



SAFETY DATA SHEET NEXBASE® 3043

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

1.1. Product identifier

Product name	NEXBASE® 3043
Chemical name	Lubricating oils (petroleum), C20-C50, hydrotreated neutral oilbased
Product number	ID 12553
Internal identification	192508, 822600
REACH registration number	01-2119474889-13-0000
REACH registration notes	01-2119474889-13-0000 / -0003

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

Identified uses	Manufacture of substance Use as an intermediate Distribution of substance, Formulation & (re)packing of substances and mixtures, Uses in coatings Use in cleaning agents Use in oil and gas field drilling and production operations Metal working fluids/rolling oils Use as binders and release agents Use in agrochemicals Road and construction applications Rubber production and processing Polymer processing Use as a fuel, Lubricants Laboratory chemical Mining chemicals Water treatment chemicals Explosives manufacture & use Functional fluids
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1.3. Details of the supplier of the safety data sheet

Supplier	Neste N.V. Industriezone Ravenshout 7304, Industrieweg 154, B-3583 Beringen, BELGIUM Tel. +32 11 459 511 SDS@neste.com (chemical safety)
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1.4. Emergency telephone number

National emergency telephone number	+358-9-471 977, +358-9-4711, Poison Information Centre/HUS, P.O.B 340 (Tukholmankatu 17) 00029 HUS (Helsinki, Finland)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Physical hazards	Not Classified
Health hazards	Asp. Tox. 1 - H304
Environmental hazards	Not Classified

2.2. Label elements

Pictogram



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

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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)., REACH Registration number: 01-2119474889-13-0000 / 01-2119474889-13-0003.

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 Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

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

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

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5.2. Special hazards arising from the substance or mixture

Specific hazards	Not known.
Hazardous combustion products	Carbon dioxide (CO ₂). 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.
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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.
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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.
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6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8.
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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.
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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.
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7.3. Specific end use(s)

Specific end use(s)	Not known.
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SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

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Oil mist: 5 mg/m³ (8h) HTP 2014/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.
Environmental exposure controls	Take precautions against leakage by constructing collecting pools and sewerage systems as well as by surfacing the loading and unloading stations.

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 ≤ -12°C (ASTM D-97)
Initial boiling point and range	350-600°C
Flash point	> 220°C (ASTM D-92).
Upper/lower flammability or explosive limits	-
Vapour pressure	< 0,1 hPa @ 20°C
Vapour density	-

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Relative density	0,82-0,84 @ 15°C (ASTM D-4052).
Solubility(ies)	Insoluble in water.
Partition coefficient	log Kow: > 6
Auto-ignition temperature	-
Decomposition Temperature	-
Viscosity	Kinematic viscosity typical value 20 mm ² /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: ≤ - 12°C Dynamic viscosity 39,4 mPa s @ +20°C Dynamic viscosity ~ 50 mPa s @ + 16°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

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Genotoxicity - in vitro	Based on available data the classification criteria are not met. (OECD 471, 473, 476)
Genotoxicity - in vivo	Based on available data the classification criteria are not met. (OECD 474)
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met. (OECD 451, 453)
IARC carcinogenicity	Not listed.
NTP carcinogenicity	Not listed.
<u>Reproductive toxicity</u>	
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)
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Based on available data the classification criteria are not met. (OECD 408, 410, 411, 412, 453)
<u>Aspiration hazard</u>	
Aspiration hazard	Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Toxicological information on ingredients.**Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based****Acute toxicity - oral**

Notes (oral LD₅₀) LD₅₀ > 5000 mg/kg, Oral, Rat (OECD 401)

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 2000 mg/kg, Dermal, Rabbit (OECD 402)

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ > 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.

Ecological information on ingredients.**Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based**

Acute toxicity - fish LL₅₀, 96 hours: > 100 mg/l,
NOEL, 96 hours: ≥ 100 mg/l,
WAF (OECD 203)

Acute toxicity - aquatic invertebrates EL50, 24 - 48 hours: > 10000 mg/l,
NOEL, 48 - 96 hours: ≥ 10000 mg/l,
LL₅₀, 24 - 96 hours: > 10000 mg/l,
WAF (OECD 202)

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Acute toxicity - aquatic plants	NOEL, 72 hours: \geq 100 mg/l, WAF (OECD 201)
Acute toxicity - microorganisms	NOEL, 10 minutes: > 1,93 mg/l, Micro-organisms (wastewater sludge) (DIN 38412, DIN38409)
Chronic toxicity - fish early life stage	NOELR, 14 days: \geq 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)

Ecological information on ingredients.**Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based**

Biodegradation 2 - 4 %, 28 d
(OECD TG 301 B)

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).

14.1. UN number

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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 -

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 3043, 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**

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 453/2010 of 20 May 2010.
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/NDSLYes
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

NEXBASE® 3043**Korea - KECI**

Yes

China - IECSC

Yes

Philippines – PICCS

Yes

New Zealand - NZIOC

Yes

Other Inventories of Taiwan and Switzerland.**SECTION 16: Other information**

Abbreviations and acronyms used in the safety data sheet	DNEL = Derived No-Effect Level PNEC = Predicted No-Effect Concentration PEL = Permissible Exposure Limit STEL = Short-Term Exposure Limit TLV = Treshold Limit Value TWA = Time-Weighted Average OSHA = Occupational Safety and Health Administration ACGIH = American Conference of Governmental Industrial Hygienists IARC = International Agency for Research on Cancer NTP = National Toxicology Program WAF = Water Accommodated Fraction
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 Other Lubricant Base Oils, 2012.
Revision comments	Updated, sections: 14.7
Revision date	30/05/2016
Supersedes date	19/01/2016
SDS number	5593
Hazard statements in full	H304 May be fatal if swallowed and enters airways.
Use Descriptor Codes, Industrial uses	Manufacture of substance, (PROC 1, 2, 3, 4, 8a/b, 15; SU 3, 8, 9; ERC 1), Use as an intermediate, (PROC 1, 2, 3, 4, 8a/b, 15; SU 3, 8, 9; ERC 6a), Distribution of substance,, (PROC 1, 2, 3, 4, 8a/b, 9, 15; SU 3; ERC 4, 5, 6a/b/c/d, 7), Formulation & (re)packing of substances and mixtures,, (PROC 1, 2, 3, 4, 5, 8a/b, 9, 14, 15; SU 3, 10; ERC 2), Uses in coatings, (PROC 1, 2, 3, 4, 5, 7, 8a/b, 10, 13, 15; SU 3; ERC 4), Use in cleaning agents, (PROC 1, 2, 3, 4, 7, 8a/b, 10, 13, SU 3; ERC 4), Use in oil and gas field drilling and production operations, (PROC 1, 2, 3, 4, 8a/b; SU 3; ERC 4), Metal working fluids/rolling oils, (PROC 1, 2, 3, 4, 5, 7, 8a/b, 9, 10, 13, 17; SU 3; ERC 4), Use as binders and release agents, (PROC 1, 2, 3, 4, 6, 7, 8b, 10, 13, 14; SU 3; ERC 4), Rubber production and processing, (PROC 1, 2, 3, 4, 5, 6, 7, 8a/b, 9, 13, 14, 15, 21; SU 3, 10, 11; ERC 4, 6d), Polymer processing, (PROC 1, 2, 3, 4, 5, 6, 8a/b, 9, 13, 14, 21; SU 10; ERC 4), Use as a fuel,, (PROC 1, 2, 3, 8a/b, 16; SU 3; ERC 7), Lubricants, (PROC 1, 2, 3, 4, 7, 8a/b, 9, 10, 13, 17, 18; SU 3; ERC 4, 7), Use in laboratories, (PROC 10, 15, SU 3; ERC 4), Mining chemicals, (PROC 1, 2, 3, 4, 5, 8a/b, 9; SU 10; ERC 4), Water treatment chemicals, (PROC 1, 2, 3, 4, 8a/b, 13; SU 10; ERC 4), Functional fluids, (PROC 1, 2, 3, 4, 8a/b, 9; SU 3; ERC 7)

