



## SAFETY DATA SHEET

### Neste Renewable Diesel; Neste Renewable Diesel 100 %; NesteMY Renewable Diesel

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

##### 1.1. Product identifier

<b>Product name</b>	Neste Renewable Diesel; Neste Renewable Diesel 100 %; NesteMY Renewable Diesel
<b>Chemical name</b>	Renewable hydrocarbons (diesel type fraction)
<b>Product number</b>	ID 13898
<b>REACH registration number</b>	01-2119450077-42-0000
<b>REACH registration notes</b>	01-2119450077-42-0000 / -0001 / -0002

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

<b>Identified uses</b>	Formulation & (re)packing of substances and mixtures, (ES 02) Distribution of substance, (ES 04) Use as an intermediate, (ES 05) Use as a fuel, (ES 06, 14, 23)
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##### 1.3. Details of the supplier of the safety data sheet

<b>Supplier</b>	Neste Renewable Fuels Oy Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 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

#### SECTION 2: Hazards identification

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

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

<b>Physical hazards</b>	Not Classified
<b>Health hazards</b>	Asp. Tox. 1 - H304
<b>Environmental hazards</b>	Not Classified

##### 2.2. Label elements

###### Pictogram



<b>Signal word</b>	Danger
<b>Hazard statements</b>	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 national regulations.

**Supplemental label information** EUH066 Repeated exposure may cause skin dryness or cracking.

**Contains** Renewable hydrocarbons (diesel type fraction)

### 2.3. Other hazards

**Other hazards** Combustible liquid., Risk of soil and ground water contamination.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<b>Renewable hydrocarbons (diesel type fraction)</b>	<b>ca. 100%</b>
CAS number: —	REACH registration number: 01-2119450077-42-0000
<b>Classification</b> Asp. Tox. 1 - H304	

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

**Other information** Mixture of renewable raw material fuel and additives., Contains middle distillate-range iso- and n-paraffinic hydrocarbons., Total aromatics at maximum 1,0 Weight %., Renewable hydrocarbons (diesel type fraction);, REACH Nr: 01-2119450077-42-0000 / -0001 / -0002., Identity outside the EU (CAS number and name of the substance);, Alkanes, C10-20-branched and linear, CAS 928771-01-1.

## 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 immediately.

**Skin contact** Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.

**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** Repeated exposure may cause skin dryness or cracking. Spray/mists may cause respiratory tract 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.

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**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** Combustible liquid. Containers can burst violently or explode when heated, due to excessive pressure build-up.

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

### 5.3. Advice for firefighters

**Protective actions during firefighting** Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.

**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** 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. 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. Contain spillage with sand, earth or other suitable non-combustible material. Pay attention to the fire and health hazards caused by the product.

### 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. All handling should only take place 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. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

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

**Storage precautions** Flammable liquid storage. 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. Only store in correctly labelled containers. Use containers made of the following materials: Carbon steel. Stainless steel.

### 7.3. Specific end use(s)

## Neste Renewable Diesel; Neste Renewable Diesel 100 %; NesteMY Renewable Diesel

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

### SECTION 8: Exposure Controls/personal protection

#### 8.1. Control parameters

**Ingredient comments** The individual limit values can be applied for the hydrocarbons. Diesel fuel as total hydrocarbons; ACGIH TLV®-TWA (8h) 100 mg/m<sup>3</sup> (IFV).

**PNEC** Not available.

#### Renewable hydrocarbons (diesel type fraction)

**DNEL** Workers - Inhalation; Long term systemic effects: 147 mg/m<sup>3</sup>  
 Workers - Dermal; Long term systemic effects: 42 mg/kg/day  
 Consumer - Inhalation; Long term systemic effects: 94 mg/m<sup>3</sup>  
 Consumer - Dermal; Long term systemic effects: 18 mg/kg/day

#### 8.2. Exposure controls

**Appropriate engineering controls** All handling should only take place in well-ventilated areas. Use personal protective equipment and/or local ventilation when needed. Handle in accordance with good industrial hygiene and safety practice. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

**Eye/face protection** Tight-fitting safety glasses.

**Hand protection** Wear protective gloves. It is recommended that gloves are made of the following material: Nitrile rubber. Neoprene. Polyvinyl chloride (PVC). The selected gloves should have a breakthrough time of at least 4 hours. Protection class 5. Protective gloves according to standards EN 420 and EN 374. Change protective gloves regularly.

