



SAFETY DATA SHEET NESSOL 60

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

1.1. Product identifier

Product name	NESSOL 60
Chemical name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
Product number	ID 10524
Internal identification	135147, 750700, 896300
Synonyms; trade names	Previous product name: NESSOL LI 220 HF.
REACH registration number	01-2119473977-17-0005

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

Identified uses	Manufacture of substance, (ES01) Distribution of substance, (ES02) Formulation & (re)packing of substances and mixtures, (ES03) Uses in coatings (ES04, ES05, ES06) Use in cleaning agents (ES07, ES08, ES09) Lubricants (ES10, ES11, ES12, ES13, ES14) Metal working fluids/rolling oils (ES15, ES16) Use as binders and release agents (ES17) Use in agrochemicals (ES18) Use as a fuel, (ES19, ES20, ES21) Functional fluids (ES22, ES23, ES24) Road and construction applications (ES25) Use in laboratories (ES26, ES27)
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1.3. Details of the supplier of the safety data sheet

Supplier	Neste Oyj 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)

Physical hazards	Not Classified
Health hazards	STOT RE 1 - H372 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Chronic 3 - H412

2.2. Label elements

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Pictogram



Signal word	Danger
Hazard statements	H304 May be fatal if swallowed and enters airways. H372 Causes damage to organs through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P273 Avoid release to the environment. 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. P260 Do not breathe vapours. P102 Keep out of reach of children.
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.
Contains	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
2.3. Other hazards	
Other hazards	Combustible liquid., Evaporates slowly., Vapours may irritate throat/respiratory system., Risk of soil and ground water contamination.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	100 %
CAS number: —	REACH registration number: 01-2119473977-17-XXXX
Classification	
STOT RE 1 - H372	
Asp. Tox. 1 - H304	
Aquatic Chronic 3 - H412	

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

Composition comments	aromatic hydrocarbons 14...20 vol-%. Benzene (CAS 71-43-2) < 0,1 %.
Other information	Identity outside the EU (CAS number and name of the substance):, 64742-82-1, Naphtha (petroleum), hydrodesulfurized, heavy., Previous EC number:., 265-185-4.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	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.

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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 Harmful: danger of serious damage to health by prolonged exposure through inhalation. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. Repeated exposure may cause skin dryness or cracking.

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

Hazardous combustion products Carbon dioxide (CO₂). 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. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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 inhalation of vapours and contact with skin and eyes. Wear adequate protective equipment at all operations.

For non-emergency personnel Keep upwind to avoid inhalation of gases, vapours, fumes and smoke.

For emergency responders Prevent unauthorized access. Use only in well-ventilated areas.

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. Large spills should be collected mechanically (remove by pumping) for disposal. Small Spillages: Absorb spillage with sand or other inert absorbent. 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

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7.1. Precautions for safe handling

Usage precautions This material is a static accumulator. Avoid heat, flames and other sources of ignition. Take precautionary measures against static discharges. All handling should only take place in well-ventilated areas. Try to avoid product volatilization during handling and transferring. 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. Keep container tightly closed, in a cool, well ventilated place. Keep away from food, drink and animal feeding stuffs. 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. Suitable container materials: Stainless steel. Carbon steel. Polytetrafluoroethylene (PTFE, Teflon). Polypropene Polyethylene. Unsuitable container materials: Butyl rubber. Rubber (natural, latex). EPDM (ethylene-propylene-diene monomer). Polystyrene

7.3. Specific end use(s)

Specific end use(s) Not known.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Ingredient comments Solvent naphtha, group 2: 200 mg/m³ (8h), HTP 2016/FIN. The individual limit values can be applied for the hydrocarbons.

DNEL DNEL derivation is not justified.

PNEC Not available.

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.

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. 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 Protective clothing when needed. Wear anti-static protective clothing if there is a risk of ignition from static electricity.

Respiratory protection Filter device/half mask Gas filter, type A2. 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

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9.1. Information on basic physical and chemical properties

Appearance	Mobile liquid.
Colour	Clear.
Odour	Hydrocarbons.
Odour threshold	-
pH	-
Melting point	(Melting/pour point) < -15°C
Initial boiling point and range	175...225°C (EN ISO 3405)
Flash point	≥ 61°C (EN ISO 2719)
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 0,6 % Estimated value. Upper flammable/explosive limit: 7 % Estimated value.
Vapour pressure	~ 0,05 kPa @ 20°C ~ 4 kPa @ 50°C
Vapour density	> 3 (Air = 1.0)
Relative density	0,76 - 0,85 @ 15°C (ISO 12185)
Solubility(ies)	The product has poor water-solubility.
Partition coefficient	log Kow: 2...7.
Auto-ignition temperature	~ 250°C Estimated value.
Decomposition Temperature	-
Viscosity	Kinematic viscosity < 2 mm ² /s @ 40°C (EN ISO 3104) Dynamic viscosity < 50 mPa s @ 20°C
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Surface tension 25-27 mN/m @ 25 °C (Wilhelmy plate method)
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SECTION 10: Stability and reactivity

