SAFETY DATA SHEET
NEXBASE™ 3030

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

1.1. Product identifier

Product name NEXBASE™ 3030

Chemical name Lubricating oils (petroleum), C20-C50, hydrotreated neutral oilbased

Product number ID 12502

Internal identification 192501

REACH registration number 01-2119474889-13-0000

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

Identified uses Manufacture of substance, (ES01), Distribution of substance, (ES01a), Formulation & (re)packing of substances and mixtures, (ES02), Uses in coatings (ES03a-c), Use in cleaning agents (ES04a-c), Use in oil and gas field drilling and production operations (ES05a-b), Metal working fluids/rolling oils (ES07a-b), Use as binders and release agents (ES10a-b), Use in agrochemicals (ES11a-b), Road and construction applications (ES15), Rubber production and processing (ES19), Polymer processing (ES21a-b), Lubricants (ES6a-e), Laboratory chemical (ES17a-b), Mining chemicals (ES23), Water treatment chemicals (ES22a-b), Explosives manufacture & use (ES18b), Functional fluids (ES13a-c).

1.3. Details of the supplier of the safety data sheet

Supplier

Neste (Suisse) S.A.
16 Chemin des Coquelicots, 1214 Vernier, SWITZERLAND
Tel. +41 22 561 8000
SDS@neste.com (chemical safety)

1.4. Emergency telephone number

National emergency telephone number +358-9-471 977, +358-9-4711, Poison Information Centre

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Asp. Tox. 1 - H304

Environmental hazards Not Classified

2.2. Label elements

Pictogram

NEXBASE™ 3030

Signal word Danger

Hazard statements H304 May be fatal if swallowed and enters airways.

Precautionary statements P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P501 Dispose of contents/ container in accordance with local regulations.

Contains Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

2.3. Other hazards

Other hazards Oil mist:, May cause eye and respiratory system irritation., Repeated exposure may cause skin dryness or cracking., Risk of soil and ground water contamination.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based **100 %**

CAS number: 72623-87-1 EC number: 276-738-4 REACH registration number: 01-2119474889-13-XXXX

Classification
Asp. Tox. 1 - H304

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Other information A petroleum product., DMSO < 3% (IP 346).

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature. If spray/mist has been inhaled, proceed as follows. Remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms are severe or persist.

Ingestion Do not induce vomiting. Get medical attention.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing. Contact with hot product can cause serious thermal burns.

Eye contact Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.

4.2. Most important symptoms and effects, both acute and delayed

General information Oil mist: May cause eye and respiratory system irritation. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray, foam, dry powder or carbon dioxide.

NEXBASE™ 3030

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Not known.

Hazardous combustion products Carbon dioxide (CO2). Carbon monoxide (CO).

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid breathing mist. Wear adequate protective equipment at all operations.

For emergency responders Prevent unauthorized access. Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharge.

6.2. Environmental precautions

Environmental precautions Avoid release to the environment. Stop leak if safe to do so. Avoid the spillage or runoff entering drains, sewers or watercourses. Contain spillage with sand, earth or other suitable non-combustible material. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air). Risk of soil and ground water contamination.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Immediately start clean-up of the liquid and contaminated soil. Large spills should be collected mechanically (remove by pumping) for disposal. Small Spillages: Absorb spillage with sand or other inert absorbent.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid heat, flames and other sources of ignition. Take precautionary measures against static discharges. Use only in well-ventilated areas. Avoid inhalation of vapours and contact with skin and eyes. Use personal protective equipment and/or local ventilation when needed. Do not eat, drink or smoke when using this product. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in accordance with local regulations. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Take precautions against leakage by constructing collecting pools and sewerage systems as well as by surfacing the loading and unloading stations. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect from light. Suitable container materials: Stainless steel.

7.3. Specific end use(s)

Specific end use(s) Not known.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

NEXBASE™ 3030

Occupational exposure limits

Oil mist: 5 mg/m3 (8h) HTP 2016/FIN.
5 mg/m³, TWA PEL (OSHA) 5 mg/m³, TLV-TWA (ACGIH) 10 mg/m³, TLV-STEL (ACGIH).

PNEC Not available.

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based (CAS: 72623-87-1)

DNEL Workers - Inhalation; Long term local effects: 5,4 mg/m³, (8h), Aerosol
Consumer - Inhalation; Long term local effects: 1,2 mg/m³, (24h), Aerosol
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.
Available hazard data do not support the need for a DNEL to be established for other health effects.

8.2. Exposure controls

Appropriate engineering controls Use only in well-ventilated areas. Use personal protective equipment and/or local ventilation when needed.

Eye/face protection Tight-fitting safety glasses.

Hand protection Wear protective gloves. It is recommended that gloves are made of the following material: Polyvinyl chloride (PVC). Nitrile rubber. Change protective gloves regularly. Protective gloves according to standards EN 420 and EN 374.

Other skin and body protection Protective clothing when needed. Wear anti-static protective clothing if there is a risk of ignition from static electricity.

Respiratory protection Oil mist: Combination filter, type A2/P2. Filter device could be used maximum 2 hours at a time. Filter devices must not be used in conditions where the oxygen level is low (< 19 vol.-%). At high concentrations a breathing apparatus must be used (self-contained or fresh air hose breathing apparatus). Filter must be changed often enough. Respirators according to standards EN 140 and EN 141.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Liquid.