NEXBASE® 3043**Use Descriptor Codes,
Professional uses**

Uses in coatings, (PROC 1, 2, 3, 4, 5, 8a/b, 10, 11, 13, 15, 19; SU 22; ERC 8a/d), Use in cleaning agents, (PROC 1, 2, 3, 4, 8a/b, 10, 11, 13; SU 22; ERC 8a/d), Use in oil and gas field drilling and production operations, (PROC 1, 2, 3, 4, 8a/b; SU 22; ERC 8d), Metal working fluids/rolling oils, (PROC 1, 2, 3, 5, 8a/b, 9, 10, 11, 13, 17; SU 22; ERC 8a/d), Use as binders and release agents, (PROC 1, 2, 3, 4, 6, 8a/b, 10, 11, 14; SU 22; ERC 8a/d), Use in agrochemicals, (PROC 1, 2, 4, 8a/b, 11, 13; SU 22; ERC 8a/d), Road and construction applications, (PROC 8a/b, 9, 10, 11, 13; SU 22; ERC 8d/f), Polymer processing, (PROC 1, 2, 6, 8a/b, 14, 21; SU 22; ERC 8a/d), Use as a fuel,, (PROC 1, 2, 3, 8a/b, 16; SU 22; ERC 9a/b), Lubricants, (PROC 1, 2, 3, 4, 8a/b, 9, 10, 11, 13, 17, 18, 20; SU 22; ERC (low release) 9a/b; ERC (high release) 8a/d), Use in laboratories, (PROC 10, 15, SU 22; ERC 8a), Water treatment chemicals, (PROC 1, 2, 3, 4, 8a/b, 13; SU 22; ERC 8f), Explosives manufacture & use, (PROC 1, 3, 5, 8a/b; SU 22; ERC 8e), Functional fluids, (PROC 1, 2, 3, 8a, 9, 20; SU 22; ERC 9a/b)

**Use Descriptor Codes,
Consumer uses**

Uses in coatings, (PC 1, 4, 8, 9a/b/c, 15, 18, 23, 24, 31, 34; SU 21; ERC 8a/d), Use in cleaning agents, (PC 3, 4, 8, 9a, 24, 35, 38; SU 21; ERC 8a/d), Use in agrochemicals, (PC 12, 27; SU 21; ERC 8a/d), Use as a fuel,, (PC 21; SU 21; ERC 9a/b), Lubricants, (PC 1, 24, 31; SU 21; ERC (low release) 9a/b; ERC (high release) 8a/d), Functional fluids, (PC 16, 17; SU 21; ERC 9a/b)



Exposure scenario

Manufacture of Substance - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Manufacture of Substance - Industrial
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.
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
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

Manufacture of Substance - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 850,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 600,000 tonnes
 Maximum daily site tonnage: 2000 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): 1.0E-04
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-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: 5700 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 Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 84.8. If discharging to domestic sewage treatment plant, no onsite 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 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)

Product characteristics

Physical state Liquid With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Manufacture of Substance - Industrial

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

General exposures (closed systems)
No other specific measures identified.

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General exposures (open systems)
No other specific measures identified.

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Process sampling
No other specific measures identified.

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Laboratory activities
No other specific measures identified.

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Bulk transfers
(closed systems)
No other specific measures identified.

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Bulk transfers
(open systems)
No other specific measures identified.

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Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

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Bulk product storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

Manufacture of Substance - Industrial

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use of Substance as Intermediate - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Use of Substance as Intermediate - Industrial
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.
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals
Environment	
Environmental release category	ERC6a Industrial use resulting in manufacture of another substance (use of intermediates).
SPERC	ESVOC SpERC 6.1a.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

Use of Substance as Intermediate - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 1500 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 1500 tonnes
 Maximum daily site tonnage: 15 tonnes

Frequency and duration of use

Continuous release.
 Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 1.0E-05
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-03

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: 98 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 Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 66,2. If discharging to domestic sewage treatment plant, no onsite 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 This substance is consumed during use and no waste of the substance is generated.

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)

Product characteristics

Physical state Liquid With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Use of Substance as Intermediate - Industrial

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

General exposures (closed systems)
No other specific measures identified.

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General exposures (open systems)
No other specific measures identified.

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Process sampling
No other specific measures identified.

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Laboratory activities
No other specific measures identified.

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Bulk transfers
(closed systems)
No other specific measures identified.

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Bulk transfers
(open systems)
No other specific measures identified.