**Other skin and body protection** Wear suitable protective clothing as protection against splashing or contamination. Wear anti-static protective clothing if there is a risk of ignition from static electricity.

**Respiratory protection** Filter device/half mask 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** Clear.

**Odour** Mild.

**Odour threshold** -

**pH** -

**Melting point** Pour point < -20°C @ 1013 hPa (BS4633, EC A1)

**Initial boiling point and range** 180-320°C (EN ISO 3405)

**Flash point** > 61°C (EN ISO 2719, EC A9)

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Upper/lower flammability or explosive limits	-
Vapour pressure	0,087 kPa @ 25°C (EC A4)
Vapour density	-
Relative density	0,77 - 0,79 @ 15/4°C (EN ISO 12185, EC A3)
Solubility(ies)	Insoluble in water. ~ 0,075 mg/l water @ 25°C (calculated) Soluble in the following materials: Methanol. Hydrocarbons.
Partition coefficient	log Kow: > 6,5 (EC A8)
Auto-ignition temperature	204°C (EC A15)
Decomposition Temperature	-
Viscosity	Kinematic viscosity 4.0 mm <sup>2</sup> /s @ 20°C 2.6 mm <sup>2</sup> /s @ 40°C (OECD 114) Dynamic viscosity ≤ 5 mPa s @ 20°C
Explosive properties	Not considered to be explosive. (EC A14)
Oxidising properties	Does not meet the criteria for classification as oxidising.
<b>9.2. Other information</b>	
Other information	Not known.

### 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** 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.

#### 11.1.1. Skin corrosion/irritation

**Skin corrosion/irritation** Based on available data the classification criteria are not met., (EC B4), Repeated exposure may cause skin dryness or cracking., The product irritates mucous membranes and may cause abdominal discomfort if swallowed., May cause respiratory system irritation.

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### Serious eye damage/irritation

**Serious eye damage/irritation** Based on available data the classification criteria are not met. (EC B5)

### Skin sensitisation

**Skin sensitisation** Based on available data the classification criteria are not met. (EC B6)

### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met. (EC B10, B13/14 & B17).

### Carcinogenicity

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

### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met. (OECD 416)

### 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)

### Aspiration hazard

**Aspiration hazard** May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

### Renewable hydrocarbons (diesel type fraction)

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Oral, Rat (EC B1 tris)

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> > 2000 mg/kg, Dermal, Rat (EC B3)

## SECTION 12: Ecological Information

### 12.1. Toxicity

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

### Renewable hydrocarbons (diesel type fraction)

**Acute toxicity - fish** LL<sub>50</sub>, 96 hours: > 1000 mg/l,  
WAF (OECD 203)

**Acute toxicity - aquatic invertebrates** EL<sub>50</sub>, 48 hours: > 100 mg/l,  
WAF (OECD 202)

**Acute toxicity - aquatic plants** EL<sub>50</sub>, 72 hours: > 100 mg/l, Fish  
WAF (OECD 201)

**Acute toxicity - microorganisms** EC<sub>50</sub>, 30-180 minutes: > 1000 mg/l, Micro-organisms (wastewater sludge)  
(OECD 209)

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<b>Chronic toxicity - aquatic invertebrates</b>	NOEC, 21 days: 1 mg/l, LOEC, 21 days: 3,2 mg/l, WAF (OECD 211) Sediment organisms NOEC, 10 days: 373 mg/kg, LOEC, 10 days: 1165 mg/kg, LC <sub>50</sub> , 10 days: 1200 mg/kg, (OSPAR Protocols, Part A: Sediment Bioassay, 2005)
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### 12.2. Persistence and degradability

<b>Stability (hydrolysis)</b>	No significant reaction in water.
<b>Biodegradation</b>	Rapidly degradable (OECD 301B).

