



Synfluid® PAO 10 cSt

Version 2.11

Revision Date 2023-05-18

According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2020/878

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

1.1 Product identifier

Product information

Product Name : Synfluid® PAO 10 cSt
 Material : 1125444, 1079875, 1079675

EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
1-Decene	872-05-9 212-819-2	Chevron Phillips Chemical Company LP 01-2119486878-12-0006

1.2

Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses Supported : Manufacture
 Use as an intermediate
 Formulation
 Use in coatings – industrial
 Use in coatings – professional
 Use in Coatings - Consumer
 Lubricants - Industrial
 Lubricants - Professional
 Lubricants - Consumer
 Metal working fluids / rolling oils - Industrial
 Metal working fluids / rolling oils – Professional
 Functional Fluids - Industrial
 Functional Fluids - Professional
 Functional Fluids - Consumer
 Use in polymer production – industrial
 Agrochemical uses
 Agrochemical uses
 Other consumer uses

1.3

Details of the supplier of the safety data sheet

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

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Local : Chevron Phillips Chemicals International N.V.
 Airport Plaza (Stockholm Building)
 Leonardo Da Vincilaan 19
 1831 Diegem
 Belgium

SDS Requests: (800) 852-5530
 Responsible Party: Product Safety Group
 Email:sds@cpchem.com

1.4**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 (Gifflinjen): +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

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Responsible Department : Product Safety and Toxicology Group
 E-mail address : SDS@CPChem.com
 Website : www.CPChem.com

SECTION 2: Hazards identification**2.1****Classification of the substance or mixture
REGULATION (EC) No 1272/2008**

Not a hazardous substance or mixture.

2.2**Labeling (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture.

2.3**Other hazards**

Results of PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting properties : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients**3.1 - 3.2****Substance or Mixture**

Synonyms : Polyalphaolefin
PAO

Molecular formula : UVCB

Hazardous ingredients

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]	Specific Conc. Limits, M-factors and ATEs
1-Decene Homopolymer Hydrogenated	68037-01-4 500-183-1		100	

Contains no hazardous ingredients according to GHS. :

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SECTION 4: First aid measures**4.1****Description of first-aid measures**

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

4.2 Most important symptoms and effects, both acute and delayed**Notes to physician**

- Symptoms : No information available.
- Risks : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : No information available.

SECTION 5: Firefighting measures

Flash point : 271°C (520°F)

Autoignition temperature : 369°C (696°F)

5.1**Extinguishing media**

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2**Special hazards arising from the substance or mixture**

Specific hazards during fire fighting : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.3**Advice for firefighters**

- 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.

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SECTION 6: Accidental release measures**6.1****Personal precautions, protective equipment and emergency procedures**

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

6.2**Environmental precautions**

Environmental precautions : No special environmental precautions required.

6.3**Methods and materials for containment and cleaning up**

Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

6.4**Reference to other sections**

Reference to other sections : For personal protection see section 8. For disposal considerations see section 13.

A quantitative risk assessment is not required for the environment.

A quantitative risk assessment is not required for human health.

SECTION 7: Handling and storage**7.1****Precautions for safe handling
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.

7.2**Conditions for safe storage, including any incompatibilities****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.

SECTION 8: Exposure controls/personal protection**8.1****Control parameters
Ingredients with workplace control parameters**

SI

Sestavine	Osnova	Vrednost	Parametri nadzora	Pripomba

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1-Decene Homopolymer Hydrogenated	SI OEL	MV	5 mg/m3	Alveolarna frakcija
	SI OEL	KTV	20 mg/m3	Alveolarna frakcija

DE

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
1-Decene Homopolymer Hydrogenated	DE TRGS 900	AGW	5 mg/m3	Y, Alveolengängige Fraktion

Y Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden

CH

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
1-Decene Homopolymer Hydrogenated	CH SUVA	MAK-Wert	5 mg/m3	SSc, einatembarer Staub

SSc Eine Schädigung der Leibesfrucht braucht bei Einhaltung des MAK-Wertes nicht befürchtet zu werden.

