



## SAFETY DATA SHEET NEXBASE® 3030

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

#### 1.1. Product identifier

Product name	NEXBASE® 3030
Chemical name	Lubricating oils (petroleum), C20-C50, hydrotreated neutral oilbased
Product number	ID 12502
Internal identification	192501
REACH registration number	01-2119474889-13-0000

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

Identified uses	Manufacture of substance 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**

<b>Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based</b>	<b>100 %</b>
CAS number: 72623-87-1	EC number: 276-738-4
	REACH registration number: 01-2119474889-13-XXXX
<b>Classification</b>	
Asp. Tox. 1 - H304	

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

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

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

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

**Ingestion** Do not induce vomiting. Get medical attention.

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

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

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

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

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

**Notes for the doctor** 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.

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

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**Specific hazards** Not known.

**Hazardous combustion products** Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO).

### 5.3. Advice for firefighters

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

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

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

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

### 6.2. Environmental precautions

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

### 6.3. Methods and material for containment and cleaning up

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

### 6.4. Reference to other sections

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

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

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

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

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

### 7.3. Specific end use(s)

**Specific end use(s)** Not known.

## SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

Oil mist: 5 mg/m<sup>3</sup> (8h) HTP 2014/FIN.

5 mg/m<sup>3</sup>, TWA PEL (OSHA) 5 mg/m<sup>3</sup>, TLV-TWA (ACGIH) 10 mg/m<sup>3</sup>, TLV-STEL (ACGIH).

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**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/m<sup>3</sup>, (8h), Aerosol  
 Consumer - Inhalation; Long term local effects: 1,2 mg/m<sup>3</sup>, (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 ≤ -24°C (ASTM D-97)

**Initial boiling point and range** 270-430°C

**Flash point** > 180°C (ASTM D-92).

**Upper/lower flammability or explosive limits** -

**Vapour pressure** < 0,1 hPa @ 20°C

**Vapour density** -

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

**Solubility(ies)** Insoluble in water.

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<b>Partition coefficient</b>	log Kow: > 6
<b>Auto-ignition temperature</b>	-
<b>Decomposition Temperature</b>	-
<b>Viscosity</b>	Kinematic viscosity typical value 12 mm <sup>2</sup> /s @ 40°C (ASTM D-445).
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidising properties</b>	Does not meet the criteria for classification as oxidising.
<b>9.2. Other information</b>	
<b>Other information</b>	Melting/pour point: ≤ -24°C Dynamic viscosity ~ 22 mPa s @ +20°C Dynamic viscosity ~ 50 mPa s @ + 1°C

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

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

#### 10.2. Chemical stability

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

#### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** No potentially hazardous reactions known.

#### 10.4. Conditions to avoid

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

#### 10.5. Incompatible materials

**Materials to avoid** Strong acids. Oxidising agents.

#### 10.6. Hazardous decomposition products

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

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

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

#### Skin corrosion/irritation

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

#### Serious eye damage/irritation

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

#### Skin sensitisation

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

#### Germ cell mutagenicity

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

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

**NEXBASE® 3030****Carcinogenicity****Carcinogenicity** Based on available data the classification criteria are not met. (OECD 451, 453)**IARC carcinogenicity** Not listed.**NTP carcinogenicity** Not listed.**Reproductive toxicity****Reproductive toxicity - fertility** Based on available data the classification criteria are not met. (OECD 421)**Reproductive toxicity - development** Based on available data the classification criteria are not met. (OECD 414)**Specific target organ toxicity - single exposure****STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.**Specific target organ toxicity - repeated exposure****STOT - repeated exposure** Based on available data the classification criteria are not met. (OECD 408, 410, 411, 412, 453)**Aspiration hazard****Aspiration hazard** Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.**Toxicological information on ingredients.****Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based****Acute toxicity - oral****Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> > 5000 mg/kg, Oral, Rat (OECD 401)**Acute toxicity - dermal****Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> > 2000 mg/kg, Dermal, Rabbit (OECD 402)**Acute toxicity - inhalation****Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> > 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** LL<sub>50</sub>, 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,  
LL<sub>50</sub>, 24 - 96 hours: > 10000 mg/l,  
WAF (OECD 202)**Acute toxicity - aquatic plants** NOEL, 72 hours: ≥ 100 mg/l,  
WAF (OECD 201)**Acute toxicity - microorganisms** NOEL, 10 minutes: > 1,93 mg/l, Micro-organisms (wastewater sludge)  
(DIN 38412, DIN38409)

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**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**

**UN No. (ADR/RID)** -

**14.2. UN proper shipping name**

**Proper shipping name (ADR/RID)** -

**NEXBASE® 3030****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 3030, contains Iso- and cyclo-alkanes C12+) Ship type: 2 Cat Y According to MARPOL: "Non-solidifying substance"