### Renewable hydrocarbons (diesel type fraction)

<b>Biodegradation</b>	Rapidly degradable (OECD 301B)
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### 12.3. Bioaccumulative potential

<b>Bioaccumulative potential</b>	Possibly bioaccumulative.
<b>Partition coefficient</b>	log Kow: > 6,5 (EC A8)

### 12.4. Mobility in soil

<b>Mobility</b>	Evaporates slowly. The product has poor water-solubility. The product contains substances which are bound to particulate matter and are retained in soil. Log Koc > 5.6 (EC C19).
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### 12.5. Results of PBT and vPvB assessment

<b>Results of PBT and vPvB assessment</b>	This product does not contain any substances classified as PBT or vPvB.
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### 12.6. Other adverse effects

<b>Other adverse effects</b>	Not known.
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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Disposal methods</b>	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. 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. Product residues retained in emptied containers can be hazardous. Waste packaging should be collected for reuse or recycling.
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## SECTION 14: Transport information

### 14.1. UN number

<b>UN No. (ADR/RID)</b>	1202
<b>UN No. (IMDG)</b>	Not classified under IMDG.

### 14.2. UN proper shipping name

<b>Proper shipping name (ADR/RID)</b>	UN 1202 DIESEL FUEL
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### 14.3. Transport hazard class(es)

ADR/RID class	3
ADN subsidiary risk	F (floater)

### 14.4. Packing group

ADR/RID packing group	III
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### 14.5. Environmental hazards

#### Environmentally hazardous substance/marine pollutant

No.

### 14.6. Special precautions for user

Tunnel restriction code	(D/E)
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### 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** Transported by ship as bulk: Product name: Alkanes, C10-C26 linear and branched, (Flashpoint >60 deg.C) (Neste Renewable Diesel). Pollution category: Cat Y Ship type: 3

## SECTION 15: Regulatory information

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

<b>EU legislation</b>	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).
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### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

## 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 WAF = Water Accommodated Fraction
<b>Key literature references and sources for data</b>	Regulations, databases, literature, own research. Chemical Safety Report Renewable hydrocarbons (diesel type fraction), 2017.
<b>Training advice</b>	DO NOT SIPHON PRODUCT BY MOUTH SUCTION.
<b>Revision comments</b>	Updated, sections: Exposure scenarios
<b>Revision date</b>	18/04/2017
<b>Supersedes date</b>	05/01/2017
<b>SDS number</b>	5359
<b>Hazard statements in full</b>	H304 May be fatal if swallowed and enters airways.



## Exposure scenario

### Distribution of Substance - Industrial

#### Identification

<b>Product name</b>	Renewable hydrocarbons (diesel type fraction)
<b>REACH registration number</b>	01-2119450077-42-XXXX
<b>Version number</b>	2017
<b>Es reference</b>	04

#### 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>	ERC7 Industrial use of substances in closed systems.
<b>SPERC</b>	ESVOC SpERC 1.1b.v1
<b>Worker</b>	
<b>Process category</b>	<p>PROC2 Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3 Use in closed batch process (synthesis or formulation).</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>PROC15 Use as laboratory reagent.</p>

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

##### Amounts used

Fraction of EU tonnage used in region: 1  
Daily amount per site: ≤ 5000 t  
Annual amount per site: ≤ 1 500 000 t

##### Frequency and duration of use

Emission days: 300 days/year

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

<b>Emission factor - air</b>	0,001%
<b>Emission factor - water</b>	4E-7%.
<b>Emission factor - soil</b>	0,001%

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

## Distribution of Substance - Industrial

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

### Risk management measures

**STP type** Aerobic biological treatment

**STP details** 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** Dispose of waste in accordance with environmental legislation.

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

**Recovery method** All waste product is assumed to be collected and returned for re-processing or use as a fuel.

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

### Product characteristics

**Physical state** Liquid

**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).

### Human factors not influenced by risk management

**Potentially exposed body parts** PROC 3, PROC 15: Covers skin contact area up to 240 cm<sup>2</sup>. Palm of one hand.  
PROC 2, PROC 9: Covers skin contact area up to 480 cm<sup>2</sup>. Palm of both hands.  
PROC 8a, 8b: Covers skin contact area up to 960 cm<sup>2</sup>. Both hands.