Colour Colourless. Clear.

Odour Almost odourless.

Odour threshold -

pH -

Melting point Pour point ≤ -24°C (ASTM D-97)

Initial boiling point and range 270-430°C

Flash point > 180°C (ASTM D-92).

Upper/lower flammability or explosive limits -

Vapour pressure < 0,1 hPa @ 20°C

Vapour density -

Relative density 0,82-0,84 @ 15°C (ASTM D-4052).

NEXBASE™ 3030

Solubility(ies)	Insoluble in water.
Partition coefficient	log Kow: > 6
Auto-ignition temperature	-
Decomposition Temperature	-
Viscosity	Kinematic viscosity typical value 12 mm2/s @ 40°C (ASTM D-445).
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Melting/pour point: ≤ -24°C Dynamic viscosity ~ 22 mPa s @ +20°C Dynamic viscosity ~ 50 mPa s @ + 1°C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid	Keep away from heat, sparks and open flame.

10.5. Incompatible materials

Materials to avoid	Strong acids. Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects	Based on available data the classification criteria are not met.

Skin corrosion/irritation

Skin corrosion/irritation	Based on available data the classification criteria are not met., (OECD 404), Repeated exposure may cause skin dryness or cracking.

Serious eye damage/irritation

Serious eye damage/irritation	Based on available data the classification criteria are not met. (OECD 405) Oil mist: May cause eye and respiratory system irritation.

Skin sensitisation

Skin sensitisation	Based on available data the classification criteria are not met. (OECD 406)

Germ cell mutagenicity

Genotoxicity - in vitro	Based on available data the classification criteria are not met. (OECD 471, 473, 476)

NEXBASE™ 3030

Genotoxicity - in vivo Based on available data the classification criteria are not met. (OECD 474)

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met. (OECD 451, 453)

IARC carcinogenicity Not listed.

NTP carcinogenicity Not listed.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met. (OECD 421)

Reproductive toxicity - development Based on available data the classification criteria are not met. (OECD 414)

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met. (OECD 408, 410, 411, 412, 453)

Aspiration hazard

Aspiration hazard Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} > 5000 mg/kg, Oral, Rat (OECD 401)

Acute toxicity - dermal

Notes (dermal LD_{50}) LD_{50} > 2000 mg/kg, Dermal, Rabbit (OECD 402)

Acute toxicity - inhalation

Notes (inhalation LC_{50}) LC_{50} > 5,53 mg/l, Inhalation, Rat (OECD 403)

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity Based on available data the classification criteria are not met.

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

Acute toxicity - fish LL_{50}, 96 hours: > 100 mg/l,
NOEL, 96 hours: ≥ 100 mg/l,
WAF (OECD 203)

Acute toxicity - aquatic invertebrates EL50, 48 hours: > 10000 mg/l, Daphnia magna
NOEL, 48 - 96 hours: ≥ 10000 mg/l,
LL_{50}, 24 - 96 hours: > 10000 mg/l,
WAF (OECD 202)

Acute toxicity - aquatic plants NOEL, 72 hours: ≥ 100 mg/l, Pseudokirchneriella subcapitata
WAF (OECD 201)

Acute toxicity - microorganisms NOEL, 10 minutes: > 1,93 mg/l, Micro-organisms (wastewater sludge)
(DIN 38412, DIN38409)

NEXBASE™ 3030

Chronic toxicity - fish early life stage	NOELR, 14 days: >= 1000 mg/l, Onchorhynchus mykiss (Rainbow trout)
Chronic toxicity - aquatic invertebrates	NOEL, 21 days: 10 mg/l, Daphnia magna WAF (OECD 211)

12.2. Persistence and degradability

Persistence and degradability	The product is slowly degradable.
Stability (hydrolysis)	No significant reaction in water.
Biodegradation	Non-rapidly degradable (OECD 301B)

12.3. Bioaccumulative potential

Bioaccumulative potential	Possibly bioaccumulative.
Partition coefficient	log Kow: > 6

12.4. Mobility in soil

Mobility	The product is insoluble in water. Mainly non-volatile. Product can penetrate soil until reaching the surface of ground water. The product contains substances which are bound to particulate matter and are retained in soil.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB. (Anthracene < 0,1 %)

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Dispose of this material and its container to hazardous or special waste collection point. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Waste packaging should be collected for reuse or recycling.

SECTION 14: Transport information

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID). No DOT label requirement noted

14.1. UN number

UN No. (ADR/RID)	-

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	-

14.3. Transport hazard class(es)

ADR/RID class	-

14.4. Packing group

ADR/RID packing group	-

NEXBASE™ 3030

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Noxious liquid, NF (5) n.o.s. (NEXBASE 3030, contains Iso- and cyclo-alkanes C12+) Ship type: 2 Cat Y According to MARPOL: "Non-solidifying substance"

SECTION 15: Regulatory information

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

National regulations	US Federal: Not listed under CERCLA or Section 302 or Section 313 of EPCRA.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

Yes

Canada - DSL/NDSL

Yes
DSL

US - TSCA

Yes
To the best of our knowledge, the product components are not listed on any US national/regional regulatory lists except the TSCA inventory.