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Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

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Bulk product storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

Use of Substance as Intermediate - Industrial

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Distribution of Substance - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Distribution of Substance - Industrial
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.
Main sector	SU3 Industrial uses
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

Distribution of Substance - Industrial

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 850,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 1700 tonnes
 Maximum daily site tonnage: 17 tonnes

Frequency and duration of use

Continuous release.
 Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 1.0E-04
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-07
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-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): 94,7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 110 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64,4. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Distribution of Substance - Industrial

Physical state	Liquid With potential for aerosol generation
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers percentage substance in the product up to 100% (unless stated differently).
<u>Frequency and duration of use</u>	Covers daily exposures up to 8 hours (unless stated differently).
<u>Other given operational conditions affecting workers exposure</u>	
Setting	Assumes a good basic standard of occupational hygiene is implemented.
Temperature	Operation is carried out at elevated temperature (> 20°C above ambient temperature).
<u>Risk management measures</u>	<p>General exposures (closed systems) No other specific measures identified.</p> <p>.</p> <p>General exposures (open systems) No other specific measures identified.</p> <p>.</p> <p>Process sampling No other specific measures identified.</p> <p>.</p> <p>Laboratory activities No other specific measures identified.</p> <p>.</p> <p>Bulk transfers (closed systems) No other specific measures identified.</p> <p>.</p> <p>Bulk transfers (open systems) No other specific measures identified.</p> <p>.</p> <p>Drum and small package filling No other specific measures identified.</p> <p>.</p> <p>Equipment cleaning and maintenance Drain down and flush system prior to equipment break-in or maintenance.</p> <p>.</p> <p>Storage Store substance within a closed system.</p>

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Distribution of Substance - 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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Formulation & (Re)packing of Substances and Mixtures - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Formulation & (Re)packing of Substances and Mixtures - Industrial
Process scope	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging
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 tableting, 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.

Formulation & (Re)packing of Substances and Mixtures - Industrial

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 850,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 30,000 tonnes
 Maximum daily site tonnage: 100 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 (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 2.5E-03

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 5.0E-06

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-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: 570 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 Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 69,5. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid With potential for aerosol generation

Formulation & (Re)packing of Substances and Mixtures - Industrial

Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers percentage substance in the product up to 100% (unless stated differently).
<u>Frequency and duration of use</u>	Covers daily exposures up to 8 hours (unless stated differently).
<u>Other given operational conditions affecting workers exposure</u>	
Setting	Assumes a good basic standard of occupational hygiene is implemented.
Temperature	Operation is carried out at elevated temperature (> 20°C above ambient temperature).
<u>Risk management measures</u>	

Formulation & (Re)packing of Substances and Mixtures - Industrial

General exposures (closed systems)
No other specific measures identified.

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General exposures (open systems)
No other specific measures identified.

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Batch processes at elevated temperatures
Use in contained batch processes
No other specific measures identified.

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Process sampling
No other specific measures identified.

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Laboratory activities
No other specific measures identified.

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Bulk transfers
Dedicated facility
No other specific measures identified.

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Mixing operations
(open systems)
No other specific measures identified.

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Transfer from/pouring from containers
Manual
Non-dedicated facility
No other specific measures identified.

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Drum/batch transfers
Dedicated facility
No other specific measures identified.

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Production of preparations or articles by tableting, compression, extrusion, pelletisation
No other specific measures identified.

.

Drum and small package filling
No other specific measures identified.

.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

.

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Formulation & (Re)packing of Substances and Mixtures - 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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Uses in Coatings - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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	

Uses in Coatings - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 10,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 10,000 tonnes
 Maximum daily site tonnage: 35 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): 0.98
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 2.0E-05
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 humans via indirect exposure (primarily inhalation).

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: 100 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 Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 71,2. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Uses in Coatings - Industrial

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Uses in Coatings - Industrial

General exposures (closed systems)

With sample collection

No other specific measures identified.

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Bulk transfers

Dedicated facility

No other specific measures identified.

.

Film formation - force drying, stoving and other technologies

Use in contained systems

Elevated temperature

No other specific measures identified.

.

Film formation - air drying

(open systems)

No other specific measures identified.

.

Preparation of material for application

Mixing operations

(closed systems)

No other specific measures identified.

.

Preparation of material for application

Mixing operations

(open systems)

No other specific measures identified.

.

Spraying (automatic/robotic)

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

.

Spraying/fogging by manual application

Wear a respirator conforming to EN140 with Type A filter or better.

.

Material transfers

Non-dedicated facility

No other specific measures identified.

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Material transfers

Dedicated facility

No other specific measures identified.

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Roller, spreader, flow application

No other specific measures identified.

.

Dipping, immersion and pouring

No other specific measures identified.

.

Laboratory activities

No other specific measures identified.

.

Material transfers

Drum/batch transfers

Transfer from/pouring from containers

No other specific measures identified.

Uses in Coatings - Industrial

.
Production of preparations or articles by tableting, compression, extrusion, pelletisation
No other specific measures identified.

.
Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

.
Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Uses in Coatings - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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.
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Amounts used

Uses in Coatings - Professional

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 3900 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 2.0 tonnes
 Maximum daily site tonnage: 5.4 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): 0.98
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 (M_{safe}), based on release following total wastewater treatment removal: 35 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 65,0. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Uses in Coatings - Professional

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Uses in Coatings - Professional

Filling/preparation of equipment from drums or containers.

Dedicated facility

No other specific measures identified.

.

General exposures (closed systems)

No other specific measures identified.

.

Preparation of material for application

Mixing operations

(closed systems)

No other specific measures identified.

.

Film formation - air drying

Indoor/outdoor use.

No other specific measures identified.

.

Preparation of material for application

Mixing operations

(open systems)

Pouring from small containers

Indoor/outdoor use.

No other specific measures identified.

.

Material transfers

Drum/batch transfers

Non-dedicated facility

Use drum pumps.

.

Roller, spreader, flow application

Indoor/outdoor use.

No other specific measures identified.

.

Spraying/fogging by manual application

Indoor.

Carry out in a vented booth or extracted enclosure.

.

Spraying/fogging by manual application

Outdoor.

Wear a respirator conforming to EN140 with Type A filter or better.

.

Dipping, immersion and pouring

Indoor/outdoor use.

No other specific measures identified.

.

Laboratory activities

No other specific measures identified.

.

Hand application - fingerpaints, pastels, adhesives

Indoor/outdoor use.

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Uses in Coatings - Professional

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Uses in Coatings - Consumer

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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. 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.
Main sector	SU21 Consumer uses
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: 2000 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 1.0 tonnes
Maximum daily site tonnage: 2.8 kg/day

Uses in Coatings - Consumer

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): 0.985
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 (M_{safe}), based on release following total wastewater treatment removal: 18 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.
Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

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)

Uses in Coatings - Consumer

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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Qualitative approach used to conclude safe use. Based on a qualitative CSA, this substance is not likely to present a risk of local effects in consumers from exposures to the substance in its aerosol form.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use in Cleaning Agents - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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

Use in Cleaning Agents - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 10,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 100 tonnes
 Maximum daily site tonnage: 5.0 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): 1.0
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-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 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: 33 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 Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64,4. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Use in Cleaning Agents - Industrial

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Bulk transfers

Dedicated facility

No other specific measures identified.

.

Automated process with (semi) closed systems

Use in contained systems

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Dedicated facility

No other specific measures identified.

.

Automated process with (semi) closed systems

Use in contained systems

Elevated temperature

No other specific measures identified.