### Other given operational conditions affecting workers exposure

**Setting** Indoor use.

**Temperature** ≤ 40°C

**Ventilation rate** 1 -3 air changes per hour Unless otherwise stated.

Assumes a good basic standard of occupational hygiene is implemented.

### Risk management measures

## Distribution of Substance - Industrial

General exposures (closed systems)  
With occasional controlled exposure  
(PROC 3)  
No specific measures identified.

Process sampling  
(PROC 3)  
Wear suitable gloves tested to EN374.

Laboratory activities  
(PROC 15)  
Provide adequate general and local exhaust ventilation.  
Wear suitable gloves tested to EN374.  
Recommendation:  
Handle in a fume cupboard or under extract ventilation.

Bulk transfers  
Road tanker/rail car loading.  
(closed systems)  
(PROC 8b)  
Recommendation:  
Use vapour recovery units when necessary.  
Wear suitable gloves tested to EN374.

Bulk transfers  
Marine vessel/barge (un)loading.  
(closed systems)  
(PROC 8b)  
Recommendation:  
Wear suitable gloves tested to EN374.

Equipment cleaning and maintenance  
(PROC 8a)  
Provide adequate general and local exhaust ventilation.  
Recommendation:  
Drain down and flush system prior to equipment break-in or maintenance.  
Wear suitable gloves tested to EN374.

Storage  
With occasional controlled exposure  
(PROC 2)  
No specific measures identified.

Drum and small package filling  
(PROC 9)  
Recommendation:  
Wear suitable gloves tested to EN374.

### 3. Exposure estimation (Environment 1)

**Assessment method**            Used Petrorisk model.

### 3. Exposure estimation (Health 1)

**Assessment method**            Used CHESAR model.

## Distribution of Substance - Industrial

## Exposure scenario

### Formulation & (re)packing - Industrial

#### Identification

<b>Product name</b>	Renewable hydrocarbons (diesel type fraction)
<b>REACH registration number</b>	01-2119450077-42-XXXX
<b>Version number</b>	2017
<b>Es reference</b>	02

#### 1. Title of exposure scenario

<b>Main title</b>	Formulation & (re)packing - 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>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>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>PROC15 Use as laboratory reagent.</p>

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

##### Amounts used

Fraction of EU tonnage used in region: 1  
 Daily amount per site: ≤ 100 t  
 Annual amount per site: ≤ 1 500 000 t

##### Frequency and duration of use

Emission days: 300 days/year

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

<b>Emission factor - air</b>	0,25%
<b>Emission factor - water</b>	0,005%

## Formulation & (re)packing - Industrial

**Emission factor - soil** 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 type** Aerobic biological treatment

**STP details** Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day):  
2000.

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

**Disposal method** Dispose of waste in accordance with environmental legislation.

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

**Recovery method** All waste product is assumed to be collected and returned for re-processing or use as a fuel.

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

### Product characteristics

**Physical state** Liquid

**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).

### Human factors not influenced by risk management

**Potentially exposed body parts** PROC 1, PROC 3, PROC 15: Covers skin contact area up to 240 cm<sup>2</sup>. Palm of one hand.  
PROC 2, PROC 5, PROC 9: Covers skin contact area up to 480 cm<sup>2</sup>. Palm of both hands.  
PROC 8a, 8b: Covers skin contact area up to 960 cm<sup>2</sup>. Both hands.

### Other given operational conditions affecting workers exposure

**Setting** Indoor use.

**Temperature** ≤ 40 °C

**Ventilation rate** 1 - 3 air changes per hour Unless otherwise stated.

Assumes a good basic standard of occupational hygiene is implemented.

### Risk management measures

## Formulation & (re)packing - Industrial

Mixing operations

(PROC 3)

No specific measures identified.

Batch processes at elevated temperatures

(PROC 3)

No specific measures identified.

Process sampling

(PROC 3)

Wear suitable gloves tested to EN374.