Australia - AICS

Yes

Japan - MITI

Yes

Korea - KECI

Yes

China - IECSC

Yes

Philippines – PICCS

Yes

New Zealand - NZIOC

Yes

NEXBASE™ 3030

Other	Inventories of Taiwan and Switzerland.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	PEL = Permissible Exposure Limit OSHA = Occupational Safety and Health Administration NTP = National Toxicology Program
Key literature references and sources for data	Regulations, databases, literature, own research. CONCAWE Report 10/14: Hazard classification and labelling of petroleum substances in the EEA - 2014. Chemical Safety Report Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, 2017.
Revision comments	Updated, sections: 1, Exposure scenarios Supplier's information.
Revision date	17/10/2017
Supersedes date	30/05/2016
SDS number	5600
Hazard statements in full	H304 May be fatal if swallowed and enters airways.

Exposure scenario
Manufacture of Substance

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES01

1. Title of exposure scenario

Main title	Manufacture of Substance
Process scope	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.

Environment

Environmental release category	ERC1 Manufacture of substances.
SPERC	ESVOC SpERC 1.1.v1

Worker

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.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 11 000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 11 000 tonnes
Maximum daily site tonnage: 37 tonnes

Frequency and duration of use

Continuous release.
Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.0001

Manufacture of Substance

Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by terrestrial secondary poisoning.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2 200 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 10 000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 90%.
Water	No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	During manufacturing no waste of the substance is generated.

Conditions and measures related to external recovery of waste

Recovery method	During manufacturing no waste of the substance is generated.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.013

4. Guidance to check compliance with the exposure scenario (Environment 1)

Manufacture of Substance

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Distribution of Substance

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES01a

1. Title of exposure scenario

Main title	Distribution of Substance
Process scope	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 distribution and associated laboratory activities.

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC5 Industrial use resulting in inclusion into or onto a matrix. ERC6a Industrial use resulting in manufacture of another substance (use of intermediates). ERC6b Industrial use of reactive processing aids. ERC6c Industrial use of monomers for manufacture of thermoplastics. ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers. ERC7 Industrial use of substances in closed systems.
SPERC	ESVOC SpERC 1.1b.v1

Worker

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). PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Distribution of Substance

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 24 000 tonnes/year
Fraction of Regional tonnage used locally: 0.002
Annual site tonnage: 48 tonnes
Maximum daily site tonnage: 2.4 tonnes

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.0001
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.000001
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.00001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by terrestrial secondary poisoning.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 140 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 90%.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Distribution of Substance

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.004

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Formulation & (Re)packing of Substances and Mixtures

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES02

1. Title of exposure scenario

Main title	Formulation & (Re)packing of Substances and Mixtures
Process scope	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

Environment

Environmental release category	ERC2 Formulation of preparations.
SPERC	ESVOC SpERC 2.2.v1

Worker

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. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC14 Production of preparations or articles by tabletting, compression, extrusion, pelletisation. PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 24 000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 24 000 tonnes
Maximum daily site tonnage: 80 tonnes

Frequency and duration of use

Formulation & (Re)packing of Substances and Mixtures

Continuous release.
Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 0.0025

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.00002

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1 200 tonne/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Treat air emission to provide a typical removal efficiency of 0%.

Water Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 23,4 If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

Formulation & (Re)packing of Substances and Mixtures

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.02
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.068

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Uses in Coatings - Industrial

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES03a

1. Title of exposure scenario

Main title	Uses in Coatings - Industrial
Process scope	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.

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 4.3a.v1

Worker

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 Spraying in industrial settings and applications. 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 of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 10 tonnes
Maximum daily site tonnage: 0.5 tonnes

Frequency and duration of use

Uses in Coatings - Industrial

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.98

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.00007

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by terrestrial secondary poisoning.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 29 tonne/day
Assumed domestic sewage treatment plant flow (m^3/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Treat air emission to provide a typical removal efficiency of 90%.

Water No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Uses in Coatings - Industrial

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0053

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Uses in Coatings - Professional

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES03b

1. Title of exposure scenario

Main title	Uses in Coatings - Professional
Process scope	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.

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.3b.v1

Worker

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 of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC19 Hand-mixing with intimate contact and only PPE available.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.005 tonnes
Maximum daily site tonnage: 14 g

Frequency and duration of use

Uses in Coatings - Professional

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.98

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.01

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.01

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 3 kg/day
Assumed domestic sewage treatment plant flow (m^3/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Not determined.

Water No wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Uses in Coatings - Professional

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Uses in Coatings - Consumer

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES03c

1. Title of exposure scenario

Main title	Uses in Coatings - Consumer
Process scope	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.
Product category	PC1 Adhesives, sealants. PC4 Anti-freeze and de-icing products. PC8a Excipient only 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 and release products. PC31 Polishes and wax blends. PC34 Textile dyes, finishing and impregnating products, including bleaches and other processing aids.