.

Dipping, immersion and pouring

No other specific measures identified.

.

Cleaning with low-pressure washers

No other specific measures identified.

.

Cleaning with high-pressure washers

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

.

Manual

Surface cleaning

No spraying

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Use in Cleaning Agents - 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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Cleaning Agents - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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).
Main sector	SU22 Professional uses
<u>Environment</u>	
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
<u>Worker</u>	
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)

<u>Product characteristics</u>	Substance is complex UVCB. Predominantly hydrophobic.
<u>Amounts used</u>	

Use in Cleaning Agents - Professional

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 3900 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 2.0 tonnes
 Maximum daily site tonnage: 5.3 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): 2.0E-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: 36 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64,4. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Use in Cleaning Agents - Professional

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Use in Cleaning Agents - Professional

Filling/preparation of equipment from drums or containers.

Avoid carrying out activities involving exposure for more than 1 hour.

.

Automated process with (semi) closed systems

Use in contained systems

No other specific measures identified.

.

Semi-automated process (e.g. semi-automatic application of floor care and maintenance products)

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Non-dedicated facility

Outdoor.

Use drum pumps.

.

Manual

Surface cleaning

Dipping, immersion and pouring

No other specific measures identified.

.

Cleaning with low-pressure washers

Rolling, brushing

No other specific measures identified.

.

Cleaning with high-pressure washers

Spraying

Indoor/outdoor use.

No other specific measures identified.

.

Treatment by dipping and pouring

Surface cleaning

Wiping

Rolling, brushing

No other specific measures identified.

.

Degreasing small objects in cleaning station

No other specific measures identified.

.

Ad hoc manual application via trigger sprays, dipping, etc.

No other specific measures identified.

.

Hand-mixing with intimate contact and only PPE available

Indoor.

No other specific measures identified.

.

Cleaning of medical devices

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Store substance within a closed system.

Use in Cleaning Agents - Professional

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use in Cleaning Agents - Consumer

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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	PC1 Adhesives, sealants. PC4 Anti-freeze and de-icing products. PC5 Artists supply and hobby preparations. PC8a Excipient only PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC9c Finger paints. PC10 Building and construction preparations not covered elsewhere. PC18 Ink and toners. PC23 Leather tanning, dye, finishing, impregnation and care products. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.
Main sector	SU21 Consumer uses
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: 2000 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 1.0 tonnes
Maximum daily site tonnage: 2.7 kg/day

Use in Cleaning Agents - Consumer

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

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 (M_{safe}), based on release following total wastewater treatment removal: 18 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.
Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

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)

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

Use in Cleaning Agents - Consumer

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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Qualitative approach used to conclude safe use. Based on a qualitative CSA, this substance is not likely to present a risk of local effects in consumers from exposures to the substance in its aerosol form.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

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

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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: 10 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

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

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

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)

Product characteristics

Physical state Liquid With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Amounts used

Not determined.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.
Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Risk management measures

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

Bulk transfers
Dedicated facility
No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.
Dedicated facility
No other specific measures identified.

.

Drilling mud (re-)formulation
Use in contained batch processes
No other specific measures identified.

.

Drill floor operations
No other specific measures identified.

.

Operation of solids filtering equipment
Elevated temperature
Provide the operation with a properly sited receiving hood.

.

Cleaning of solids-filtering equipment
Non-dedicated facility
No other specific measures identified.

.

Treatment and disposal of filtered solids
Use in contained batch processes
No other specific measures identified.

.

Process sampling
No other specific measures identified.

.

General exposures (closed systems)
No other specific measures identified.

.

Pouring from small containers
Non-dedicated facility
No other specific measures identified.

.

General exposures (open systems)
No other specific measures identified.

.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

.

Storage
Store substance within a closed system.

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)

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

Offshore drilling: Discharge to aquatic environment is restricted by law and industry prohibits release. [1] 1. 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 [2]; waste recycling and disposal is managed according to national and/or local regulations [3]. 2. International Finance Corporation 2007. Environmental, Health, and Safety Guidelines: onshore oil and gas development. 3. Mining Waste Directive (2006/21/EC), European Waste Directive (2008/98/EC) and national transpositions, e.g. Novelle des Kreislaufwirtschaftsgesetzes (KrWG) in Germany Hydraulic fracturing: Releases to surface water and soil are minimized during hydraulic fracturing operations. Releases to groundwater are controlled by existing local and EU [4] regulations. 4. European Groundwater Directive (2006/118/EC), complementary to the Water Framework Directive.

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

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

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

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC9b Wide dispersive outdoor use of substances in closed 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: 10 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

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

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

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)

Product characteristics

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Amounts used

Not determined.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Risk management measures

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

Bulk transfers
 Dedicated facility
 No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.
 Dedicated facility
 No other specific measures identified.

.

Drilling mud (re-)formulation
 Use in contained batch processes
 No other specific measures identified.

.

Drill floor operations
 No other specific measures identified.

.

Operation of solids filtering equipment
 Elevated temperature
 Provide the operation with a properly sited receiving hood.

.

Cleaning of solids-filtering equipment
 Non-dedicated facility
 Provide extract ventilation to points where emissions occur.

.

Treatment and disposal of filtered solids
 Use in contained batch processes
 No other specific measures identified.

.

Process sampling
 No other specific measures identified.

.

General exposures (closed systems)
 No other specific measures identified.

.

Pouring from small containers
 Non-dedicated facility
 Carefully pour from containers.

.

General exposures (open systems)
 No other specific measures identified.

.

Equipment cleaning and maintenance
 Drain down and flush system prior to equipment break-in or maintenance.

.

Storage
 Store substance within a closed system.

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

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

Offshore drilling: Discharge to aquatic environment is restricted by law and industry prohibits release. [1] 1. 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 [2]; waste recycling and disposal is managed according to national and/or local regulations [3]. Hydraulic fracturing: Releases to surface water and soil are minimized during hydraulic fracturing operations. Releases to groundwater are controlled by existing local and EU [4] regulations. 4. European Groundwater Directive (2006/118/EC), complementary to the Water Framework Directive.