Laboratory activities

(PROC 15)

Provide adequate general and local exhaust ventilation.

Wear suitable gloves tested to EN374.

Recommendation:

Handle in a fume cupboard or under extract ventilation.

Bulk transfers

(PROC 8b)

No specific measures identified.

Mixing operations

(open systems)

With potential for aerosol generation

(PROC 5)

Recommendation:

Wear suitable gloves tested to EN374.

Transfer from/pouring from containers

Manual

(PROC 8a)

Wear suitable gloves tested to EN374.

Drum/batch transfers

(PROC 8b)

No specific measures identified.

Drum and small package filling

(PROC 9)

Provide adequate general and local exhaust ventilation.

Recommendation:

Fill containers/cans at dedicated fill points supplied with local extract ventilation.

Equipment cleaning and maintenance

(PROC 8a)

Provide adequate general and local exhaust ventilation.

Recommendation:

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

Wear suitable gloves tested to EN374.

Storage

(PROC 1, PROC 2)

No specific measures identified.

## Formulation & (re)packing - Industrial

### 3. Exposure estimation (Environment 1)

**Assessment method**            Used Petrorisk model.

### 3. Exposure estimation (Health 1)

**Assessment method**            Used CHESAR model.



## Exposure scenario

### Use as a fuel - Industrial

#### Identification

<b>Product name</b>	Renewable hydrocarbons (diesel type fraction)
<b>REACH registration number</b>	01-2119450077-42-XXXX
<b>Version number</b>	2017
<b>Es reference</b>	06

#### 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>	<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>PROC15 Use as laboratory reagent.</p> <p>PROC16 Using material as fuel sources, limited exposure to unburned product to be expected.</p>

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

##### Amounts used

Fraction of EU tonnage used in region: 1  
 Daily amount per site: ≤ 5000 t  
 Annual amount per site: ≤ 10 000 t

##### Frequency and duration of use

Emission days: 300 days/year

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

<b>Emission factor - air</b>	0.025%
<b>Emission factor - water</b>	0,001%
<b>Emission factor - soil</b>	0%

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

## Use as a fuel - Industrial

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

### Risk management measures

**STP type** Aerobic biological treatment

**STP details** Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day):  
2000.

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

**Disposal method** Dispose of waste in accordance with environmental legislation.

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

**Recovery method** Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

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

### Product characteristics

**Physical state** Liquid

**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).

### Human factors not influenced by risk management

**Potentially exposed body parts** PROC 1, PROC 3, PROC 15, PROC 16: Covers skin contact area up to 240 cm<sup>2</sup>. Palm of one hand.  
PROC 2, PROC 4: Covers skin contact area up to 480 cm<sup>2</sup>. Palm of both hands.  
PROC 8a, 8b: Covers skin contact area up to 960 cm<sup>2</sup>. Both hands.

### Other given operational conditions affecting workers exposure

**Setting** Indoor use.

**Temperature** ≤ 40 °C

**Ventilation rate** 1 - 3 air changes per hour Unless otherwise stated.

Assumes a good basic standard of occupational hygiene is implemented.

### Risk management measures

## Use as a fuel - Industrial

Bulk transfers  
(PROC 4)  
Recommendation:  
Wear suitable gloves tested to EN374.

Drum/batch transfers  
(PROC 8b)  
Provide adequate general and local exhaust ventilation.  
Recommendation:  
Use drum pumps or carefully pour from container.  
Wear suitable gloves tested to EN374.

Bulk transfers  
(PROC 8b)  
Recommendation:  
Use drum pumps or carefully pour from container.  
Wear suitable gloves tested to EN374.

General exposures (closed systems)  
Continuous process  
(PROC 1)  
No specific measures identified.

General exposures (closed systems)  
Continuous process  
With sample collection  
(PROC 2)  
Recommendation:  
Ensure material transfers are under containment or extract ventilation.

General exposures (closed systems)  
Batch process  
(PROC 3)  
Recommendation:  
Ensure material transfers are under containment or extract ventilation.

General exposures (open systems)  
(PROC 16)  
Recommendation:  
Ensure material transfers are under containment or extract ventilation.