8.2

Exposure controls 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 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.
- 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 : 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.

A quantitative risk assessment is not required for the environment.
A quantitative risk assessment is not required for human health.

SECTION 9: Physical and chemical properties**9.1****Information on basic physical and chemical properties**

SDS Number:100000100615

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Appearance

Physical state : liquid
 Color : Clear, Colorless
 Odor : Odorless
 Odor Threshold : No data available

Safety data

Flash point : 271°C (520°F)
 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
 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)
 Density : 0,835 g/cm3
 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 : 60,3 cSt
 at 40°C (104°F)
 Relative vapor density : 10
 (Air = 1.0)
 Evaporation rate : 3

SECTION 10: Stability and reactivity**10.1**

Reactivity : Stable at normal ambient temperature and pressure.

10.2

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Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3**Possibility of hazardous reactions**

Hazardous reactions : Further information: Stable under recommended storage conditions., No hazards to be specially mentioned.

10.4

Conditions to avoid : No data available.

10.5

Materials to avoid : No data available.

10.6

Hazardous decomposition products : Carbon oxides

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

SECTION 11: Toxicological information**11.1****Information on toxicological effects****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

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1-Decene Homopolymer
Hydrogenated

: Did not cause sensitization on laboratory animals.

Repeated dose toxicity1-Decene Homopolymer
Hydrogenated: Species: Rat
Application Route: Oral
Dose: 0, 8000, 20000, 50000 ppm
Exposure time: 28 day
Number of exposures: daily
NOEL: 6.245 mg/kg
Method: OECD Test Guideline 407Species: 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**Genotoxicity in vitro**1-Decene Homopolymer
Hydrogenated

: Remarks: No adverse effects expected, Information given is based on data obtained from similar substances.

Genotoxicity in vivo1-Decene Homopolymer
Hydrogenated

: Remarks: No adverse effects expected, Information given is based on data obtained from similar substances.

Carcinogenicity1-Decene Homopolymer
Hydrogenated

: Remarks: This information is not available.

Reproductive toxicity1-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**Developmental Toxicity**1-Decene Homopolymer
Hydrogenated

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

Aspiration toxicity1-Decene Homopolymer
Hydrogenated

: No aspiration toxicity classification.

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Specific Target Organ Toxicity (Single Exposure)

1-Decene Homopolymer Hydrogenated : Remarks: Not classified due to data which are conclusive although insufficient for classification.

Specific Target Organ Toxicity (Repeated Exposure)

1-Decene Homopolymer Hydrogenated : Remarks: Not classified due to data which are conclusive although insufficient for classification.

CMR effects

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

11.2**Information on other hazards****Synfluid® PAO 10 cSt****Further information**

Endocrine disrupting properties : No data available.
 : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information**12.1****Toxicity****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
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202

Toxicity to algae

1-Decene Homopolymer Hydrogenated : NOELR: 1.000 mg/l
 Exposure time: 72 h
 Species: Scenedesmus capricornutum (fresh water algae)
 static test Method: OECD Test Guideline 201

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12.2**Persistence and degradability**

Biodegradability

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

12.3**Bioaccumulative potential**

Elimination information (persistence and degradability)

Bioaccumulation

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

12.4**Mobility in soil**

Mobility : No data available

12.5**Results of PBT and vPvB assessment**

Results of PBT assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6**Endocrine disrupting properties**

Endocrine disrupting properties : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7**Other adverse effects**

Additional ecological information : No data available

12.8**Additional Information****Ecotoxicology Assessment**

Short-term (acute) aquatic hazard

1-Decene Homopolymer : This material is not expected to be harmful to aquatic organisms.
Hydrogenated

Long-term (chronic) aquatic hazard

1-Decene Homopolymer : This material is not expected to be harmful to aquatic organisms.
Hydrogenated

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SECTION 13: Disposal considerations**13.1****Waste treatment methods**

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.

A quantitative risk assessment is not required for the environment.
A quantitative risk assessment is not required for human health.