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

Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Metal Working Fluids/Rolling Oils - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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	<p>PROC1 Use in closed process, no likelihood of exposure.</p> <p>PROC2 Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3 Use in closed batch process (synthesis or formulation).</p> <p>PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.</p> <p>PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).</p> <p>PROC7 Spraying in industrial settings and applications.</p> <p>PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.</p> <p>PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.</p> <p>PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).</p> <p>PROC10 Roller application or brushing of adhesive and other coating.</p> <p>PROC13 Treatment of articles by dipping and pouring.</p> <p>PROC17 Lubrication at high energy conditions and in partly open process.</p>

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Use in Metal Working Fluids/Rolling Oils - Industrial

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 4200 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 100 tonnes
 Maximum daily site tonnage: 5.0 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): 0.02
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-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 freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.7%
 Removal efficiency (total): 94,7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 33 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 Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64,5. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation

Use in Metal Working Fluids/Rolling Oils - Industrial

Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers percentage substance in the product up to 100% (unless stated differently).
<u>Frequency and duration of use</u>	Covers daily exposures up to 8 hours (unless stated differently).
<u>Other given operational conditions affecting workers exposure</u>	
Setting	Assumes a good basic standard of occupational hygiene is implemented.
Temperature	Operation is carried out at elevated temperature (> 20°C above ambient temperature).
<u>Risk management measures</u>	

Use in Metal Working Fluids/Rolling Oils - Industrial

General exposures (closed systems)
No other specific measures identified.

General exposures (open systems)
No other specific measures identified.

Bulk transfers
Dedicated facility
No other specific measures identified.

Filling/preparation of equipment from drums or containers.
Dedicated facility
No other specific measures identified.

Process sampling
No other specific measures identified.

Metal machining operations
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Treatment by dipping and pouring
No other specific measures identified.

Spraying
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Rolling, brushing
Manual
No other specific measures identified.

Automated metal rolling/forming
Use in contained systems
Elevated temperature
No other specific measures identified.

Semi-automated metal rolling/forming
Elevated temperature
Provide extract ventilation to points where emissions occur.

Semi-automated metal rolling/forming
No other specific measures identified.

Equipment cleaning and maintenance
Dedicated facility
Drain down and flush system prior to equipment break-in or maintenance.

Equipment cleaning and maintenance
Non-dedicated facility
Drain down and flush system prior to equipment break-in or maintenance.

Storage
Store substance within a closed system.

Use in Metal Working Fluids/Rolling Oils - Industrial

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Metal Working Fluids/Rolling Oils - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
<u>Environment</u>	
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
<u>Worker</u>	
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

Use in Metal Working Fluids/Rolling Oils - Professional

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 900 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 0.45 tonnes
 Maximum daily site tonnage: 1.2 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): 5.0E-03
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 domestic sewage treatment: 94.7%
 Removal efficiency (total): 94,7%
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 8.1 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 65,1. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Use in Metal Working Fluids/Rolling Oils - Professional

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

General exposures (closed systems)

No other specific measures identified.

.

Bulk transfers

Dedicated facility

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Dedicated facility

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Non-dedicated facility

Avoid carrying out activities involving exposure for more than 1 hour.

.

Process sampling

No other specific measures identified.

.

Metal machining operations

Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Avoid carrying out activities involving exposure for more than 4 hours.

Limit the substance content in the product to 25%.

.

Rolling, brushing

Manual

No other specific measures identified.

.

Spraying

Avoid carrying out activities involving exposure for more than 1 hour.

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

, or:

Wear a respirator conforming to EN140 with Type A/P2 filter or better.

.

Treatment by dipping and pouring

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Use in Metal Working Fluids/Rolling Oils - Professional

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use as Release Agents or Binders - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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 tableting, compression, extrusion, pelletisation.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Use as Release Agents or Binders - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 3700 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 2500 tonnes
 Maximum daily site tonnage: 25 tonnes

Frequency and duration of use

Continuous release.
 Emission days: 100 days/year

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): 1.0E-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 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: 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 80%.
Water Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64,4. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Use as Release Agents or Binders - Industrial

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Material transfers

(closed systems)

No other specific measures identified.

.

Drum/batch transfers

Dedicated facility

No other specific measures identified.

.

Mixing operations

(closed systems)

No other specific measures identified.

.

Mixing operations

(open systems)

No other specific measures identified.

.

Dipping, immersion and pouring

No other specific measures identified.

.

Mould forming

No other specific measures identified.

.

Casting operations

(open systems)

Elevated temperature

Provide extract ventilation to points where emissions occur.

.

Spraying

Carry out in a vented booth or extracted enclosure.

, or:

Wear a full-face respirator conforming to EN140 with Type A filter or better.

.

Rolling, brushing

Manual

No other specific measures identified.

.

Treatment by dipping and pouring

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Store substance within a closed system.

Use as Release Agents or Binders - Industrial

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use as Release Agents or Binders - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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 tableting, compression, extrusion, pelletisation.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Use as Release Agents or Binders - Professional

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 2700 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 1.3 tonnes
 Maximum daily site tonnage: 3.7 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): 0.95
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: 24 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 65,5. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Use as Release Agents or Binders - Professional

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Use as Release Agents or Binders - Professional

Material transfers

(closed systems)

No other specific measures identified.

.

Drum/batch transfers

Dedicated facility

No other specific measures identified.

.

Drum/batch transfers

Non-dedicated facility

Avoid carrying out activities involving exposure for more than 1 hour.

.

Mixing operations

(closed systems)

No other specific measures identified.

.

Mixing operations

(open systems)

No other specific measures identified.

.

Mould forming

No other specific measures identified.

.

Casting operations

(open systems)

Elevated temperature

Provide extract ventilation to points where emissions occur.

.

Spraying

Machine

Carry out in a vented booth or extracted enclosure.

Avoid carrying out activities involving exposure for more than 4 hours.

.

Manual spraying

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Avoid carrying out activities involving exposure for more than 1 hour.

, or:

Wear a respirator conforming to EN140 with Type A filter or better.

.

Rolling, brushing

Manual

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

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

Use as Release Agents or Binders - 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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Agrochemicals - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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: 7500 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 15 tonnes
Maximum daily site tonnage: 41 kg

Frequency and duration of use

Use in Agrochemicals - 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): 0.9
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

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: 240 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 68,7. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Use in Agrochemicals - Professional

Temperature

Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Transfer from/pouring from containers

Dedicated facility

No other specific measures identified.

.

Mixing operations

(open systems)

No other specific measures identified.

.

Spraying/fogging by manual application

Wear a respirator conforming to EN140 with Type A filter or better.

.

Spraying/fogging by machine application

Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of > 20.

.

Ad hoc manual application via trigger sprays, dipping, etc.

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Agrochemicals - Consumer

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU21 Consumer uses
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: 2000 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 4.1 tonnes
Maximum daily site tonnage: 11 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): 0.9
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

Use in Agrochemicals - 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: 72 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

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)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use in Agrochemicals - Consumer

Qualitative approach used to conclude safe use. Based on a qualitative CSA, this substance is not likely to present a risk of local effects in consumers from exposures to the substance in its aerosol form.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Road and Construction Applications - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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: 2800 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1.4 tonnes
Maximum daily site tonnage: 3.8 kg

Frequency and duration of use

Use in Road and Construction Applications - 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): 0.95
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): 0.04

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: 25 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64,9. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Use in Road and Construction Applications - Professional

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Drum/batch transfers
Non-dedicated facility
Use drum pumps.

