



## Synfluid® PAO 6 cSt

Version 4.5

Revision Date 2016-05-30

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

#### Product information

Product Name : Synfluid® PAO 6 cSt  
 Material : 1111741, 1111740, 1111734, 1079874, 1079931, 1079667

#### EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
1-Decene Homopolymer Hydrogenated	68037-01-4 500-183-1	Chevron Phillips Chemical Company LP 01-2119486452-34-0000
1-Decene Homopolymer Hydrogenated	68037-01-4 500-183-1	Chevron Phillips Chemicals International NV 01-2119486452-34-0006

Relevant Identified Uses Supported :

- Manufacture
- Distribution
- 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

**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  
 Technical Information: (832) 813-4862  
 Responsible Party: Product Safety Group  
 Email:sds@cpchem.com

**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: +800 CHEMCALL (+800 2436 2255) China:+86-21-22157316

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

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

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

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

Not a hazardous substance or mixture.

**Label elements****Labeling (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture.

**SECTION 3: Composition/information on ingredients**

Synonyms : Polyalphaolefin  
 PAO

Molecular formula : UVCB

**Mixtures****Hazardous ingredients**

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]

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1-Decene Homopolymer Hydrogenated	68037-01-4 500-183-1		100
Contains no hazardous ingredients according to GHS. :			

**SECTION 4: 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.

**SECTION 5: Firefighting measures**

Flash point	:	238 °C (460 °F) Method: Cleveland Open Cup
Autoignition temperature	:	354 °C (669 °F)
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.

**SECTION 6: Accidental release measures**

Methods for cleaning up	:	Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.
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**SECTION 7: Handling and storage****Handling**

Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

**Storage**

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Requirements for storage : Electrical installations / working materials must comply with the areas and containers technological safety standards.

Advice on common storage : No materials to be especially mentioned.

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

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
1-Decene Homopolymer Hydrogenated	DE TRGS 900	AGW	5 mg/m <sup>3</sup>	DFG, Y, Alveolengängige Fraktion

DFG Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission)

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

**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 : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Full-Face Air-Purifying Respirator for Organic Vapors, Dusts and Mists. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

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 : Wear as appropriate: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Lightweight protective clothing.

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Hygiene measures : General industrial hygiene practice.

For additional details, see the Exposure Scenario in the Annex portion

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

Physical state : Liquid  
 Color : Clear, Colorless  
 Odor : Odorless

**Safety data**

Flash point : 238 °C (460 °F)  
 Method: Cleveland Open Cup

Lower explosion limit : Not applicable

Upper explosion limit : Not applicable

Oxidizing properties : no

Autoignition temperature : 354 °C (669 °F)

Molecular formula : UVCB

Molecular weight : Varies

pH : Not applicable

Melting point/range : Not applicable

Boiling point/boiling range : 419 °C (786 °F)

Vapor pressure : 0,70 MMHG  
 at 149 °C (300 °F)

Relative density : 0,83  
 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 : 30,5 cSt  
 at 40 °C (104 °F)

Relative vapor density : 10  
 (Air = 1.0)

Evaporation rate : No data available

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**SECTION 10: Stability and reactivity**

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

**Possibility of hazardous reactions**

Conditions to avoid : No data available.

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

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

1-Decene Homopolymer Hydrogenated : Did not cause sensitization on laboratory animals.

**Repeated dose toxicity**

1-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 407

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Species: 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

**Carcinogenicity**

1-Decene Homopolymer Hydrogenated : Remarks: This information is not available.

**Reproductive toxicity**

1-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

**Aspiration toxicity**

1-Decene Homopolymer Hydrogenated : No aspiration toxicity classification.

**CMR effects**

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

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Further information**

: No data available.