SECTION 14: Transport information**14.1 - 14.7****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.

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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.

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information**15.1**

Safety, health and environmental regulations/legislation specific for the substance or mixture
National legislation

Commission Regulation (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Water hazard class (Germany) : WGK 1 slightly water endangering

15.2**Chemical Safety Assessment**

Components : 1-Decene Homopolymer Hydrogenated
 A Chemical Safety Assessment has been carried out for this substance.

Major Accident Hazard Legislation : ZEU_SEVES3 Update:
 Not applicable

Notification status

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

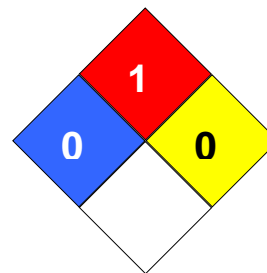
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SECTION 16: Other information

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

**Further information**

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

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			Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%	ATE	Acute toxicity estimate

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Annex**1. Short title of Exposure Scenario: Manufacture**

Main User Groups	:	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	SU3, SU8, SU9: Industrial Manufacturing (all), Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals
Process category	:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental release category	:	ERC1, ERC4: Manufacture of substances, Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for:ERC1, ERC4: Manufacture of substances, Industrial use of processing aids in processes and products, not becoming part of articles**Technical conditions and measures / Organizational measures**

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Use as laboratory reagent**Amount used**

Remarks : Not applicable

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3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Use as an intermediate

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	: SU3, SU8, SU9: Industrial Manufacturing (all), Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals
Process category	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent
Environmental release category	: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

2.1 Contributing scenario controlling environmental exposure for:ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)**Technical conditions and measures / Organizational measures**

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large

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containers at dedicated facilities, Use as laboratory reagent**Amount used**

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Formulation

Main User Groups	:	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	SU3, SU 10: Industrial Manufacturing (all), Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Process category	:	<p>PROC1: Use in closed process, no likelihood of exposure</p> <p>PROC2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3: Use in closed batch process (synthesis or formulation)</p> <p>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</p> <p>PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities</p> <p>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletization</p> <p>PROC15: Use as laboratory reagent</p>
Environmental release category	:	ERC2: Formulation of preparations

2.1 Contributing scenario controlling environmental exposure for:ERC2: Formulation of preparations

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Technical conditions and measures / Organizational measures

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4,, PROC8a, PROC8b, PROC9, PROC14, PROC15: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Production of preparations or articles by tableting, compression, extrusion, pelletization, Use as laboratory reagent

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Use in coatings – industrial

Main User Groups : **SU 3:** Industrial uses: Uses of substances as such or in preparations at industrial sites

Sector of use : **SU3:** Industrial Manufacturing (all)

Process category : **PROC1:** Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)
PROC7: Industrial spraying
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated

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facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)**PROC10:** Roller application or brushing**PROC13:** Treatment of articles by dipping and pouring**PROC14:** Production of preparations or articles by tableting, compression, extrusion, pelletization**PROC15:** Use as laboratory reagentEnvironmental release category : **ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles**2.1 Contributing scenario controlling environmental exposure for:ERC4: Industrial use of processing aids in processes and products, not becoming part of articles****Technical conditions and measures / Organizational measures**

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), Industrial spraying, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Roller application or brushing, Treatment of articles by dipping and pouring, Production of preparations or articles by tableting, compression, extrusion, pelletization, Use as laboratory reagent

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

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Not applicable

1. Short title of Exposure Scenario: Use in coatings – professional

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC15: Use as laboratory reagent PROC19: Hand-mixing with intimate contact and only PPE available
Environmental release category	: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for:ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems**Technical conditions and measures / Organizational measures**

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Roller application or brushing, Non industrial spraying,

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Treatment of articles by dipping and pouring, Use as laboratory reagent, Hand-mixing with intimate contact and only PPE available

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Use in Coatings - Consumer

Main User Groups : **SU 21:** Consumer uses: Private households (= general public = consumers)

Sector of use : **SU 21:** Consumer uses: Private households (= general public = consumers)