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****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/NDSL**Yes  
DSL**US - TSCA**

Yes

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

**Australia - AICS**

Yes

**Japan - MITI**

Yes

**Korea - KECI**

Yes

**China - IECSC**

Yes



**NEXBASE® 3030****Philippines – PICCS**

Yes

**New Zealand - NZIOC**

Yes

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

<b>Abbreviations and acronyms used in the safety data sheet</b>	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
<b>Key literature references and sources for data</b>	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.
<b>Revision comments</b>	Updated, sections: 14.7
<b>Revision date</b>	30/05/2016
<b>Supersedes date</b>	20/01/2016
<b>SDS number</b>	5600
<b>Hazard statements in full</b>	H304 May be fatal if swallowed and enters airways.
<b>Use Descriptor Codes, Industrial uses</b>	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® 3030****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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Manufacture of Substance - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Sector of use</b>	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals
<b>Environment</b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<b>SPERC</b>	ESVOC SpERC 1.1.v1
<b>Worker</b>	
<b>Process category</b>	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 (M<sub>safe</sub>), based on release following total wastewater treatment removal: 5700 tonne/day  
 Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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.

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

Process sampling  
No other specific measures identified.

Laboratory activities  
No other specific measures identified.

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

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

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

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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use of Substance as Intermediate - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Sector of use</b>	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals
<b>Environment</b>	
<b>Environmental release category</b>	ERC6a Industrial use resulting in manufacture of another substance (use of intermediates).
<b>SPERC</b>	ESVOC SpERC 6.1a.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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.

.

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

.

Process sampling  
No other specific measures identified.

.

Laboratory activities  
No other specific measures identified.

.

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

.

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

.

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

.

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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Distribution of Substance - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	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.
<b>SPERC</b>	ESVOC SpERC 1.1b.v1
<b>Worker</b>	
<b>Process category</b>	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<sub>safe</sub>), based on release following total wastewater treatment removal: 110 tonne/day  
 Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Formulation & (Re)packing of Substances and Mixtures - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Sector of use</b>	SU10 Formulation [mixing] of preparations and/or re-packaging
<b>Environment</b>	
<b>Environmental release category</b>	ERC2 Formulation of preparations.
<b>SPERC</b>	ESVOC SpERC 2.2.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

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

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

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

.

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

.

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

.

Process sampling  
No other specific measures identified.

.

Laboratory activities  
No other specific measures identified.

.

Bulk transfers  
Dedicated facility  
No other specific measures identified.

.

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

.

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

.

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

.

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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Uses in Coatings - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<b>SPERC</b>	ESVOC SpERC 4.3a.v1
<b>Worker</b>	
<b>Process category</b>	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)

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

## 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 (m<sup>3</sup>/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.

.

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.

.

Material transfers

Dedicated facility

No other specific measures identified.

.

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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Uses in Coatings - Professional
<b>Process scope</b>	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.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	ESVOC SpERC 8.3b.v1
<b>Worker</b>	
<b>Process category</b>	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC19 Hand-mixing with intimate contact and only PPE available.

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

#### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

#### Amounts used

## 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<sub>safe</sub>), based on release following total wastewater treatment removal: 35 kg/day  
 Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Uses in Coatings - Consumer
<b>Process scope</b>	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.
<b>Product category</b>	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.
<b>Main sector</b>	SU21 Consumer uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	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<sub>safe</sub>), based on release following total wastewater treatment removal: 18 kg/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Cleaning Agents - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<b>SPERC</b>	ESVOC SpERC 4.4a.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Cleaning Agents - Professional
<b>Process scope</b>	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).
<b>Main sector</b>	SU22 Professional uses
<b><u>Environment</u></b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	ESVOC SpERC 8.4b.v1
<b><u>Worker</u></b>	
<b>Process category</b>	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC19 Hand-mixing with intimate contact and only PPE available.

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

##### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

##### Amounts used

## 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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Cleaning Agents - Consumer
<b>Process scope</b>	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.
<b>Product category</b>	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.
<b>Main sector</b>	SU21 Consumer uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	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<sub>safe</sub>), based on release following total wastewater treatment removal: 18 kg/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Oil and Gas Field Drilling and Production Operations - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<b>SPERC</b>	Not determined.
<b>Worker</b>	
<b>Process category</b>	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)

<b>Product characteristics</b>	Substance is complex UVCB. Predominantly hydrophobic.
<b>Amounts used</b>	
	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
<b>Frequency and duration of use</b>	

## 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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Oil and Gas Field Drilling and Production Operations - Professional
<b>Process scope</b>	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.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC9b Wide dispersive outdoor use of substances in closed systems.
<b>SPERC</b>	Not determined.
<b>Worker</b>	
<b>Process category</b>	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)