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.3c.v1

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.005 tonnes
Maximum daily site tonnage: 14 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Uses in Coatings - Consumer

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.99
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.005

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 3 kg/day Assumed domestic sewage treatment plant flow (m^3/day): 2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Other given operational conditions affecting Non-industrial exposure

Consumer information	Do not ingest. If swallowed, then seek immediate medical assistance. No additional risk management measures required.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Cleaning Agents - Industrial

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES04a

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Industrial
Process scope	Covers the use as a component of cleaning products, including transfer from storage, pouring/unloading from drums or containers and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 4.4a.v1

Worker

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. PROC7 Spraying in industrial settings and applications. 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 of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1 tonnes
Maximum daily site tonnage: 50 kg

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Use in Cleaning Agents - Industrial

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 1.0
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 3.0E-07
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by terrestrial secondary poisoning.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2.9 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 70%.
Water	No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

Use in Cleaning Agents - Industrial

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Cleaning Agents - Professional

Identification

Product name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

CAS number 72623-87-1

Version number 2017

Es reference ES04b

1. Title of exposure scenario

Main title Use in Cleaning Agents - Professional

Process scope Covers the use as a component of cleaning products, including pouring/unloading from drums or containers and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand).

Environment

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

SPERC ESVOC SpERC 8.4b.v1

Worker

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.
PROC10 Roller application or brushing of adhesive and other coating.
PROC11 Spraying outside industrial settings and/or applications.
PROC13 Treatment of articles by dipping and pouring.
PROC19 Hand-mixing with intimate contact and only PPE available.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 1 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.0005 tonnes
Maximum daily site tonnage: 1.4 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Use in Cleaning Agents - Professional

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.02
Emission factor - water	Release fraction to wastewater from wide dispersive use: 1.0E-06
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Risk from environmental exposure is driven by freshwater sediment.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.3 kg/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Not determined.
Water	No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method)
	Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

Use in Cleaning Agents - Professional

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Cleaning Agents - Consumer

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES04c

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Consumer
Process scope	Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.
Product category	PC3 Air care products. PC4 Anti-freeze and de-icing products. PC8a Excipient only PC9a Coatings and paints, thinners, paint removers. PC24 Lubricants, greases and release products. PC35 Washing and cleaning products (including solvent-based products). PC38 Welding and soldering products, flux products.

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.4c.v1

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 1 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.0005 tonnes
Maximum daily site tonnage: 1.4 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.95
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.025
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.025

Environmental factors not influenced by risk management measures

Use in Cleaning Agents - Consumer

Dilution

Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

STP details

Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.3 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method

External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Other given operational conditions affecting Non-industrial exposure

Consumer information

Do not ingest. If swallowed, then seek immediate medical assistance.

No additional risk management measures required.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Oil and Gas Field Drilling and Production Operations - Industrial

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES05a

1. Title of exposure scenario

Main title	Use in Oil and Gas Field Drilling and Production Operations - Industrial
Process scope	Offshore and onshore oil field well drilling (including drilling muds use and well cleaning) and hydraulic fracturing operations; including material transfers, on-site formulation of drilling/fracturing fluid, well head/well bore operations, shaker room activities and related maintenance.

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	Not determined.

Worker

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.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: N/A
Annual site tonnage: N/A tonnes
Maximum daily site tonnage: N/A

Frequency and duration of use

Emission days: N/A

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): N/A
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): N/A

Use in Oil and Gas Field Drilling and Production Operations - Industrial

Environmental factors not influenced by risk management measures

Dilution
Local freshwater dilution factor: N/A
Local marine water dilution factor: N/A

Risk management measures

Technical measures
Prevent environmental discharge consistent with regulatory requirements.

STP details
Not determined.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air
Not determined.

Water
Not determined.

Conditions and measures related to external treatment of waste for disposal

Waste treatment
External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method
External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice
Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method
Quantitative exposure and risk assessment not possible due to lack of emissions to aquatic environment. Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Environment 1)

OFFSHORE DRILLLING: Discharge to aquatic environment is restricted by law and industry prohibits release. OSPAR Commission 2009. Discharges, Spills and Emissions from Offshore Oil and Gas Installations in 2007, including the assessment of data reported in 2006 and 2007. ONSHORE DRILLING: Environmental releases are minimized during onshore drilling operations; waste recycling and disposal is managed according to national and/or local regulations. International Finance Corporation 2007. Environmental, Health, and Safety Guidelines: onshore oil and gas development. Mining Waste Directive (2006/21/EC), European Waste Directive (2008/98/EC) and national transpositions, e.g. Novelle des Kreislaufwirtschaftsgesetzes (KrWG) in Germany.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Oil and Gas Field Drilling and Production Operations - Professional

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES05b

1. Title of exposure scenario

Main title	Use in Oil and Gas Field Drilling and Production Operations - Professional
Process scope	Offshore and onshore oil field well drilling (including drilling muds use and well cleaning) and hydraulic fracturing operations; including material transfers, on-site formulation of drilling/fracturing fluid, well head/well bore operations, shaker room activities and related maintenance.

Environment

Environmental release category	ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	Not determined.

Worker

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.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: N/A
Annual site tonnage: N/A tonnes
Maximum daily site tonnage: N/A

Frequency and duration of use

Emission days: N/A

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): N/A
Emission factor - water	Release fraction to wastewater from wide dispersive use: N/A

Use in Oil and Gas Field Drilling and Production Operations - Professional

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: N/A Local marine water dilution factor: N/A

Risk management measures

Technical measures	Prevent environmental discharge consistent with regulatory requirements.
STP details	Not determined.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Not determined.
Water	Not determined.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Quantitative exposure and risk assessment not possible due to lack of emissions to aquatic environment. Qualitative approach used to conclude safe use.

4. Guidance to check compliance with the exposure scenario (Environment 1)

OFFSHORE DRILLING: Discharge to aquatic environment is restricted by law and industry prohibits release. OSPAR Commission 2009. Discharges, Spills and Emissions from Offshore Oil and Gas Installations in 2007, including the assessment of data reported in 2006 and 2007. ONSHORE DRILLING: Environmental releases are minimized during onshore drilling operations; waste recycling and disposal is managed according to national and/or local regulations. International Finance Corporation 2007. Environmental, Health and Safety Guidelines: onshore oil and gas development. Mining Waste Directive (2006/21/EC). European Waste Directive (2008/98/EC) and national transpositions, e.g. Novelle des Kreislaufwirtschaftgesetzes (KrWG) in Germany.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Metal Working Fluids/Rolling Oils - Industrial

Identification

Product name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

CAS number 72623-87-1

Version number 2017

Es reference ES07a

1. Title of exposure scenario

Main title Use in Metal Working Fluids/Rolling Oils - Industrial

Process scope 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.

Environment

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

SPERC ESVOC SpERC 4.7a.v1

Worker

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 Spraying in industrial settings and applications.
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 of adhesive and other coating.
PROC13 Treatment of articles by dipping and pouring.
PROC17 Lubrication at high energy conditions and in partly open process.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 100 tonnes
Maximum daily site tonnage: 5.0 tonnes

Use in Metal Working Fluids/Rolling Oils - Industrial

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.02
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 3.0E-06
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by terrestrial secondary poisoning.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 290 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 70%.
Water	No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Use in Metal Working Fluids/Rolling Oils - Industrial

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0045

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Metal Working Fluids/Rolling Oils - Professional

Identification

Product name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

CAS number 72623-87-1

Version number 2017

Es reference ES07b

1. Title of exposure scenario

Main title Use in Metal Working Fluids/Rolling Oils - Professional

Process scope 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.

Environment

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

SPERC ESVOC SpERC 8.7c.v1

Worker

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).
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.
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).
PROC10 Roller application or brushing of adhesive and other coating.
PROC11 Spraying outside industrial settings and/or applications.
PROC13 Treatment of articles by dipping and pouring.
PROC17 Lubrication at high energy conditions and in partly open process.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 1000 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.5 tonnes
Maximum daily site tonnage: 1.4 kg

Frequency and duration of use

Use in Metal Working Fluids/Rolling Oils - Professional

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.005

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.05

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by freshwater secondary poisoning.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 130 kg/day
Assumed domestic sewage treatment plant flow (m^3/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Not determined.

Water No wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Use in Metal Working Fluids/Rolling Oils - Professional

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0025
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0066

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use as Release Agents or Binders - Industrial

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES10a

1. Title of exposure scenario

Main title	Use as Release Agents or Binders - Industrial
Process scope	Covers the use as binders and release agents, including material transfers, mixing, application (including spraying and brushing), mould forming and casting and handling of waste.

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 4.10a.v1

Worker

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. PROC6 Calendering operations. PROC7 Spraying in industrial settings and applications. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC14 Production of preparations or articles by tabletting, compression, extrusion, pelletisation.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 1 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1 tonnes
Maximum daily site tonnage: 50 kg

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Use as Release Agents or Binders - Industrial

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 1.0
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 3.0E-07
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by terrestrial secondary poisoning.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2.9 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 80%.
Water	No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

Use as Release Agents or Binders - Industrial

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use as Release Agents or Binders - Professional

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES10b

1. Title of exposure scenario

Main title	Use as Release Agents or Binders - Professional
Process scope	Covers the use as binders and release agents, including material transfers, mixing, application by spraying, brushing and handling of waste.

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.10b.v1

Worker

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. 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. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC14 Production of preparations or articles by tabletting, compression, extrusion, pelletisation.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 1 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.0005 tonnes
Maximum daily site tonnage: 1.4 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Use as Release Agents or Binders - Professional

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.95
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.025
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.025

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.3 kg/day Assumed domestic sewage treatment plant flow (m^3/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Not determined.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

Use as Release Agents or Binders - Professional

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Agrochemicals - Professional

Identification

Product name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

CAS number 72623-87-1

Version number 2017

Es reference ES11a

1. Title of exposure scenario

Main title Use in Agrochemicals - Professional

Process scope Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging, including equipment clean-downs and disposal.

Environment

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

SPERC ESVOC SpERC 8.11a.v1

Worker

Process category
PROC1 Use in closed process, no likelihood of exposure.
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 Spraying outside industrial settings and/or applications.
PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 0.1 tonnes/year
Fraction of Regional tonnage used locally: 0.002
Annual site tonnage: 0.0002 tonnes
Maximum daily site tonnage: 0.55 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.9

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.01

Use in Agrochemicals - Professional

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.09

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.12 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Not determined.

Water No wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Use in Agrochemicals - Professional

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Agrochemicals - Consumer

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES11b

1. Title of exposure scenario

Main title	Use in Agrochemicals - Consumer
Process scope	Covers the consumer use in agrochemicals in liquid and solid forms.
Product category	PC12 Lawn and garden preparations (- fertilizers). PC27 Plant protection products.

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.11b.v1

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 0.1 tonnes/year
Fraction of Regional tonnage used locally: 0.002
Annual site tonnage: 0.0002 tonnes
Maximum daily site tonnage: 0.55 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.9
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.09

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Use in Agrochemicals - Consumer

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.12 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Other given operational conditions affecting Non-industrial exposure

Consumer information Do not ingest. If swallowed, then seek immediate medical assistance.

No additional risk management measures required.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Road and Construction Applications - Professional

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES15

1. Title of exposure scenario

Main title	Use in Road and Construction Applications - Professional
Process scope	Application of surface coatings and binders in road and construction activities, including paving uses, manual mastic and in the application of roofing and water-proofing membranes.

Environment

Environmental release category	ERC8d Wide dispersive outdoor use of processing aids in open systems. ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix.
SPERC	ESVOC SpERC 8.15.v1

Worker

Process category	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 of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 0.1 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.00005 tonnes
Maximum daily site tonnage: 0.14 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.95
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01

Use in Road and Construction Applications - Professional

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.04

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.03 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Not determined.

Water No wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Use in Road and Construction Applications - Professional

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Rubber Production and Processing - Industrial

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES19

1. Title of exposure scenario

Main title	Rubber Production and Processing - Industrial
Process scope	Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging SU11 Manufacture of rubber products

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers.
SPERC	ESVOC SpERC 4.19.v1

Worker

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. PROC7 Spraying in industrial settings and applications. 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). PROC13 Treatment of articles by dipping and pouring. PROC14 Production of preparations or articles by tabletting, compression, extrusion, pelletisation. PROC15 Use as laboratory reagent. PROC21 Low energy manipulation of substances bound in materials and/or articles

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Rubber Production and Processing - Industrial

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 10 tonnes
Maximum daily site tonnage: 0.5 tonnes

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.01
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by terrestrial secondary poisoning.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 29 tonne/day Assumed domestic sewage treatment plant flow (m^3/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Rubber Production and Processing - Industrial

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0045

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Polymer Processing - Industrial

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES21a

1. Title of exposure scenario

Main title	Use in Polymer Processing - Industrial
Process scope	Processing of formulated polymers, including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers etc.), moulding, curing and forming activities, material reworks, storage and associated maintenance.
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 4.21a.v1

Worker

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. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC13 Treatment of articles by dipping and pouring. PROC14 Production of preparations or articles by tabletting, compression, extrusion, pelletisation. PROC21 Low energy manipulation of substances bound in materials and/or articles

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Use in Polymer Processing - Industrial

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 10 tonnes
Maximum daily site tonnage: 0.5 tonnes

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.1
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.00001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by terrestrial secondary poisoning.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 29 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 80%.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Use in Polymer Processing - Industrial

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Polymer Processing - Professional

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES21b

1. Title of exposure scenario

Main title	Use in Polymer Processing - Professional
Process scope	Processing of formulated polymers, including material transfers, moulding and forming activities, material reworks and associated maintenance.

Environment

Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.21b.v1

Worker

Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure 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 tabletting, compression, extrusion, pelletisation. PROC21 Low energy manipulation of substances bound in materials and/or articles

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.005 tonnes
Maximum daily site tonnage: 14 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.98

Use in Polymer Processing - Professional

Emission factor - water	Release fraction to wastewater from wide dispersive use: 0,01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0,01

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 3 kg/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Not determined.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Use in Polymer Processing - Professional

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use as a Fuel - Professional

Identification

Product name	Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based
CAS number	72623-86-0
Version number	2017
Es reference	ES12b

1. Title of exposure scenario

Main title	Use as a Fuel - Professional
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

Environment

Environmental release category	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.12b.v1

Worker

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. PROC16 Using material as fuel sources, limited exposure to unburned product to be expected.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.005 tonnes
Maximum daily site tonnage: 14 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.0001
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.00001

Use as a Fuel - Professional

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.00001

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by fresh water.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.5%
Removal efficiency (total): 94,5%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 14 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Not determined.

Water No wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method This substance is consumed during use and no waste of the substance is generated.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.00018
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.00087

4. Guidance to check compliance with the exposure scenario (Environment 1)

Use as a Fuel - Professional

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use as a Fuel - Consumer

Identification

Product name	Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based
CAS number	72623-86-0
Version number	2017
Es reference	ES12c

1. Title of exposure scenario

Main title	Use as a Fuel - Consumer
Process scope	Covers consumer uses in liquid fuels.
Product category	PC13 Fuels.

Environment

Environmental release category	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.12c.v1

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.005 tonnes
Maximum daily site tonnage: 14 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.0001
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.00001
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.00001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Use as a Fuel - Consumer

STP details

Estimated substance removal from wastewater via domestic sewage treatment: 94.5%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 14 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment

Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method

This substance is consumed during use and no waste of the substance is generated.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Other given operational conditions affecting Non-industrial exposure

Consumer information

Do not ingest. If swallowed, then seek immediate medical assistance.

No additional risk management measures required.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.00018
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.00087

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Lubricants - Industrial

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES06a

1. Title of exposure scenario

Main title	Lubricants - Industrial
Process scope	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.