.
Drum/batch transfers
Dedicated facility
No other specific measures identified.

.
Small scale weighing
No other specific measures identified.

.
Rolling, brushing
No other specific measures identified.

.
Spraying/fogging by machine application
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
Ensure operation is undertaken outdoors.

, or:
Wear a respirator conforming to EN140 with Type A/P2 filter or better.

.
Dipping, immersion and pouring
No other specific measures identified.

.
Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

.
Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Use in Road and Construction Applications - Professional

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Rubber Production and Processing - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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. 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 tableting, compression, extrusion, pelletisation. PROC15 Use as laboratory reagent. PROC21 Low energy manipulation of substances bound in materials and/or articles

Rubber Production and Processing - Industrial

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: 44,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 30,000 tonnes
 Maximum daily site tonnage: 100 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): 0.01
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-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: 500 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 Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 73,4. If discharging to domestic sewage treatment plant, no onsite 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.

Rubber Production and Processing - Industrial

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

Product characteristics

Physical state Liquid . With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Rubber Production and Processing - Industrial

Bulk transfers

(closed systems)

No other specific measures identified.

.

Bulk transfers

Dedicated facility

No other specific measures identified.

.

Bulk weighing

(closed systems)

No other specific measures identified.

.

Small scale weighing

Dedicated facility

No other specific measures identified.

.

Additive premixing

(open systems)

No other specific measures identified.

.

Material transfers

Dedicated facility

No other specific measures identified.

.

Calendering (including Banburys)

Operation is carried out at elevated temperature (> 20°C above ambient temperature).

No other specific measures identified.

.

Pressing uncured rubber blanks

No other specific measures identified.

.

Tyre build up

Spraying

Minimise exposure by extracted full enclosure for the operation or equipment.

.

Vulcanisation

Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Provide extract ventilation to material transfer points and other openings.

.

Cooling cured articles

Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Provide extract ventilation to points where emissions occur.

.

Production of articles by dipping and pouring

No other specific measures identified.

.

Finishing operations

No other specific measures identified.

.

Laboratory activities

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Rubber Production and Processing - Industrial

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Polymer Processing - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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. ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers.
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 tableting, compression, extrusion, pelletisation. PROC21 Low energy manipulation of substances bound in materials and/or articles

Use in Polymer Processing - Industrial

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: 13,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 13,000 tonnes
 Maximum daily site tonnage: 43 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): 0.01
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): 1.0E-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): 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 80%.

Water Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%) ≥ 64,4. If discharging to domestic sewage treatment plant, no onsite 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.

Use in Polymer Processing - Industrial

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

Product characteristics

Physical state Liquid . With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Use in Polymer Processing - Industrial

Bulk transfers
(closed systems)
No other specific measures identified.

Bulk transfers
Dedicated facility
No other specific measures identified.

Bulk weighing
(closed systems)
No other specific measures identified.

Small scale weighing
No other specific measures identified.

Additive premixing
No other specific measures identified.

Calendering (including Banburys)
Operation is carried out at elevated temperature (> 20°C above ambient temperature).
Provide extract ventilation to material transfer points and other openings.

Production of articles by dipping and pouring
No other specific measures identified.

Extrusion and masterbatching
No other specific measures identified.

Injection moulding of articles
No other specific measures identified.

Finishing operations
No other specific measures identified.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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>).

Use in Polymer Processing - Industrial

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Polymer Processing - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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 tableting, 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: 3000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1.5 tonnes
Maximum daily site tonnage: 4.1 kg

Frequency and duration of use

Use in Polymer Processing - 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: 27 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64,9. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Use in Polymer Processing - Professional

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Bulk transfers
(closed systems)
No other specific measures identified.

.

Material transfers
Dedicated facility
No other specific measures identified.

.

Injection moulding of articles
No other specific measures identified.

.

Rework of articles
No other specific measures identified.

.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

.

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use as a Fuel - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Use as a Fuel - Industrial
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.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC7 Industrial use of substances in closed systems.
SPERC	ESVOC SpERC 7.12a.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: 46,000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 46,000 tonnes
Maximum daily site tonnage: 150 tonnes

Frequency and duration of use

Use as a Fuel - Industrial

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): 5.0E-03
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05
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: 670 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 95%.
Water Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 76,5. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Use as a Fuel - Industrial

Temperature

Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Bulk transfers

Dedicated facility

No other specific measures identified.

.

Drum/batch transfers

Dedicated facility

No other specific measures identified.

.

General exposures (closed systems)

No other specific measures identified.

.

Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

(closed systems)

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use as a Fuel - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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: 20,000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 10 tonnes
Maximum daily site tonnage: 27 kg

Frequency and duration of use

Use as a Fuel - 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): 1.0E-04
Emission factor - water Release fraction to wastewater from wide dispersive use: 1.0E-05
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 1.0E-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): 94,7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 180 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64,4. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Use as a Fuel - Professional

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Bulk transfers
Dedicated facility
No other specific measures identified.

.

Drum/batch transfers
Dedicated facility
No other specific measures identified.

.

Refuelling
No other specific measures identified.

.

General exposures (closed systems)
No other specific measures identified.

.

Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
(closed systems)
Limit the substance content in the product to 5%.

.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

.

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Use as a Fuel - Professional



Exposure scenario

Use as a Fuel - Consumer

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Use as a Fuel - Consumer
Process scope	Covers consumer uses in liquid fuels.
Product category	PC13 Fuels.
Main sector	SU21 Consumer uses
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: 10,000 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 5.0 tonnes
Maximum daily site tonnage: 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): 1.0E-04
Emission factor - water	Release fraction to wastewater from wide dispersive use: 1.0E-05
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 1.0E-05

Environmental factors not influenced by risk management measures

Use as a Fuel - 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: 91 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)

Product characteristics

Physical state Liquid With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

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)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use as a Fuel - Consumer

Qualitative approach used to conclude safe use. Based on a qualitative CSA, this substance is not likely to present a risk of local effects in consumers from exposures to the substance in its aerosol form.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Lubricants - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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

Lubricants - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 310,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 100 tonnes
 Maximum daily site tonnage: 5.0 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): 5.0E-04
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-06
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-03

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: 33 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 Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64,5. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Lubricants - Industrial

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Lubricants - Industrial

General exposures (closed systems)
No other specific measures identified.

.

General exposures (open systems)
No other specific measures identified.

.

Bulk transfers
Dedicated facility
No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.
Non-dedicated facility
No other specific measures identified.

.

Initial factory fill of equipment
No other specific measures identified.

.

Operation and lubrication of high energy open equipment
Provide extract ventilation to points where emissions occur.

.

Rolling, brushing
Manual
No other specific measures identified.

.

Treatment by dipping and pouring
No other specific measures identified.

.

Spraying
Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

.

Maintenance (of larger plant items) and machine set up
Dedicated facility
Elevated temperature
No other specific measures identified.

.

Maintenance of small items
Non-dedicated facility
No other specific measures identified.

.

Remanufacture of reject articles
No other specific measures identified.

.

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Lubricants - 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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Lubricants - Professional: Low Environmental Release

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Lubricants - Professional: Low Environmental Release
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.
Main sector	SU22 Professional uses
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 9.6b.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). PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process. 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

Lubricants - Professional: Low Environmental Release

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 110,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 53 tonnes
 Maximum daily site tonnage: 365 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 (M_{safe}), based on release following total wastewater treatment removal: 650 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 76,1. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Lubricants - Professional: Low Environmental Release

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Lubricants - Professional: Low Environmental Release

General exposures (closed systems)

No other specific measures identified.

.

Operation of equipment containing engine oils and similar
(closed systems)

No other specific measures identified.

.

General exposures (open systems)

No other specific measures identified.

.

Bulk transfers

Dedicated facility

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Dedicated facility

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Non-dedicated facility

Avoid carrying out activities involving exposure for more than 1 hour.

.

Operation and lubrication of high-energy open equipment

Indoor.

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

.

Operation and lubrication of high-energy open equipment

Outdoor.

Ensure operation is undertaken outdoors.

Avoid carrying out operation for more than 4 hours.

Limit the substance content in the product to 25%.

.

Maintenance (of larger plant items) and machine set up

Dedicated facility

Elevated temperature

Drain or remove substance from equipment prior to break-in or maintenance.

Provide extract ventilation to emission points when contact with warm (> 50°C) lubricant is likely.

.

Maintenance of small items

Non-dedicated facility

Elevated temperature

Drain or remove substance from equipment prior to break-in or maintenance.

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

.

Engine lubricant service

No other specific measures identified.

.

Rolling, brushing

Manual

No other specific measures identified.

.

Spraying

Carry out in a vented booth or extracted enclosure.

Lubricants - Professional: Low Environmental Release

, or:

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Avoid carrying out activities involving exposure for more than 1 hour.

, or:

Wear a respirator conforming to EN140 with Type A filter or better.

.

Treatment by dipping and pouring

No other specific measures identified.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Lubricants - Professional: High Environmental Release

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Lubricants - Professional: High Environmental Release
Process scope	Covers the use of formulated lubricants in closed and open systems, including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Main sector	SU22 Professional uses
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 8.6c.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). PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process. 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

Lubricants - Professional: High Environmental Release

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 81,000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 40 tonnes
 Maximum daily site tonnage: 110 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): 5.0E-03
Emission factor - water Release fraction to wastewater from wide dispersive use: 5.0E-02
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 5.0E-02

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: 260 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 87,6. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Lubricants - Professional: High Environmental Release

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Lubricants - Professional: High Environmental Release

General exposures (closed systems)

No other specific measures identified.

.

Operation of equipment containing engine oils and similar
(closed systems)

No other specific measures identified.

.

General exposures (open systems)

No other specific measures identified.

.

Bulk transfers

Dedicated facility

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Dedicated facility

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Non-dedicated facility

Avoid carrying out activities involving exposure for more than 1 hour.

.

Operation and lubrication of high-energy open equipment

Indoor.

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

.

Operation and lubrication of high-energy open equipment

Outdoor.

Ensure operation is undertaken outdoors.

Avoid carrying out operation for more than 4 hours.

Limit the substance content in the product to 25%.

.

Maintenance (of larger plant items) and machine set up

Dedicated facility

Elevated temperature

Drain or remove substance from equipment prior to break-in or maintenance.

Provide extract ventilation to emission points when contact with warm (> 50°C) lubricant is likely.

.

Maintenance of small items

Non-dedicated facility

Elevated temperature

Drain or remove substance from equipment prior to break-in or maintenance.

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

.

Engine lubricant service

No other specific measures identified.

.

Rolling, brushing

Manual

No other specific measures identified.

.

Spraying

Carry out in a vented booth or extracted enclosure.

Lubricants - Professional: High Environmental Release

, or:

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Avoid carrying out activities involving exposure for more than 1 hour.

, or:

Wear a respirator conforming to EN140 with Type A filter or better.

.

Treatment by dipping and pouring

No other specific measures identified.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Lubricants - Consumer: Low Environmental Release

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Lubricants - Consumer: Low Environmental Release
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.
Main sector	SU21 Consumer uses
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 9.6d.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: 110,000 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 57 tonnes
Maximum daily site tonnage: 160 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): 0.01
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01

Lubricants - Consumer: Low Environmental Release

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 (M_{safe}), based on release following total wastewater treatment removal: 690 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

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)

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)

Lubricants - Consumer: Low Environmental Release

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Qualitative approach used to conclude safe use. Based on a qualitative CSA, this substance is not likely to present a risk of local effects in consumers from exposures to the substance in its aerosol form.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Lubricants - Consumer: High Environmental Release

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

1. Title of exposure scenario

Main title	Lubricants - Consumer: High Environmental Release
Process scope	Covers the consumer use of formulated lubricants in closed and open systems, including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.
Product category	PC1 Adhesives, sealants. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.
Main sector	SU21 Consumer uses
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 8.6e.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: 29,000 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 14 tonnes
Maximum daily site tonnage: 39 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): 5.0E-03
Emission factor - water	Release fraction to wastewater from wide dispersive use: 5.0E-02

Lubricants - Consumer: High Environmental Release

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 5.0E-02

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 (M_{safe}), based on release following total wastewater treatment removal: 160 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

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)

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)

Lubricants - Consumer: High Environmental Release

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Qualitative approach used to conclude safe use. Based on a qualitative CSA, this substance is not likely to present a risk of local effects in consumers from exposures to the substance in its aerosol form.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use in Laboratories - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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: 1200 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 2.0 tonnes
Maximum daily site tonnage: 100 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): 2.5E-02
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 2.0E-02

Use in Laboratories - Industrial

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-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.

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: 400 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 78,7. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Laboratory activities
No other specific measures identified.