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

<b>Assessment method</b>	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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Metal Working Fluids/Rolling Oils - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<b>SPERC</b>	ESVOC SpERC 4.7a.v1
<b>Worker</b>	
<b>Process category</b>	<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<sub>safe</sub>), based on release following total wastewater treatment removal: 33 tonne/day  
 Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

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

## 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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Metal Working Fluids/Rolling Oils - Professional
<b>Process scope</b>	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.
<b>Main sector</b>	SU22 Professional uses
<b><u>Environment</u></b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	ESVOC SpERC 8.7c.v1
<b><u>Worker</u></b>	
<b>Process category</b>	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)

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

## 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 (M<sub>safe</sub>), based on release following total wastewater treatment removal: 8.1 kg/day  
 Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use as Release Agents or Binders - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<b>SPERC</b>	ESVOC SpERC 4.10a.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use as Release Agents or Binders - Professional
<b>Process scope</b>	Covers the use as binders and release agents, including material transfers, mixing, application by spraying, brushing and handling of waste.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	ESVOC SpERC 8.10b.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Agrochemicals - Professional
<b>Process scope</b>	Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging, including equipment clean-downs and disposal.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	ESVOC SpERC 8.11a.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Agrochemicals - Consumer
<b>Process scope</b>	Covers the consumer use in agrochemicals in liquid and solid forms.
<b>Product category</b>	PC12 Lawn and garden preparations (- fertilizers). PC27 Plant protection products.
<b>Main sector</b>	SU21 Consumer uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	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

<b>Emission factor - air</b>	Release fraction to air from wide dispersive use (regional only): 0.9
<b>Emission factor - water</b>	Release fraction to wastewater from wide dispersive use: 0.01
<b>Emission factor - soil</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Road and Construction Applications - Professional
<b>Process scope</b>	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.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8d Wide dispersive outdoor use of processing aids in open systems. ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix.
<b>SPERC</b>	ESVOC SpERC 8.15.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Rubber Production and Processing - Industrial
<b>Process scope</b>	Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.
<b>Main sector</b>	SU3 Industrial uses
<b>Sector of use</b>	SU10 Formulation [mixing] of preparations and/or re-packaging SU11 Manufacture of rubber products
<b>Environment</b>	
<b>Environmental release category</b>	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.
<b>SPERC</b>	ESVOC SpERC 4.19.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Polymer Processing - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Sector of use</b>	SU10 Formulation [mixing] of preparations and/or re-packaging
<b>Environment</b>	
<b>Environmental release category</b>	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.
<b>SPERC</b>	ESVOC SpERC 4.21a.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Polymer Processing - Professional
<b>Process scope</b>	Processing of formulated polymers, including material transfers, moulding and forming activities, material reworks and associated maintenance.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	ESVOC SpERC 8.21b.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use as a Fuel - Industrial
<b>Process scope</b>	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC7 Industrial use of substances in closed systems.
<b>SPERC</b>	ESVOC SpERC 7.12a.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use as a Fuel - Professional
<b>Process scope</b>	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
<b>SPERC</b>	ESVOC SpERC 9.12b.v1
<b>Worker</b>	
<b>Process category</b>	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<sub>safe</sub>), based on release following total wastewater treatment removal: 180 kg/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use as a Fuel - Consumer
<b>Process scope</b>	Covers consumer uses in liquid fuels.
<b>Product category</b>	PC13 Fuels.
<b>Main sector</b>	SU21 Consumer uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
<b>SPERC</b>	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

<b>Emission factor - air</b>	Release fraction to air from wide dispersive use (regional only): 1.0E-04
<b>Emission factor - water</b>	Release fraction to wastewater from wide dispersive use: 1.0E-05
<b>Emission factor - soil</b>	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 (M<sub>safe</sub>), based on release following total wastewater treatment removal: 91 kg/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Lubricants - Industrial
<b>Process scope</b>	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.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC7 Industrial use of substances in closed systems.
<b>SPERC</b>	ESVOC SpERC 4.6a.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Lubricants - Professional: Low Environmental Release
<b>Process scope</b>	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.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
<b>SPERC</b>	ESVOC SpERC 9.6b.v1
<b>Worker</b>	
<b>Process category</b>	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)

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

## 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 (Msafe), based on release following total wastewater treatment removal: 650 kg/day  
 Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Lubricants - Professional: High Environmental Release
<b>Process scope</b>	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.
<b>Main sector</b>	SU22 Professional uses
<b><u>Environment</u></b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	ESVOC SpERC 8.6c.v1
<b><u>Worker</u></b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Lubricants - Consumer: Low Environmental Release
<b>Process scope</b>	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.
<b>Product category</b>	PC1 Adhesives, sealants. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.
<b>Main sector</b>	SU21 Consumer uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
<b>SPERC</b>	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

<b>Emission factor - air</b>	Release fraction to air from wide dispersive use (regional only): 0.01
<b>Emission factor - water</b>	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<sub>safe</sub>), based on release following total wastewater treatment removal: 690 kg/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Lubricants - Consumer: High Environmental Release
<b>Process scope</b>	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.
<b>Product category</b>	PC1 Adhesives, sealants. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.
<b>Main sector</b>	SU21 Consumer uses
<b><u>Environment</u></b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	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

<b>Emission factor - air</b>	Release fraction to air from wide dispersive use (regional only): 5.0E-03
<b>Emission factor - water</b>	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<sub>safe</sub>), based on release following total wastewater treatment removal: 160 kg/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Laboratories - Industrial
<b>Process scope</b>	Use of the substance within laboratory settings, including material transfers and equipment cleaning.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<b>SPERC</b>	Not determined.
<b>Worker</b>	
<b>Process category</b>	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

<b>Emission factor - air</b>	Release fraction to air from process (initial release prior to RMM): 2.5E-02
<b>Emission factor - water</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Laboratories - Professional
<b>Process scope</b>	Use of the substance within laboratory settings, including material transfers and equipment cleaning.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8a Wide dispersive indoor use of processing aids in open systems.
<b>SPERC</b>	ESVOC SpERC 8.17.v1
<b>Worker</b>	
<b>Process category</b>	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

<b>Emission factor - air</b>	Release fraction to air from wide dispersive use (regional only): 0.5
<b>Emission factor - water</b>	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 (Msafe), based on release following total wastewater treatment removal: 8.6 kg/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/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 (%):  $\geq 72,1$ . 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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Mining Operations - Industrial
<b>Process scope</b>	Covers the use of the substance in extraction processes at mining operations, including material transfers, winning and separation activities and substance recovery and disposal.
<b>Main sector</b>	SU3 Industrial uses
<b>Sector of use</b>	SU10 Formulation [mixing] of preparations and/or re-packaging
<b><u>Environment</u></b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<b>SPERC</b>	ESVOC SpERC 4.23.v1
<b><u>Worker</u></b>	
<b>Process category</b>	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)

<b><u>Product characteristics</u></b>	Substance is complex UVCB. Predominantly hydrophobic.
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#### **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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Water Treatment Chemicals - Industrial
<b>Process scope</b>	Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.
<b>Main sector</b>	SU3 Industrial uses
<b>Sector of use</b>	SU10 Formulation [mixing] of preparations and/or re-packaging
<b>Environment</b>	
<b>Environmental release category</b>	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<b>SPERC</b>	ESVOC SpERC 3.22a.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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 (%):  $\geq 98.9$ . If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%):  $\geq 79.1$ .

**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

<b>Setting</b>	Assumes a good basic standard of occupational hygiene is implemented.
<b>Temperature</b>	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)

<b>Assessment method</b>	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)

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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use in Water Treatment Chemicals - Professional
<b>Process scope</b>	Covers the use of the substance for the treatment of water in open and closed systems.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	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.
<b>SPERC</b>	ESVOC SpERC 8.22b.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Explosives Manufacture and Use - Professional
<b>Process scope</b>	Covers exposures arising from the manufacture and use of slurry explosives (including materials transfer, mixing and charging) and equipment cleaning.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC8d Wide dispersive outdoor use of processing aids in open systems.
<b>SPERC</b>	Not determined.
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use as Functional Fluids - Industrial
<b>Process scope</b>	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment, including maintenance and related material transfers.
<b>Main sector</b>	SU3 Industrial uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC7 Industrial use of substances in closed systems.
<b>SPERC</b>	ESVOC SpERC 7.13a.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use as Functional Fluids - Professional
<b>Process scope</b>	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment, including maintenance and related material transfers.
<b>Main sector</b>	SU22 Professional uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
<b>SPERC</b>	ESVOC SpERC 9.13b.v1
<b>Worker</b>	
<b>Process category</b>	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 (m<sup>3</sup>/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

<b>Product name</b>	Other Lubricant Base Oils
<b>Supplier</b>	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

<b>Main title</b>	Use as Functional Fluids - Consumer
<b>Process scope</b>	Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.
<b>Product category</b>	PC16 Heat transfer fluids. PC17 Hydraulic fluids.
<b>Main sector</b>	SU21 Consumer uses
<b>Environment</b>	
<b>Environmental release category</b>	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
<b>SPERC</b>	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

<b>Emission factor - air</b>	Release fraction to air from wide dispersive use (regional only): 5.0E-02
<b>Emission factor - water</b>	Release fraction to wastewater from wide dispersive use: 2.5E-02
<b>Emission factor - soil</b>	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 (m<sup>3</sup>/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.