Product category : **PC1:** Adhesives, sealants
PC4: Anti-Freeze and de-icing products
PC8: Biocidal products (e.g. Disinfectants, pest control)
PC9a: Coatings and paints, thinners, paint removers
PC9b: Fillers, putties, plasters, modelling clay
PC9c: Finger paints
PC15: Non-metal-surface treatment products
PC18: Ink and toners
PC23: Leather tanning, dye, finishing, impregnation and care products
PC24: Lubricants, greases, release products
PC31: Polishes and wax blends
PC34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids

Environmental release category : **ERC8a, ERC8d:** Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for:ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems**Technical conditions and measures / Organizational measures**

Remarks : Not applicable

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2.2 Contributing scenario controlling consumer exposure for: PC1, PC4, PC8, PC9a, PC9b, PC9c, PC15, PC18, PC23, PC24, PC31, PC34: Adhesives, sealants, Anti-Freeze and de-icing products, Biocidal products (e.g. Disinfectants, pest control), Coatings and paints, thinners, paint removers, Fillers, putties, plasters, modelling clay, Finger paints, Non-metal-surface treatment products, Ink and toners, Leather tanning, dye, finishing, impregnation and care products, Lubricants, greases, release products, Polishes and wax blends, Textile dyes, finishing and impregnating products; including bleaches and other processing aids

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Lubricants - Industrial

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	: SU3: Industrial Manufacturing (all)
Process category	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

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PROC10: Roller application or brushing
PROC13: Treatment of articles by dipping and pouring
PROC17: Lubrication at high energy conditions and in partly open process
PROC18: Greasing at high energy conditions

Environmental release category : **ERC4, ERC7:** Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for:ERC4, ERC7: Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of substances in closed systems

Technical conditions and measures / Organizational measures

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Industrial spraying, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Roller application or brushing, Treatment of articles by dipping and pouring, Lubrication at high energy conditions and in partly open process, Greasing at high energy conditions

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: **Lubricants - Professional**

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Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC11: Non industrial spraying PROC13: Treatment of articles by dipping and pouring PROC17: Lubrication at high energy conditions and in partly open process PROC18: Greasing at high energy conditions PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
Environmental release category	: ERC8a, ERC8d, ERC9a, ERC9b: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d, ERC9a, ERC9b: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

Technical conditions and measures / Organizational measures

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC18, PROC20: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer

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of substance or preparation into small containers (dedicated filling line, including weighing), Roller application or brushing, Non industrial spraying, Treatment of articles by dipping and pouring, Lubrication at high energy conditions and in partly open process, Greasing at high energy conditions, Heat and pressure transfer fluids in dispersive, professional use but closed systems

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Lubricants - Consumer

Main User Groups	: SU 21: Consumer uses: Private households (= general public = consumers)
Sector of use	: SU 21: Consumer uses: Private households (= general public = consumers)
Product category	: PC1: Adhesives, sealants PC24: Lubricants, greases, release products PC31: Polishes and wax blends
Environmental release category	: ERC8a, ERC8d, ERC9a, ERC9b: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for:ERC8a, ERC8d, ERC9a, ERC9b: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

Technical conditions and measures / Organizational measures

Remarks : Not applicable

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2.2 Contributing scenario controlling consumer exposure for: PC1, PC24, PC31: Adhesives, sealants, Lubricants, greases, release products, Polishes and wax blends**Amount used**

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Metal working fluids / rolling oils - Industrial

Main User Groups	:	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	SU3: Industrial Manufacturing (all)
Process category	:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring PROC17: Lubrication at high energy conditions and in partly open process
Environmental release category	:	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for:ERC4: Industrial use of

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processing aids in processes and products, not becoming part of articles**Technical conditions and measures / Organizational measures**

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), Industrial spraying, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Roller application or brushing, Treatment of articles by dipping and pouring, Lubrication at high energy conditions and in partly open process

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Metal working fluids / rolling oils – Professional