Process sampling  
(PROC 3)  
Recommendation:  
Wear suitable gloves tested to EN374.

Equipment cleaning and maintenance  
(PROC 8a)  
Provide adequate general and local exhaust ventilation.  
Recommendation:  
Drain down and flush system prior to equipment break-in or maintenance.  
Wear suitable gloves tested to EN374.

Vessel and container cleaning  
(PROC 8a)

## Use as a fuel - Industrial

Provide adequate general and local exhaust ventilation.

Recommendation:

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

Provide enhanced general ventilation by mechanical means.

If above technical/organisational control measures are not feasible, then adopt following PPE:

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

Wear suitable gloves tested to EN374.

Wear suitable coveralls to prevent exposure to the skin.

Storage

(PROC 1, PROC 2)

No specific measures identified.

Refuelling

(PROC 8b)

Recommendation:

Use drum pumps or carefully pour from container.

Use vapour recovery units when necessary.

Wear suitable gloves tested to EN374.

Laboratory activities

(PROC 15)

Recommendation:

Handle in a fume cupboard or under extract ventilation.

Wear suitable gloves (tested to EN374), coverall and eye protection.

### 3. Exposure estimation (Environment 1)

**Assessment method**                      Used Petrorisk model.

### 3. Exposure estimation (Health 1)

**Assessment method**                      Used CHESAR model.

## Exposure scenario

### Use as a fuel - Professional

#### Identification

<b>Product name</b>	Renewable hydrocarbons (diesel type fraction)
<b>REACH registration number</b>	01-2119450077-42-XXXX
<b>Version number</b>	2017
<b>Es reference</b>	14

#### 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)

##### Amounts used

Fraction of EU tonnage used in region: 0.1  
Daily amount per site: ≤ 160 kg

##### Frequency and duration of use

Emission days: 365 days/year

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

<b>Emission factor - air</b>	0,01 %
<b>Emission factor - water</b>	0,001 %
<b>Emission factor - soil</b>	0,001 %

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

<b>Dilution</b>	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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## Use as a fuel - Professional

### Risk management measures

<b>STP type</b>	Aerobic biological treatment
<b>STP details</b>	Assumed domestic sewage treatment plant flow (m <sup>3</sup> /day): 2000.

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

<b>Disposal method</b>	Dispose of waste in accordance with environmental legislation.
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### 2. Conditions of use affecting exposure (Workers - Health 1)

#### Product characteristics

<b>Physical state</b>	Liquid
<b>Concentration details</b>	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).

#### Human factors not influenced by risk management

<b>Potentially exposed body parts</b>	PROC 1, PROC 3, PROC 16: Covers skin contact area up to 240 cm <sup>2</sup> . Palm of one hand. PROC 2: Covers skin contact area up to 480 cm <sup>2</sup> . Palm of both hands. PROC 8a, 8b: Covers skin contact area up to 960 cm <sup>2</sup> . Both hands.
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#### Other given operational conditions affecting workers exposure

<b>Setting</b>	Indoor use.
<b>Temperature</b>	≤ 40 °C
<b>Ventilation rate</b>	1 - 3 air changes per hour Unless otherwise stated.

### Risk management measures

## Use as a fuel - Professional

### Bulk transfers

Heating oil and diesel deliveries

(PROC 8b)

Provide adequate general and local exhaust ventilation.

Recommendation:

Handle substance within a closed system.

Wear suitable gloves tested to EN374.

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### Drum/batch transfers

(PROC 8b)

Provide adequate general and local exhaust ventilation.

Recommendation:

Use drum pumps or carefully pour from container.

Wear suitable gloves tested to EN374.

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### Refuelling

(PROC 8b)

Provide adequate general and local exhaust ventilation.

Recommendation:

Use drum pumps or carefully pour from container.

Wear suitable gloves tested to EN374.

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### Dipping, immersion and pouring

(PROC 8b)

Wear suitable gloves tested to EN374.

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### General exposures

(PROC 1, PROC 2, PROC 3, PROC 16)

No specific measures identified.

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### Equipment cleaning and maintenance

(PROC 8a)

Provide adequate general and local exhaust ventilation.