**SECTION 12: Ecological information****Ecotoxicity effects**

**Toxicity to fish** : LC50: > 750 mg/l  
 Exposure time: 96 h  
 Species: Pimephales promelas (fathead minnow)

**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

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**Toxicity to algae** : EC50: > 1.000 mg/l  
Exposure time: 96 h  
Species: Selenastrum capricornutum (algae)

**Bioaccumulation**

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

**Biodegradability**

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

**Ecotoxicology 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.

Additional ecological information : No data available

**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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

For additional details, see the Exposure Scenario in the Annex portion

**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.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**  
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR  
TRANSPORTATION BY THIS AGENCY.

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**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.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**SECTION 15: Regulatory information****National legislation****Chemical Safety Assessment**

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

**Major Accident Hazard Legislation** : 96/82/EC Update: Not applicable

**Notification status**

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

Switzerland CH INV : On the inventory, or in compliance with the inventory

United States of America TSCA : On TSCA Inventory

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

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

New Zealand NZIoC : On the inventory, or in compliance with the inventory

Notification number: HSR002606

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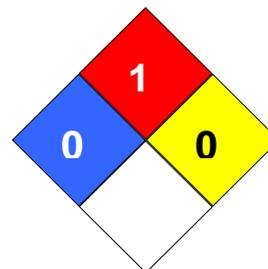
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Japan ENCS : On the inventory, or in compliance with the inventory  
 Korea KECI : On the inventory, or in compliance with the inventory  
 Philippines PICCS : On the inventory, or in compliance with the inventory  
 China IECSC : On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

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

**Further information**

Legacy SDS Number : 3333

NSF H1, HX-1 Registered, meets USDA 1998 H1 Guidelines

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery

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			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%		

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

Main User Groups	:	<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	<b>SU3, SU8, SU9:</b> Industrial Manufacturing (all), Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals
Process category	:	<b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises <b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities <b>PROC15:</b> Use as laboratory reagent
Environmental release category	:	<b>ERC1, ERC4:</b> Manufacture of substances, Industrial use of processing aids in processes and products, not becoming part of articles
Further information	:	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities

**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,**

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**Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large 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: Distribution**

Main User Groups	:	<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	<b>SU3:</b> Industrial Manufacturing (all)
Process category	:	<b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises <b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> 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) <b>PROC15:</b> Use as laboratory reagent
Environmental release category	:	<b>ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7:</b> Manufacture of substances, Formulation of preparations, Formulation in materials, Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in inclusion into or onto a matrix, Industrial use resulting in manufacture of another substance (use of intermediates), Industrial use of reactive processing aids, Industrial use of monomers for manufacture of thermoplastics, Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers, Industrial use of substances in closed systems
Further information	:	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading

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distribution and associated laboratory activities.

**2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7: Manufacture of substances, Formulation of preparations, Formulation in materials, Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in inclusion into or onto a matrix, Industrial use resulting in manufacture of another substance (use of intermediates), Industrial use of reactive processing aids, Industrial use of monomers for manufacture of thermoplastics, Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers, 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, 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, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), 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 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),

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Process category	: Manufacture of fine chemicals <b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises <b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities <b>PROC15:</b> Use as laboratory reagent
Environmental release category	: <b>ERC6a:</b> Industrial use resulting in manufacture of another substance (use of intermediates)
Further information	: Use as an isolated intermediate under strictly controlled conditions

**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 containers at dedicated facilities, Use as laboratory reagent****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: Formulation**

Main User Groups	:	<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	<b>SU3, SU 10:</b> Industrial Manufacturing (all), Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Process category	:	<b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> 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) <b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> 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) <b>PROC14:</b> Production of mixtures or articles by tableting, compression, extrusion, pelletization; Industrial setting; <b>PROC15:</b> Use as laboratory reagent
Environmental release category	:	<b>ERC2:</b> Formulation of preparations
Further information	:	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

**2.1 Contributing scenario controlling environmental exposure for:ERC2: Formulation of preparations****Technical conditions and measures / Organizational measures**