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

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PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10: Roller application or brushing
PROC11: Non industrial spraying
PROC13: Treatment of articles by dipping and pouring
PROC17: Lubrication at high energy conditions and in partly open process

Environmental release category : **ERC8a, ERC8d, ERC9a, ERC9b:** Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for:ERC8a, ERC8d, ERC9a, ERC9b: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

Technical conditions and measures / Organizational measures

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Roller application or brushing, Non industrial spraying, Treatment of articles by dipping and pouring, Lubrication at high energy conditions and in partly open process

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

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4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Functional Fluids - Industrial

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	: SU3: Industrial Manufacturing (all)
Process category	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Environmental release category	: ERC7: Industrial use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for:ERC7: Industrial use of substances in closed systems**Technical conditions and measures / Organizational measures**

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Amount used

Remarks : Not applicable

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3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Functional Fluids - Professional

Main User Groups	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
Environmental release category	: ERC9a, ERC9b: Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for:ERC9a, ERC9b: Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems**Technical conditions and measures / Organizational measures**

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC8a, PROC8a, PROC9: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

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Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Functional Fluids - Consumer

Main User Groups : **SU 21:** Consumer uses: Private households (= general public = consumers)

Sector of use : **SU 21:** Consumer uses: Private households (= general public = consumers)

Product category : **PC16:** Heat transfer fluids
PC17: Hydraulic fluids

Environmental release category : **ERC9a, ERC9b:** Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for: ERC9a, ERC9b: Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems**Technical conditions and measures / Organizational measures**

Remarks : Not applicable

2.2 Contributing scenario controlling consumer exposure for: PC16, PC17: Heat transfer fluids, Hydraulic fluids**Amount used**

Remarks : Not applicable

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3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Use in polymer production – industrial

Main User Groups	: SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	: SU3, SU 10: Industrial Manufacturing (all), Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Process category	: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC6: Calendering operations PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletization PROC15: Use as laboratory reagent
Environmental release category	: ERC4, ERC6c: Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of monomers for manufacture of thermoplastics

2.1 Contributing scenario controlling environmental exposure for:ERC4, ERC6c: Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of monomers for manufacture of thermoplastics**Technical conditions and measures / Organizational measures**

Remarks : Not applicable

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2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC6, PROC5, PROC8a, PROC8b, PROC15, PROC14: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Calendering operations, Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Use as laboratory reagent, Production of preparations or articles by tableting, compression, extrusion, pelletization

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Agrochemical uses

Main User Groups	:	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	:	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	:	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
Environmental release category	:	ERC9a, ERC9b: Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

2.1 Contributing scenario controlling environmental exposure for:ERC8a, ERC8d: Wide

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dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

Technical conditions and measures / Organizational measures

Remarks : Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC4, PROC8a, PROC8b, PROC11, PROC13: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in batch and other process (synthesis) where opportunity for exposure arises, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Non industrial spraying, Treatment of articles by dipping and pouring

Amount used

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Agrochemical uses

Main User Groups	:	SU 21: Consumer uses: Private households (= general public = consumers)
Sector of use	:	SU 21: Consumer uses: Private households (= general public = consumers)
Product category	:	PC12: Fertilizers PC27: Plant protection products
Environmental release category	:	ERC8d: Wide dispersive outdoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for:ERC8d: Wide dispersive outdoor use of processing aids in open systems

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Technical conditions and measures / Organizational measures

Remarks : Not applicable

2.2 Contributing scenario controlling consumer exposure for: PC12, PC27: Fertilizers, Plant protection products**Amount used**

Remarks : Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Other consumer uses

Main User Groups	: SU 21: Consumer uses: Private households (= general public = consumers)
Sector of use	: SU 21: Consumer uses: Private households (= general public = consumers)
Product category	: PC28: Perfumes, fragrances PC39: Cosmetics, personal care products
Environmental release category	: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems

2.2 Contributing scenario controlling consumer exposure for: PC28, PC39: Perfumes, fragrances, Cosmetics, personal care products**Amount used**

Remarks : Not applicable

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3. Exposure estimation and reference to its source

Remarks: Not applicable

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable