



## SAFETY DATA SHEET NESTE BASECOMP 12 H

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

#### 1.1. Product identifier

Product name	NESTE BASECOMP 12 H
Chemical name	Lubricating oils (petroleum), C20-50, hydrotreated neutral oilbased
Product number	ID 17074
Internal identification	4213
REACH registration number	01-2119474889-13-XXXX

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

Identified uses	Formulation & (re)packing of substances and mixtures, Road and construction applications Water treatment chemicals Explosives manufacture & use
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#### 1.3. Details of the supplier of the safety data sheet

Supplier	Neste Markkinointi Oy Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 lubetec@neste.com
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#### 1.4. Emergency telephone number

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

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (EC 1272/2008)

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

#### 2.2. Label elements

##### Pictogram



Signal word	Danger
Hazard statements	H304 May be fatal if swallowed and enters airways.
Precautionary statements	P102 Keep out of reach of children. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P331 Do NOT induce vomiting. P501 Dispose of contents/ container in accordance with national regulations.

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### 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>100,0%</b>
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CAS number: 72623-87-1

EC number: 276-738-4

REACH registration number: 01-2119474889-13-XXXX

#### Classification

Asp. Tox. 1 - H304

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

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

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>Inhalation</b>	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.
<b>Ingestion</b>	Do not induce vomiting. Get medical attention.
<b>Skin contact</b>	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.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.

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

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

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

**Notes for the doctor** Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

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

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

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

**Specific hazards** Not known.

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

#### 5.3. Advice for firefighters

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**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 2016/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).

**PNEC**      Not available.

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### 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

<b>Appropriate engineering controls</b>	Use only in well-ventilated areas. Use personal protective equipment and/or local ventilation when needed.
<b>Eye/face protection</b>	Tight-fitting safety glasses.
<b>Hand protection</b>	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.
<b>Other skin and body protection</b>	Protective clothing when needed. Wear anti-static protective clothing if there is a risk of ignition from static electricity.
<b>Respiratory protection</b>	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.
<b>Environmental exposure controls</b>	Store in a demarcated bunded area to prevent release to drains and/or watercourses.

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Liquid.
<b>Colour</b>	Colourless. Clear.
<b>Odour</b>	Almost odourless.
<b>Odour threshold</b>	-
<b>pH</b>	-
<b>Melting point</b>	Pour point ≤ -24°C (ASTM D-97)
<b>Initial boiling point and range</b>	270-430°C
<b>Flash point</b>	> 180°C (ASTM D-92).
<b>Upper/lower flammability or explosive limits</b>	-
<b>Vapour pressure</b>	< 0,1 hPa @ 20°C
<b>Vapour density</b>	-
<b>Relative density</b>	0,82-0,84 @ 15°C (ASTM D-4052).
<b>Solubility(ies)</b>	Insoluble in water.
<b>Partition coefficient</b>	log Kow: > 6
<b>Auto-ignition temperature</b>	-
<b>Decomposition Temperature</b>	-

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<b>Viscosity</b>	Kinematic viscosity typical value 12 mm <sup>2</sup> /s @ 40°C (ASTM D-445). Dynamic viscosity ~22 mPa s @ 20°C
<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>	None.

### 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)

#### Carcinogenicity

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

**IARC carcinogenicity** Not listed.

**NTP carcinogenicity** Not listed.

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### 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 aquatic toxicity

**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, 48 hours: > 10000 mg/l, Daphnia magna  
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, Pseudokirchneriella subcapitata  
WAF (OECD 201)

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

##### Chronic aquatic toxicity

**Chronic toxicity - fish early life stage** NOELR, 14 days: ≥ 1000 mg/l, Oncorhynchus mykiss (Rainbow trout)

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**Chronic toxicity - aquatic invertebrates**      NOEL, 21 days: 10 mg/l, Daphnia magna WAF (OECD 211)

### 12.2. Persistence and degradability

**Persistence and degradability**      The product is slowly degradable.

**Stability (hydrolysis)**                  No significant reaction in water.

**Biodegradation**                          Non-rapidly degradable  
(OECD 301B)

### 12.3. Bioaccumulative potential

**Bioaccumulative potential**          Possibly bioaccumulative.

**Partition coefficient**                  log Kow: > 6

### 12.4. Mobility in soil

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

### 12.5. Results of PBT and vPvB assessment

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

### 12.6. Other adverse effects

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

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

## SECTION 14: Transport information

**General**    The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

### 14.1. UN number

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

### 14.2. UN proper shipping name

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

### 14.3. Transport hazard class(es)

**ADR/RID class**                                  -

### 14.4. Packing group

**ADR/RID packing group**                          -

### 14.5. Environmental hazards

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### Environmentally hazardous substance/marine pollutant

No.

#### 14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Not applicable.

**Annex II of MARPOL 73/78  
and the IBC Code**

### 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 2015/830 of 28 May 2015.  
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

#### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

#### Inventories

##### EU - EINECS/ELINCS

Yes

##### Canada - DSL/NDSL

Yes  
DSL

##### US - TSCA

Yes

##### Australia - AICS

Yes

##### Korea - KECI

Yes

##### China - IECSC

Yes

##### Philippines – PICCS

Yes

##### New Zealand - NZIOC

Yes

##### Other

Inventories of Taiwan and Switzerland.

### SECTION 16: Other information



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<b>Abbreviations and acronyms used in the safety data sheet</b>	PEL = Permissible Exposure Limit OSHA = Occupational Safety and Health Administration NTP = National Toxicology Program
<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 Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, 2017.
<b>Revision comments</b>	Updated, sections: 1
<b>Revision date</b>	15/01/2018
<b>Supersedes date</b>	21/03/2016
<b>SDS number</b>	5630
<b>Hazard statements in full</b>	H304 May be fatal if swallowed and enters airways.

## Exposure scenario

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

#### Identification

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

#### 1. Title of exposure scenario

<b>Main title</b>	Formulation & (Re)packing of Substances and Mixtures
<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>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>	<p>PROC1 Use in closed process, no likelihood of exposure.</p> <p>PROC2 Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3 Use in closed batch process (synthesis or formulation).</p> <p>PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.</p> <p>PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).</p> <p>PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.</p> <p>PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.</p> <p>PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).</p> <p>PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation.</p> <p>PROC15 Use as laboratory reagent.</p>

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

##### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

##### Amounts used

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

##### Frequency and duration of use

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

Continuous release.  
Emission days: 300 days/year

### Other given operational conditions affecting environmental exposure

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

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

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

### Environmental factors not influenced by risk management measures

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

### Risk management measures

**Good practice** Common practices vary across sites, thus conservative process release estimates used.  
Risk from environmental exposure is driven by freshwater sediment.

**STP details** Estimated substance removal from wastewater via domestic sewage treatment: 94.7%  
Removal efficiency (total): 94,7%  
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1 200 tonne/day  
Assumed domestic sewage treatment plant flow (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 (%): ≥ 23,4 If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.

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

### Conditions and measures related to external treatment of waste for disposal

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

### Conditions and measures related to external recovery of waste

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

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

### Risk management measures

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

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

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

### 3. Exposure estimation (Environment 1)

<b>Assessment method</b>	Used Petrorisk model. (Hydrocarbon Block Method) Risk-driving RCR - air compartment driven $RCR(\text{air}) \leq 0.02$ Risk-driving RCR - water compartment driven $RCR(\text{water}) \leq 0.068$
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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)

Qualitative approach used to conclude safe use.

## Exposure scenario

### Use in Road and Construction Applications - Professional

#### Identification

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

#### 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>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: 0.1 tonnes/year  
Fraction of Regional tonnage used locally: 0.0005  
Annual site tonnage: 0.00005 tonnes  
Maximum daily site tonnage: 0.14 g

##### Frequency and duration of use

Continuous release.  
Emission days: 365 days/year

##### Other given operational conditions affecting environmental exposure

<b>Emission factor - air</b>	Release fraction to air from wide dispersive use (regional only): 0.95
<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): 0.04

## Use in Road and Construction Applications - Professional

### Environmental factors not influenced by risk management measures

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

### Risk management measures

**Good practice** Common practices vary across sites, thus conservative process release estimates used.  
Risk from environmental exposure is driven by freshwater sediment.

**STP details** Estimated substance removal from wastewater via domestic sewage treatment: 94.7%  
Removal efficiency (total): 94,7%  
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.03 kg/day  
Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day): 2000.