Recommendation:

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

Wear suitable gloves tested to EN374.

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### Vessel and container cleaning

(PROC 8a)

Provide adequate general and local exhaust ventilation.

Recommendation:

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

Wear suitable gloves tested to EN374.

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### Storage

(PROC 1, PROC 2)

No specific measures identified.

### 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model.

### 3. Exposure estimation (Health 1)

**Assessment method** Used CHESAR model.

## Use as a fuel - Professional



## Exposure scenario

### Use as a fuel - Consumer

#### Identification

<b>Product name</b>	Renewable hydrocarbons (diesel type fraction)
<b>REACH registration number</b>	01-2119450077-42-XXXX
<b>Version number</b>	2017
<b>Es reference</b>	23

#### 1. Title of exposure scenario

<b>Main title</b>	Use as a fuel - Consumer
<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>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
<b>Non-industrial</b>	
<b>Product sub-category</b>	PC13_1 Liquid: automotive refuelling PC13_2 Liquid: scooter refuelling PC13_3 Liquid: garden equipment - use PC13_4 Liquid: garden equipment - refuelling PC13_5 Liquid: lamp oil PC13_6 Liquid: home space heater fuel PC13_n Liquid: refuelling of boats

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

##### Amounts used

Fraction of EU tonnage used in region: 0,1  
Daily amount per site: ≤ 550 kg

##### Frequency and duration of use

Emission days: 365 days/year

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

<b>Emission factor - air</b>	0,01 %
<b>Emission factor - water</b>	0,001 %
<b>Emission factor - soil</b>	0,001 %

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

<b>Dilution</b>	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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## Use as a fuel - Consumer

### Risk management measures

<b>Technical measures</b>	Indoor/outdoor use.
<b>STP type</b>	Aerobic biological treatment
<b>STP details</b>	Assumed domestic sewage treatment plant flow (m <sup>3</sup> /day): 2000.

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

<b>Disposal method</b>	Dispose of waste in accordance with environmental legislation.
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## 2. Conditions of use affecting exposure (Non-industrial - Health 1)

### Product characteristics

<b>Concentration details</b>	Covers percentage substance in the product up to 100% (unless stated differently).
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### Amounts used

PC13\_1 Liquid: automotive refuelling  
For each use event, covers use amounts up to 38,6 kg.

PC13\_2 Liquid: scooter refuelling  
For each use event, covers use amounts up to 7,5 kg.

PC13\_3 Liquid: garden equipment - use  
For each use event, covers use amounts up to 772 g.

PC13\_4 Liquid: garden equipment - refuelling  
For each use event, covers use amounts up to 772 g.

PC13\_5 Liquid: lamp oil  
For each use event, covers use amounts up to 100 g.

PC13\_6 Liquid: home space heater fuel  
For each use event, covers use amounts up to 3320 g.

PC13\_n Liquid: refuelling of boats  
For each use event, covers use amounts up to 156,0 kg.

### Frequency and duration of use

## Use as a fuel - Consumer

Covers use up to 1 time(s)/day.

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PC13\_1 Liquid: automotive refuelling  
Covers exposure up to 0,05 hours per event.  
(occasional use over a year)

.  
PC13\_2 Liquid: scooter refuelling  
Covers exposure up to 0,02 hours per event.  
(frequent use over a year)

.  
PC13\_3 Liquid: garden equipment - use  
Covers exposure up to 2,00 hours per event.  
(occasional use over a year)

.  
PC13\_4 Liquid: garden equipment - refuelling  
Covers exposure up to 0,03 hours per event.  
(occasional use over a year)

.  
PC13\_5 Liquid: lamp oil  
Covers exposure up to 0,01 hours per event.  
(occasional use over a year)

.  
PC13\_6 Liquid: home space heater fuel  
Covers exposure up to 0,1 hours per event.  
(frequent use over a year)

.  
PC13\_n Liquid: refuelling of boats  
Covers exposure up to 0,25 hours per event.  
(infrequent use over a year)

### Human factors not influenced by risk management

**Potentially exposed body parts** Palm of one hand. Unless otherwise stated.  
PC13\_4 Liquid: garden equipment - refuelling : Palm of both hands.