Remarks : Not applicable

**2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3,**

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**PROC4,, PROC8, 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 mixture (charging/discharging) from/to vessels(large containers at non dedicated facilities; Industrial or non-industrial setting;, 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 mixtures or articles by tableting, compression, extrusion, pelletization; Industrial setting;, 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	:	<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	<b>SU3:</b> Industrial Manufacturing (all)
Process category	:	<b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises : <b>PROC 5:</b> Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) <b>PROC7:</b> Industrial spraying <b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> 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) <b>PROC10:</b> Roller application or brushing <b>PROC13:</b> Treatment of articles by dipping and pouring <b>PROC14:</b> Production of mixtures or articles by tableting,

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compression, extrusion, pelletization; Industrial setting;  
**PROC15:** Use as laboratory reagent

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

Further information :  
 Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.

### 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 mixtures and articles (multistage and/or significant contact) Industrial setting;; 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 mixtures or articles by tableting, compression, extrusion, pelletization; Industrial setting;; 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

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**by the Exposure Scenario**

Not applicable

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

Main User Groups	:	<b>SU 22:</b> Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	:	<b>SU22:</b> Public domain (administration, education, entertainment, services, craftsmen)
Process category	:	<p><b>PROC1:</b> Use in closed process, no likelihood of exposure</p> <p><b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure</p> <p><b>PROC3:</b> Use in closed batch process (synthesis or formulation)</p> <p><b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>: <b>PROC 5:</b> Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)</p> <p><b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p><b>PROC8b:</b> Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities</p> <p><b>PROC10:</b> Roller application or brushing</p> <p><b>PROC11:</b> Non industrial spraying</p> <p><b>PROC13:</b> Treatment of articles by dipping and pouring</p> <p><b>PROC15:</b> Use as laboratory reagent</p> <p><b>PROC19:</b> Hand-mixing with intimate contact and only PPE available</p>
Environmental release category	:	<b>ERC8a, ERC8d:</b> Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems
Further information	:	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.

**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 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 mixtures and articles (multistage and/or significant contact) Industrial setting;; 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, 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

Further information :

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Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

**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 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)

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Process category	: <b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises <b>PROC7:</b> Industrial spraying <b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> 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) <b>PROC10:</b> Roller application or brushing <b>PROC13:</b> Treatment of articles by dipping and pouring <b>PROC17:</b> Lubrication at high energy conditions and in partly open process <b>PROC18:</b> Greasing at high energy conditions
Environmental release category	: <b>ERC4, ERC7:</b> Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of substances in closed systems
Further information	: Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.

**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**

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**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**

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

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and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.

**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 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)

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Product category	= consumers) : <b>PC1:</b> Adhesives, sealants <b>PC24:</b> Lubricants, greases, release products <b>PC31:</b> Polishes and wax blends
Environmental release category	: <b>ERC8a, ERC8d, ERC9a, ERC9b:</b> 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
Further information	: Covers the consumer use of formulated lubricants in closed and open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.

**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 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**

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Not applicable

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

Main User Groups	:	<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	<b>SU3:</b> Industrial Manufacturing (all)
Process category	:	<b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> 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) <b>PROC7:</b> Industrial spraying <b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> 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) <b>PROC10:</b> Roller application or brushing <b>PROC13:</b> Treatment of articles by dipping and pouring <b>PROC17:</b> Lubrication at high energy conditions and in partly open process
Environmental release category	:	<b>ERC4:</b> Industrial use of processing aids in processes and products, not becoming part of articles
Further information	:	Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.

**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, PROC17: Use in**

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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 mixtures and articles (multistage and/or significant contact) Industrial setting;, 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	:	<b>SU 22:</b> Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	:	<b>SU 22:</b> Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	:	<p><b>PROC1:</b> Use in closed process, no likelihood of exposure</p> <p><b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure</p> <p><b>PROC3:</b> Use in closed batch process (synthesis or formulation)</p> <p><b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p><b>PROC8b:</b> Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</p> <p>: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p><b>PROC10:</b> Roller application or brushing</p> <p><b>PROC11:</b> Non industrial spraying</p> <p><b>PROC13:</b> Treatment of articles by dipping and pouring</p> <p><b>PROC17:</b> Lubrication at high energy conditions and in partly open process</p>
Environmental release category	:	<b>ERC8a, ERC8d, ERC9a, ERC9b:</b> Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive

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indoor use of substances in closed systems, Wide dispersive  
outdoor use of substances in closed systems

Further information

:

Covers the use in formulated MWFs including transfer operations, open and contained cutting/machining activities, automated and manual application of corrosion protections, draining and working on contaminated/ reject articles, and disposal of waste oils.