10.1. Reactivity

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

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No potentially hazardous reactions known.
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10.4. Conditions to avoid

Conditions to avoid	Keep away from heat, sparks and open flame. Take precautionary measures against static discharges.
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10.5. Incompatible materials

Materials to avoid	Oxidising agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products None known.

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).

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met. (OECD 406, HRIPT = Human Repeated Insult Patch Test).

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met. (OECD 471, 473, 479).

Genotoxicity - in vivo Based on available data the classification criteria are not met. (OECD 474, 475)

Carcinogenicity

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

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met. (OECD 416, 421, 422)

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 Causes damage to organs through prolonged or repeated exposure if inhaled.

Aspiration hazard

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

Toxicological information on ingredients.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ > 15000 mg/kg, Oral, Rat (OECD 401)

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 3400 mg/kg, Dermal, Rabbit (OECD 402)

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ ≥ 13.1 mg/l, Inhalation, Rat (4h) (OECD 403)

SECTION 12: Ecological Information

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12.1. Toxicity

Toxicity Harmful to aquatic life with long lasting effects.

Ecological information on ingredients.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Acute aquatic toxicity

Acute toxicity - fish LL₅₀, 96 hours: 10-100 mg/l, Fish (OECD 203)

Acute toxicity - aquatic invertebrates EL50, 48 hours: 100-200 mg/l, (OECD 202)

Acute toxicity - aquatic plants EL50, 72 hours: 10-100 mg/l, Algae
NOELR, 72 hours: 3 mg/l, Algae (OECD 201)

Chronic aquatic toxicity

Chronic toxicity - fish early life stage NOELR, 28 days: 0,09 mg/l, Fish (QSAR)

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 0,10-0,37 mg/l,
LOEC, 21 days: 0,20-0,83 mg/l,
EC10, 21 days: 0,11-0,25 mg/l, (OECD 211)

12.2. Persistence and degradability

Phototransformation The product contains volatile substances which may spread in the atmosphere. Can be photodegraded in the atmosphere.

Stability (hydrolysis) No significant reaction in water.

Ecological information on ingredients.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Biodegradation Rapidly degradable (OECD 301F)

12.3. Bioaccumulative potential

Bioaccumulative potential No data available.

Partition coefficient log Kow: 2...7.

12.4. Mobility in soil

Mobility Evaporates slowly. 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.

12.6. Other adverse effects

Other adverse effects Not known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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General information	Waste is classified as hazardous waste.
Disposal methods	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. 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).
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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

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 Annex II of MARPOL 73/78 and the IBC Code	Bulk (MARPOL 73/78, Annex II): Noxious liquid, NF (5) n.o.s. (NESSOL 60 contains White Spirit, low (15-20%) aromatic). Ship type: 2 Pollution category: Cat Y According to MARPOL: "Non-solidifying substance"
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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).
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15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

Key literature references and sources for data	Regulations, databases, literature, own research. Chemical Safety Report Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%), 2012.
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Revision comments	Updated, sections: 1, 9, 14, Exposure scenarios (new SDS software has been introduced) Product name change.
Revision date	27/11/2017
Supersedes date	01/06/2015
SDS number	5697
Hazard statements in full	H304 May be fatal if swallowed and enters airways. H372 Causes damage to organs through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects.

Exposure scenario

Use as Functional Fluids - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES23

1. Title of exposure scenario

Main title	Use as Functional Fluids - Professional
Process scope	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment, including maintenance and related material transfers.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.13b.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC20 Heat and pressure transfer fluids in dispersive use but closed systems.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 5.0E-02 tonnes
Maximum daily site tonnage: 0.14 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.05
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.025

Use as Functional Fluids - Professional

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

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 120 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of N/A%.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Use as Functional Fluids - Consumer

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES24

1. Title of exposure scenario

Main title	Use as Functional Fluids - Consumer
Process scope	Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.
Product category	PC16 Heat transfer fluids. PC17 Hydraulic fluids.
Main sector	SU21 Consumer uses
Environment	
Environmental release category	ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.13c.v1