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

**Air** Not determined.

**Water** No wastewater treatment required.

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

### Conditions and measures related to external treatment of waste for disposal

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

### Conditions and measures related to external recovery of waste

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

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

### Risk management measures

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

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

## 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model. (Hydrocarbon Block Method)  
Risk-driving RCR - air compartment driven  $RCR(\text{air}) \leq 0.0022$   
Risk-driving RCR - water compartment driven  $RCR(\text{water}) \leq 0.0039$

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

## Use in Road and Construction Applications - Professional

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

### 3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

## Exposure scenario

### Use in Water Treatment Chemicals - Industrial

#### Identification

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

#### 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>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>	<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>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>PROC13 Treatment of articles by dipping and pouring.</p>

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

##### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

##### Amounts used

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

##### Frequency and duration of use

Continuous release.  
 Emission days: 300 days/year

##### Other given operational conditions affecting environmental exposure

<b>Emission factor - air</b>	Release fraction to air from process (initial release prior to RMM): 0.05
<b>Emission factor - water</b>	Release fraction to wastewater from process (initial release prior to RMM): 0.95



## Use in Water Treatment Chemicals - Industrial

**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: 19 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** No wastewater treatment required.

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

### Conditions and measures related to external treatment of waste for disposal

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

### Conditions and measures related to external recovery of waste

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

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

### Risk management measures

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

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

## 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model. (Hydrocarbon Block Method)  
Risk-driving RCR - air compartment driven  $RCR(\text{air}) \leq 0.014$   
Risk-driving RCR - water compartment driven  $RCR(\text{water}) \leq 0.017$

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

## Use in Water Treatment Chemicals - Industrial

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

### 3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

## Exposure scenario

### Use in Water Treatment Chemicals - Professional

#### Identification

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

#### 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>Environment</b>	
<b>Environmental release category</b>	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>	<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>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>PROC13 Treatment of articles by dipping and pouring.</p>

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

##### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

##### Amounts used

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

##### Frequency and duration of use

Continuous release.  
 Emission days: 365 days/year

##### Other given operational conditions affecting environmental exposure

<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: 0.99
<b>Emission factor - soil</b>	Release fraction to soil from wide dispersive use (regional only): 0

##### Environmental factors not influenced by risk management measures

## Use in Water Treatment Chemicals - Professional

**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: 18 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** No wastewater treatment required.

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

### Conditions and measures related to external treatment of waste for disposal

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

### Conditions and measures related to external recovery of waste

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

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

### Risk management measures

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

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

## 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model. (Hydrocarbon Block Method)  
Risk-driving RCR - air compartment driven  $RCr(\text{air}) \leq 0.0066$   
Risk-driving RCR - water compartment driven  $RCr(\text{water}) \leq 0.015$

## 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 Water Treatment Chemicals - Professional

### 3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.

## Exposure scenario

### Explosives Manufacture and Use - Professional

#### Identification

<b>Product name</b>	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
<b>CAS number</b>	72623-87-1
<b>Version number</b>	2017
<b>Es reference</b>	ES18b

#### 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.

#### Environment

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

**SPERC** Not determined.

#### Worker

**Process category**

PROC1 Use in closed process, no likelihood of exposure.  
 PROC3 Use in closed batch process (synthesis or formulation).  
 PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).  
 PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.  
 PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

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

##### Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

##### Amounts used

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

##### Frequency and duration of use

Continuous release.  
 Emission days: 365 days/year

##### Other given operational conditions affecting environmental exposure

<b>Emission factor - air</b>	Release fraction to air from wide dispersive use (regional only): 0.001
<b>Emission factor - water</b>	Release fraction to wastewater from wide dispersive use: 0.02
<b>Emission factor - soil</b>	Release fraction to soil from wide dispersive use (regional only): 0.01

##### Environmental factors not influenced by risk management measures

## Explosives Manufacture and Use - Professional

**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: 0.03 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** No wastewater treatment required.

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

### Conditions and measures related to external treatment of waste for disposal

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

### Conditions and measures related to external recovery of waste

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

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

### Risk management measures

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

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

## 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model. (Hydrocarbon Block Method)  
Risk-driving RCR - air compartment driven  $RCR(\text{air}) \leq 0.0022$   
Risk-driving RCR - water compartment driven  $RCR(\text{water}) \leq 0.0039$

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

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

## Explosives Manufacture and Use - Professional

### 3. Exposure estimation (Health 1)

Qualitative approach used to conclude safe use.