**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

**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**

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Main User Groups	:	<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	<b>SU3:</b> Industrial Manufacturing (all)
Process category	:	<b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises <b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> 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)
Environmental release category	:	<b>ERC7:</b> Industrial use of substances in closed systems
Further information	:	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.

**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	:	<b>SU 22:</b> Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	:	<b>SU 22:</b> Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	:	<b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC8a:</b> 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)
Environmental release category	:	<b>ERC9a, ERC9b:</b> Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems
Further information	:	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers.

**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, PROC8, 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 mixture (charging/discharging) from/to vessels(large containers at non dedicated facilities;**

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**Industrial or non-industrial setting; 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)**

**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	:	<b>SU 21:</b> Consumer uses: Private households (= general public = consumers)
Sector of use	:	<b>SU 21:</b> Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC16:</b> Heat transfer fluids <b>PC17:</b> Hydraulic fluids
Environmental release category	:	<b>ERC9a, ERC9b:</b> Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems
Further information	:	Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.

**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

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**2.2 Contributing scenario controlling consumer exposure for: PC16, PC17: Heat transfer fluids, Hydraulic fluids****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 polymer production – industrial**

Main User Groups	:	<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	<b>SU3, SU 10:</b> Industrial Manufacturing (all), Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
Process category	:	<p><b>PROC1:</b> Use in closed process, no likelihood of exposure</p> <p><b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure</p> <p><b>PROC3:</b> Use in closed batch process (synthesis or formulation)</p> <p><b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p><b>PROC 5:</b> Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)</p> <p><b>PROC6:</b> Calendering operations</p> <p><b>PROC8a:</b> Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p><b>PROC8b:</b> Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities</p> <p><b>PROC15:</b> Use as laboratory reagent</p> <p><b>PROC14:</b> Production of mixtures or articles by tableting, compression, extrusion, pelletization; Industrial setting;</p>
Environmental release category	:	<b>ERC4, ERC6c:</b> Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of monomers for manufacture of thermoplastics
Further information	:	Manufacture of polymers from monomers in continuous and

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batch processes, include sparging, discharging, and reactor maintenance and immediate polymer product formation (i.e. compounding, pelletisation, product off-gassing).

**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

**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 mixtures and articles (multistage and/or significant contact) Industrial setting;, 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 mixtures or articles by tableting, compression, extrusion, pelletization; Industrial setting;**

**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

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**PROC2:** Use in closed, continuous process with occasional controlled exposure  
**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  
**PROC11:** Non industrial spraying  
**PROC13:** Treatment of articles by dipping and pouring

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

Further information :  
 Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.

**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, 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

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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: Agrochemical uses**

Main User Groups	:	<b>SU 21:</b> Consumer uses: Private households (= general public = consumers)
Sector of use	:	<b>SU 21:</b> Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC12:</b> Fertilizers <b>PC27:</b> Plant protection products
Environmental release category	:	<b>ERC8d:</b> Wide dispersive outdoor use of processing aids in open systems
Further information	:	Covers the consumer use in agrochemicals in liquid and solid forms.

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

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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: Other consumer uses**

Main User Groups	:	<b>SU 21:</b> Consumer uses: Private households (= general public = consumers)
Sector of use	:	<b>SU 21:</b> Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC31:</b> Polishes and wax blends
Environmental release category	:	<b>ERC8a, ERC8d:</b> Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems
Further information	:	Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.

**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 consumer exposure for: PC31: Polishes and wax blends****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:

**3. Exposure estimation and reference to its source****4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**