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 20 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 1.0E-02 tonnes
Maximum daily site tonnage: 2.7E-02 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.05
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.025
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.025

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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Risk management measures

Use as Functional Fluids - Consumer

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 38 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of Non-industrial exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Use in Road and Construction Applications - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES25

1. Title of exposure scenario

Main title	Use in Road and Construction Applications - Professional
Process scope	Application of surface coatings and binders in road and construction activities, including paving uses, manual mastic and in the application of roofing and water-proofing membranes.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8d Wide dispersive outdoor use of processing aids in open systems. ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix.
SPERC	ESVOC SpERC 8.15.v1
Worker	
Process category	PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 17 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 8.4E-03 tonnes
Maximum daily site tonnage: 2.3E-02 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.95
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.01

Use in Road and Construction Applications - Professional

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.04

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 34 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of N/A%.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario Use in Laboratories - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES26

1. Title of exposure scenario

Main title	Use in Laboratories - Industrial
Process scope	Use of the substance within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC2 Formulation of preparations. ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	Not applicable.
Worker	
Process category	PROC10 Roller application or brushing of adhesive and other coating. PROC15 Use as laboratory reagent.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 1.0E-02 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1.0E-02 tonnes
Maximum daily site tonnage: 0.5 kg

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.025
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.02
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 1.0E-04

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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Use in Laboratories - Industrial

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: 91.7%

Removal efficiency (total): 91.7%

Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 330 kg/day

Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

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

Water No wastewater treatment required. 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)

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Use in Laboratories - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES27

1. Title of exposure scenario

Main title	Use in Laboratories - Professional
Process scope	Use of the substance within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.17.v1
Worker	
Process category	PROC10 Roller application or brushing of adhesive and other coating. PROC15 Use as laboratory reagent.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 1.0E-02 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 5.0E-06 tonnes
Maximum daily site tonnage: 1.4E-05 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.5
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.5
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
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Risk management measures

Use in Laboratories - Professional

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 2.1E-02 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

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

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

Water No wastewater treatment required. 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)

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

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

Not applicable.

Exposure scenario Lubricants - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES11, ES12

1. Title of exposure scenario

Main title	Lubricants - Professional
Process scope	Covers the use of formulated lubricants in closed and open systems, including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Main sector	SU22 Professional uses
Environment	
Environmental release category	Low environmental release: ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems. High environmental release: ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 9.6b.v1 ESVOC SpERC 8.6c.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process. PROC20 Heat and pressure transfer fluids in dispersive use but closed systems.

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

Control of environmental exposure

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Lubricants - Professional

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 35 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 1.8E-02 tonnes
 Maximum daily site tonnage: 365 kg

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

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

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
 Removal efficiency (total): 91.7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 68 kg/day
 Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of N/A%.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of environmental exposure

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

Lubricants - Professional

SPERC

ESVOC SpERC 8.6c.v1

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 35 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 0.018 tonnes
 Maximum daily site tonnage: 0.048 kg

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.015
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.05
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.05

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details

Estimated substance removal from wastewater via on-site sewage treatment: 91.7%
 Removal efficiency (total): 91.7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 50 kg/day
 Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of N/A%.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Lubricants - Professional

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario Lubricants - Consumer

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES13, ES14

1. Title of exposure scenario

Main title	Lubricants - Consumer
Process scope	Covers the consumer use of formulated lubricants in closed and open systems, including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.
Product category	PC1 Adhesives, sealants. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.
Main sector	SU21 Consumer uses
Environment	
Environmental release category	Low environmental release: ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems. High environmental release: ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 9.6d.v1 ESVOC SpERC 8.6e.v1

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

Control of environmental exposure (Non-industrial)

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 25 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 1.3E-02 tonnes
Maximum daily site tonnage: 3.4E-02 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Lubricants - Consumer

Other given operational conditions affecting environmental exposure

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

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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Risk management measures

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 50 kg/day Assumed domestic sewage treatment plant flow (m ³ /day): 2000.
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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.
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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.
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2. Conditions of use affecting exposure (Non-industrial - Environment 2)

Control of environmental exposure (Non-industrial)

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

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 25 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.013 tonnes
Maximum daily site tonnage: 0.034 kg

Frequency and duration of use

Continuous release.
Emission days: 365

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.015
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.05
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.05

Environmental factors not influenced by risk management measures

Lubricants - Consumer

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

Risk management measures

STP details Estimated substance removal from wastewater via on-site sewage treatment: 91.7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 39 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of Non-industrial exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Use in Metal Working Fluids/Rolling Oils - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES15