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC7 Industrial use of substances in closed systems.
SPERC	ESVOC SpERC 4.6a.v1

Worker

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. PROC7 Spraying in industrial settings and applications. 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 of adhesive and other coating. 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.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 2 000 tonnes/year
Fraction of Regional tonnage used locally: 0.05
Annual site tonnage: 100 tonnes
Maximum daily site tonnage: 5.0 tonnes

Frequency and duration of use

Lubricants - Industrial

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.0005

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 3.0E-06

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.001

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by terrestrial secondary poisoning.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 290 tonne/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Treat air emission to provide a typical removal efficiency of 70%.

Water No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Lubricants - Industrial

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0045

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Lubricants - Professional

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES06b, ES06c

1. Title of exposure scenario

Main title	Lubricants - Professional
Process scope	Covers the use of formulated lubricants within closed or contained systems, including incidental exposures during material transfers, operation of engines and similar articles, equipment maintenance and disposal of waste oil.

Environment

Environmental release category	Low environmental release: ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems. High environmental release: ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 9.6b.v1 ESVOC SpERC 8.6c.v1

Worker

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 of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. 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 use but closed systems.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Control of environmental exposure

Environmental release category	Low environmental release: ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.6b.v1

Lubricants - Professional

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 15 000 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 7.6 tonnes
Maximum daily site tonnage: 21 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.01

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.01

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.01

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1 600 kg/day
Assumed domestic sewage treatment plant flow (m^3/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Not determined.

Water No wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Industrial - Environment 2)

Control of environmental exposure

Lubricants - Professional

Environmental release category	High environmental release: ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.6c.v1

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.05 tonnes
Maximum daily site tonnage: 0.14 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.005
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.05
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.
STP details	Estimated substance removal from wastewater via on-site sewage treatment: 94.7% Removal efficiency (total): 94.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 29 kg/day Assumed domestic sewage treatment plant flow (m^3/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Not determined.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Lubricants - Professional

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice

Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Low environmental release:
Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0051
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.012

High environmental release:
Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0041

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Lubricants - Consumer

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES06d, ES06e

1. Title of exposure scenario

Main title	Lubricants - Consumer
Process scope	Covers the use of formulated lubricants within closed or contained systems, including incidental exposures during material transfers, operation of engines and similar articles, equipment maintenance and disposal of waste oil.
Product category	PC1 Adhesives, sealants. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.

Environment

Environmental release category	Low environmental release: ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems. High environmental release: ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 9.6d.v1 ESVOC SpERC 8.6e.v1

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Control of environmental exposure (Non-industrial)

Environmental release category	Low environmental release: ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.6d.v1

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 5 000 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 2.5 tonnes
Maximum daily site tonnage: 6.8 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Lubricants - Consumer

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.01
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.01

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 630 kg/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Non-industrial - Environment 2)

Control of environmental exposure (Non-industrial)

Environmental release category	High environmental release: ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.6e.v1

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.05 tonnes
Maximum daily site tonnage: 0.14 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.005
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.05
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

Lubricants - Consumer

Dilution

Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

STP details

Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 29 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method

External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Other given operational conditions affecting Non-industrial exposure

Consumer information

Do not ingest. If swallowed, then seek immediate medical assistance.

No additional risk management measures required.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Low environmental release:
Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0025
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0066

High environmental release:
Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0041

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Laboratories - Industrial

Identification

Product name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

CAS number 72623-87-1

Version number 2017

Es reference ES17a

1. Title of exposure scenario

Main title Use in Laboratories - Industrial

Process scope Use of the substance within laboratory settings, including material transfers and equipment cleaning.

Environment

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

SPERC Not determined.

Worker

Process category PROC10 Roller application or brushing of adhesive and other coating.
PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 0.1 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.1 tonnes
Maximum daily site tonnage: 5 kg

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.025

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.02

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Use in Laboratories - Industrial

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by terrestrial secondary poisoning.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 300 kg/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.016 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0079

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Use in Laboratories - Industrial

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Laboratories - Professional

Identification

Product name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

CAS number 72623-87-1

Version number 2017

Es reference ES17b

1. Title of exposure scenario

Main title Use in Laboratories - Professional

Process scope Use of the substance within laboratory settings, including material transfers and equipment cleaning.

Environment

Environmental release category ERC8a Wide dispersive indoor use of processing aids in open systems.

SPERC ESVOC SpERC 8.17.v1

Worker

Process category PROC10 Roller application or brushing of adhesive and other coating.
PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 0.1 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.00005 tonnes
Maximum daily site tonnage: 0.14 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.5

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.5

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Use in Laboratories - Professional

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.03 kg/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Use in Laboratories - Professional

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Mining Operations - Industrial

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES23

1. Title of exposure scenario

Main title	Use in Mining Operations - Industrial
Process scope	Covers the use of the substance in extraction processes at mining operations, including material transfers, winning and separation activities and substance recovery and disposal.
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 4.23.v1

Worker

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. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 100 tonnes
Maximum daily site tonnage: 5 tonnes

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Use in Mining Operations - Industrial

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.25
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.50
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.05

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 99,8% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 5 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 80%.
Water	Onsite wastewater treatment required. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 99,8. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): ≥ 95,4.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method)

Use in Mining Operations - Industrial

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.91

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Water Treatment Chemicals - Industrial

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES22a

1. Title of exposure scenario

Main title	Use in Water Treatment Chemicals - Industrial
Process scope	Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging

Environment

Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 3.22a.v1

Worker

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. PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 0.1 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.1 tonnes
Maximum daily site tonnage: 0.33 kg

Frequency and duration of use

Continuous release.
Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.05

Use in Water Treatment Chemicals - Industrial

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.95

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 19 kg/day
Assumed domestic sewage treatment plant flow (m^3/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Treat air emission to provide a typical removal efficiency of 0%.