3. Exposure estimation (Environment 1)

Use in Laboratories - Industrial

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Laboratories - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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: 1200 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.6 tonnes
Maximum daily site tonnage: 1.6 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): 0.5
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.5

Use in Laboratories - Professional

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.
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 (M_{safe}), based on release following total wastewater treatment removal: 8.6 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 72,1. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Laboratory activities
No other specific measures identified.

Use in Laboratories - Professional

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use in Mining Operations - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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

Use in Mining Operations - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 1000 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 200 tonnes
 Maximum daily site tonnage: 10 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): 0.25
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): 99,0%
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 10 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 (%): $\geq 99,0$. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): $\geq 82,0$

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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.

Use in Mining Operations - Industrial

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Bulk transfers
(closed systems)
No other specific measures identified.

Drum/batch transfers
Dedicated facility
No other specific measures identified.

Pouring from small containers
No other specific measures identified.

General exposures (closed systems)
No other specific measures identified.

General exposures (open systems)
No other specific measures identified.

Phase separation
No other specific measures identified.

Ion exchange processes
(closed systems)
No other specific measures identified.

Process sampling
No other specific measures identified.

Mixing operations
(closed systems)
No other specific measures identified.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Use in Mining Operations - 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)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Water Treatment Chemicals - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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: 3300 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 30 tonnes
Maximum daily site tonnage: 100 kg

Use in Water Treatment Chemicals - Industrial

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
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): 98,9%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 100 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 Onsite wastewater treatment required. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 98.9. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): ≥ 79,1.

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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Use in Water Treatment Chemicals - Industrial

Other given operational conditions affecting workers exposure

Setting	Assumes a good basic standard of occupational hygiene is implemented.
Temperature	Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Bulk transfers	Use in contained systems	No other specific measures identified.
.		
Drum/batch transfers	Dedicated facility	No other specific measures identified.
.		
General exposures (closed systems)		No other specific measures identified.
.		
General exposures (open systems)		No other specific measures identified.
.		
Pouring from small containers		No other specific measures identified.
.		
Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance.	
.		
Storage		Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method)
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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)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
	Risk Management Measures are based on qualitative risk characterisation.

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

Use in Water Treatment Chemicals - Industrial

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Water Treatment Chemicals - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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. 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: 1700 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1.5 tonnes
Maximum daily site tonnage: 4.0 kg

Frequency and duration of use

Use in Water Treatment Chemicals - 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): 0.01
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

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: 11 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 84.8 . If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Use in Water Treatment Chemicals - Professional

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Drum/batch transfers

Dedicated facility

No other specific measures identified.

.

General exposures (closed systems)

No other specific measures identified.

.

General exposures (open systems)

No other specific measures identified.

.

Pouring from small containers

No other specific measures identified.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Explosives Manufacture and Use - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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. 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: 1700 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.84 tonnes
Maximum daily site tonnage: 2.3 kg

Frequency and duration of use

Explosives Manufacture and Use - 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): 1.0E-03
Emission factor - water Release fraction to wastewater from wide dispersive use: 2.0E-02
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 1.0E-02

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: 15 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 65.0. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Explosives Manufacture and Use - Professional

Temperature

Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Bulk transfers

Use in contained batch processes

No other specific measures identified.

.

Drum/batch transfers

Non-dedicated facility

Use drum pumps.

.

Mixing operations

(closed systems)

No other specific measures identified.

.

Mixing operations

(open systems)

No other specific measures identified.

.

Material transfers

Non-dedicated facility

Ensure operation is undertaken outdoors.

Avoid carrying out activities involving exposure for more than 4 hours.

.

Transfer from/pouring from containers

Non-dedicated facility

Ensure operation is undertaken outdoors.

Avoid carrying out activities involving exposure for more than 4 hours.

.

Equipment cleaning and maintenance

Drain down and flush system prior to equipment break-in or maintenance.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

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.

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Risk Management Measures are based on qualitative risk characterisation.

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

Explosives Manufacture and Use - Professional

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use as Functional Fluids - Industrial

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU3 Industrial uses
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: 1200 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 10 tonnes
Maximum daily site tonnage: 500 kg

Frequency and duration of use

Use as Functional Fluids - 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): 5.0E-04
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-06
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-03

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: 3.3 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 Prevent leaks and prevent soil/water pollution caused by leaks. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64.4. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Use as Functional Fluids - Industrial

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Bulk transfers
(closed systems)
No other specific measures identified.

.

Drum/batch transfers
Dedicated facility
No other specific measures identified.

.

Filling of articles/equipment
(closed systems)
No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.
Non-dedicated facility
No other specific measures identified.

.

General exposures (closed systems)
No other specific measures identified.

.

General exposures (open systems)
Elevated temperature
Restrict area of openings to equipment.
Provide extract ventilation to points where emissions occur.

.

Remanufacture of reject articles
No other specific measures identified.

.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

.

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use as Functional Fluids - Industrial

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use as Functional Fluids - Professional

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU22 Professional uses
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: 1200 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.6 tonnes
Maximum daily site tonnage: 1.6 kg

Frequency and duration of use

Use as Functional Fluids - 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): 5.0E-02
Emission factor - water Release fraction to wastewater from wide dispersive use: 2.5E-02
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 2.5E-02

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: 11 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 Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 64.9. If discharging to domestic sewage treatment plant, no onsite 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Use as Functional Fluids - Professional

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Risk management measures

Bulk transfers
(closed systems)
No other specific measures identified.

.

Drum/batch transfers
Dedicated facility
No other specific measures identified.

.

Filling of articles/equipment
(closed systems)
No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.
Non-dedicated facility
No other specific measures identified.

.

General exposures (closed systems)
No other specific measures identified.

.

General exposures (open systems)
Elevated temperature
Restrict area of openings to equipment.
Provide extract ventilation to points where emissions occur.

.

Remanufacture of reject articles
No other specific measures identified.

.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.

.

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use as Functional Fluids - Professional

Risk Management Measures are based on qualitative risk characterisation.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use as Functional Fluids - Consumer

Identification

Product name	Other Lubricant Base Oils
Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)

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.
Main sector	SU21 Consumer uses
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: 1200 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 0.6 tonnes
Maximum daily site tonnage: 1.6 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): 5.0E-02
Emission factor - water	Release fraction to wastewater from wide dispersive use: 2.5E-02
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 2.5E-02

Environmental factors not influenced by risk management measures

Use as Functional Fluids - 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: 11 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)

Product characteristics

Physical state Liquid . With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers percentage substance in the product up to 100% (unless stated differently).

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Operation is carried out at elevated temperature (> 20°C above ambient temperature).

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)

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)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Use as Functional Fluids - Consumer

Qualitative approach used to conclude safe use. Based on a qualitative CSA, this substance is not likely to present a risk of local effects in consumers from exposures to the substance in its aerosol form.

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.