1-Dodecene, Dimer

Hydrogenated

: Expected to be inherently biodegradable.

Mobility : No data available

Other adverse effects : No data available

**Ecotoxicology Assessment** 

Short-term (acute) aquatic

hazard

: This product has no known ecotoxicological effects.

Long-term (chronic) aquatic

hazard

: This product has no known ecotoxicological effects.

#### **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	:	Not applicable

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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.

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Maritime transport in bulk acc			
ISHA.		nal Safety and Health Act S) for this product is not required according to the control of the co	rding to article 41 of th
Regulation			limits
Harmful Substances Prohibited from Manufacturing	:	Not applicable	
Harmful Substances Required Permission for Manufacture	<u> </u>	Not applicable	
Act on the Registration and E Regulation	iva	Chemical name	Threshold limits
Toxic Chemicals	Ξ	Not applicable	,c
Prohibited Chemicals	<u>↓</u> :	Not applicable	
Restricted Chemicals	<u> </u>	Not applicable	
Toxic Release Inventory  Dangerous Substances Safet Dangerous Substances		Not applicable  Ianagement Act Flammable liquids, Type 3 petroleums	s, Water insoluble liqu
Safety Management Act			1
Regulations by the Waste Management Act		: Not applicable	
	ic :	and foreign laws	
Regulations by other domest Europe REACH	.10 (	: This product is in full compliand regulation 1907/2006/EC.	•
		: This product is in full complianc	ntory

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DSL

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

New Zealand NZIoC : Not in compliance with the inventory

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

Korea KECI : Not in compliance with the inventory

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

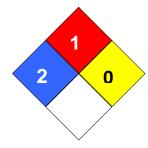
Other regulations : No data available

#### **SECTION 16: Other information**

Source of data	:	Korea. GHS based classification
Date of initial writing	:	2022-09-07
Revision number	:	1
Last revision date	:	2024-01-11

NFPA Classification : Health Hazard: 2

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	LD50	Lethal Dose 50%			

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	Government Industrial Hygienists		
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