### Other given operational conditions affecting Non-industrial exposure

**Setting** Outdoor use. Unless otherwise stated.  
PC13\_5 Liquid: lamp oil : Indoor/outdoor use.

### Other given operational conditions affecting Non-industrial exposure

Avoid contact with skin, eyes and clothing. Wash promptly if skin becomes contaminated. All handling should only take place in well-ventilated areas. Do not ingest. If swallowed, then seek immediate medical assistance.

### 3. Exposure estimation (Environment 1)

**Assessment method** Used Petrorisk model.

### 3. Exposure estimation (Health 1)

**Assessment method** Used CHESAR model.

## Exposure scenario

### Use as Intermediate - Industrial

#### Identification

<b>Product name</b>	Renewable hydrocarbons (diesel type fraction)
<b>REACH registration number</b>	01-2119450077-42-XXXX
<b>Version number</b>	2017
<b>Es reference</b>	05

#### 1. Title of exposure scenario

<b>Main title</b>	Use as Intermediate - Industrial
<b>Process scope</b>	Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/berth, road/rail car and bulk container).
<b>Main sector</b>	SU3 Industrial uses
<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>	<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>PROC15 Use as laboratory reagent.</p>

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

##### Amounts used

Fraction of EU tonnage used in region: 1  
Daily amount per site: ≤ 50 t  
Annual amount per site: ≤ 15 000 t

##### Frequency and duration of use

Emission days: 300 days/year

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

<b>Emission factor - air</b>	0,002%
<b>Emission factor - water</b>	0,001%
<b>Emission factor - soil</b>	0.1%

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

## Use as Intermediate - Industrial

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

### Risk management measures

**STP type** Aerobic biological treatment

**STP details** Assumed domestic sewage treatment plant flow (m<sup>3</sup>/day):  
2000.

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

**Disposal method** Dispose of waste in accordance with environmental legislation.

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

**Recovery method** Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

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

### Product characteristics

**Physical state** Liquid

**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).

### Human factors not influenced by risk management

**Potentially exposed body parts** PROC 1, PROC 3, PROC 15: Covers skin contact area up to 240 cm<sup>2</sup>. Palm of one hand.  
PROC 2, PROC 4: Covers skin contact area up to 480 cm<sup>2</sup>. Palm of both hands.  
PROC 8a, 8b: Covers skin contact area up to 960 cm<sup>2</sup>. Both hands.

### Other given operational conditions affecting workers exposure

**Setting** Indoor use.

**Temperature** ≤ 40 °C

**Ventilation rate** 1 - 3 air changes per hour Unless otherwise stated.

Assumes a good basic standard of occupational hygiene is implemented.

### Risk management measures

## Use as Intermediate - Industrial

General exposures (closed systems)  
(PROC 1)  
No specific measures identified.

General exposures (closed systems)  
With sample collection  
With occasional controlled exposure  
(PROC 2)  
No specific measures identified.

General exposures (closed systems)  
Batch process  
(PROC 3)  
No specific measures identified.

General exposures (open systems)  
Batch process  
With sample collection  
(PROC 4)  
No specific measures identified.

Sampling  
(PROC 8b)  
No specific measures identified.

Laboratory activities  
(PROC 15)  
Provide adequate general and local exhaust ventilation.  
Wear suitable gloves tested to EN374.  
Recommendation:  
Handle in a fume cupboard or under extract ventilation.

Bulk transfers  
(closed systems)  
(PROC 8b)  
No specific measures identified.

Equipment cleaning and maintenance  
(PROC 8a)  
Provide adequate general and local exhaust ventilation.  
Recommendation:  
Drain down and flush system prior to equipment break-in or maintenance.  
Wear suitable gloves tested to EN374.

Storage  
(PROC 1, PROC 2)  
No specific measures identified.

### 3. Exposure estimation (Environment 1)

**Assessment method**                      Used Petrorisk model.

### 3. Exposure estimation (Health 1)

**Assessment method**                      Used CHESAR model.

## Use as Intermediate - Industrial