Water No wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.014
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.017

4. Guidance to check compliance with the exposure scenario (Environment 1)

Use in Water Treatment Chemicals - Industrial

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use in Water Treatment Chemicals - Professional

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES22b

1. Title of exposure scenario

Main title	Use in Water Treatment Chemicals - Professional
Process scope	Covers the use of the substance for the treatment of water in open and closed systems.

Environment

Environmental release category	ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix.
SPERC	ESVOC SpERC 8.22b.v1

Worker

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. PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 0.1 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.1 tonnes
Maximum daily site tonnage: 0.27 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.01
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.99
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0

Use in Water Treatment Chemicals - Professional

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 18 kg/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Not determined.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCr(air) ≤ 0.0066 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.015

4. Guidance to check compliance with the exposure scenario (Environment 1)

Use in Water Treatment Chemicals - Professional

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Explosives Manufacture and Use - Professional

Identification

Product name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

CAS number 72623-87-1

Version number 2017

Es reference ES18b

1. Title of exposure scenario

Main title Explosives Manufacture and Use - Professional

Process scope Covers exposures arising from the manufacture and use of slurry explosives (including materials transfer, mixing and charging) and equipment cleaning.

Environment

Environmental release category ERC8e Wide dispersive outdoor use of reactive substances in open systems.

SPERC Not determined.

Worker

Process category

PROC1 Use in closed process, no likelihood of exposure.
PROC3 Use in closed batch process (synthesis or formulation).
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.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 0.1 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.00005 tonnes
Maximum daily site tonnage: 0.14 g

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.001

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.02

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.01

Explosives Manufacture and Use - Professional

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.03 kg/day Assumed domestic sewage treatment plant flow (m^3/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Not determined.
Water	No wastewater treatment required.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Explosives Manufacture and Use - Professional

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use as Functional Fluids - Industrial

Identification

Product name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

CAS number 72623-87-1

Version number 2017

Es reference ES13a

1. Title of exposure scenario

Main title Use as Functional Fluids - Industrial

Process scope Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment, including maintenance and related material transfers.

Environment

Environmental release category ERC7 Industrial use of substances in closed systems.

SPERC ESVOC SpERC 7.13a.v1

Worker

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).

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: 0.1
Annual site tonnage: 10 tonnes
Maximum daily site tonnage: 500 kg

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.0005

Use as Functional Fluids - Industrial

Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 3.0E-06
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by terrestrial secondary poisoning.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 94.7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 29 tonne/day Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

	Avoid splashing. Avoid contact with contaminated tools and objects. Handle in accordance with good industrial hygiene and safety practice. Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven RCR(air) ≤ 0.017 Risk-driving RCR - water compartment driven RCR(water) ≤ 0.0039

4. Guidance to check compliance with the exposure scenario (Environment 1)

Use as Functional Fluids - Industrial

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use as Functional Fluids - Professional

Identification

Product name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

CAS number 72623-87-1

Version number 2017

Es reference ES13b

1. Title of exposure scenario

Main title Use as Functional Fluids - Professional

Process scope Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment, including maintenance and related material transfers.

Environment

Environmental release category
ERC9a Wide dispersive indoor use of substances in closed systems.
ERC9b Wide dispersive outdoor use of substances in closed systems.

SPERC ESVOC SpERC 9.13b.v1

Worker

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 use but closed systems.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.05 tonnes
Maximum daily site tonnage: 0.14 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.05

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.025

Use as Functional Fluids - Professional

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.025

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

Risk from environmental exposure is driven by freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Removal efficiency (total): 94,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 29 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Not determined.

Water No wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Risk management measures

Avoid splashing.
Avoid contact with contaminated tools and objects.
Handle in accordance with good industrial hygiene and safety practice.
Assumes a good basic standard of occupational hygiene is implemented.
Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven 0.004

4. Guidance to check compliance with the exposure scenario (Environment 1)

Use as Functional Fluids - Professional

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

Exposure scenario
Use as Functional Fluids - Consumer

Identification

Product name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
CAS number	72623-87-1
Version number	2017
Es reference	ES13c

1. Title of exposure scenario

Main title	Use as Functional Fluids - Consumer
Process scope	Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.
Product category	PC16 Heat transfer fluids. PC17 Hydraulic fluids.

Environment

Environmental release category	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.13c.v1

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.05 tonnes
Maximum daily site tonnage: 0.14 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.05
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.025
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.025

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100

Risk management measures

Use as Functional Fluids - Consumer

STP details

Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 29 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method

External recovery and recycling of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Other given operational conditions affecting Non-industrial exposure

Consumer information

Do not ingest. If swallowed, then seek immediate medical assistance.

No additional risk management measures required.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven RCR(air) ≤ 0.0022
Risk-driving RCR - water compartment driven RCR(water) ≤ 0.004

4. Guidance to check compliance with the exposure scenario (Environment 1)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.