1. Title of exposure scenario

Main title	Use in Metal Working Fluids/Rolling Oils - Industrial
Process scope	Covers the use in formulated MWFs/rolling oils, including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 4.7a.v1
Worker	
Process category	<p>PROC1 Use in closed process, no likelihood of exposure.</p> <p>PROC2 Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3 Use in closed batch process (synthesis or formulation).</p> <p>PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.</p> <p>PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).</p> <p>PROC7 Spraying in industrial settings and applications.</p> <p>PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.</p> <p>PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.</p> <p>PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).</p> <p>PROC10 Roller application or brushing of adhesive and other coating.</p> <p>PROC13 Treatment of articles by dipping and pouring.</p> <p>PROC17 Lubrication at high energy conditions and in partly open process.</p>

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 6.0 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 6.0 tonnes
 Maximum daily site tonnage: 300 kg

Use in Metal Working Fluids/Rolling Oils - Industrial

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

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

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 400 tonne/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Use in Metal Working Fluids/Rolling Oils - 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>).

Exposure scenario

Use in Metal Working Fluids/Rolling Oils - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES16

1. Title of exposure scenario

Main title	Use in Metal Working Fluids/Rolling Oils - Professional
Process scope	Covers the use in formulated MWFs, including transfer operations, open and contained cutting/machining activities, automated and manual application of corrosion protections, draining and working on contaminated/ reject articles and disposal of waste oils.
Main sector	SU22 Professional uses
Environment	
Environmental release category	High environmental release: ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.7c.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process.

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

Product characteristics	Substance is complex UVCB. Predominantly hydrophobic.
Amounts used	Fraction of EU tonnage used in region: 0.1 Regional use tonnage: 1.5 tonnes/year Fraction of Regional tonnage used locally: 1 Annual site tonnage: 7.5E-04 tonnes Maximum daily site tonnage: 2.1E-03 kg

Frequency and duration of use

Use in Metal Working Fluids/Rolling Oils - Professional

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 1.5E-02
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 5.0E-02
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 5.0E-02

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 3.2 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Use in Metal Working Fluids/Rolling Oils - 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>).

Exposure scenario

Use as Release Agents or Binders - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES17

1. Title of exposure scenario

Main title	Use as Release Agents or Binders - Industrial
Process scope	Covers the use as binders and release agents, including material transfers, mixing, application (including spraying and brushing), mould forming and casting and handling of waste.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC5 Industrial use resulting in inclusion into or onto a matrix.
SPERC	ESVOC SpERC 4.10a.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC6 Calendering operations. PROC7 Spraying in industrial settings and applications. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 7.3 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 7.3 tonnes
Maximum daily site tonnage: 370 kg

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Use as Release Agents or Binders - Industrial

Other given operational conditions affecting environmental exposure

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

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by fresh water.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Removal efficiency (total): 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 560 tonne/day Assumed domestic sewage treatment plant flow (m ³ /day): 2000.

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

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

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
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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.
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2. Conditions of use affecting exposure (Workers - Health 1)

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method)
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

Exposure scenario

Use in Agrochemicals - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES18

1. Title of exposure scenario

Main title	Use in Agrochemicals - Professional
Process scope	Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging, including equipment clean-downs and disposal.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.11a.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 4.6 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 9.2E-03 tonnes
Maximum daily site tonnage: 2.5E-02 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.9
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.01

Use in Agrochemicals - Professional

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.09

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 38 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of N/A%.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Use as a Fuel - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES19

1. Title of exposure scenario

Main title	Use as a Fuel - Industrial
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC7 Industrial use of substances in closed systems. ERC8b Wide dispersive indoor use of reactive substances in open systems.
SPERC	ESVOC SpERC 7.12a.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC16 Using material as fuel sources, limited exposure to unburned product to be expected.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

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

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 5.0E-03
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05

Use as a Fuel - 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: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 660 tonne/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

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

Air Treat air emission to provide a typical removal efficiency of 95%.

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

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

Conditions and measures related to external treatment of waste for disposal

Waste treatment Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Use as a Fuel - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES20

1. Title of exposure scenario

Main title	Use as a Fuel - Professional
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8b Wide dispersive indoor use of reactive substances in open systems. ERC8e Wide dispersive outdoor use of reactive substances in open systems. ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.12b.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC16 Using material as fuel sources, limited exposure to unburned product to be expected.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 100 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.05 tonnes
Maximum daily site tonnage: 0.14 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 1.0E-04

Use as a Fuel - Professional

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

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

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 210 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of N/A%.

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

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

Conditions and measures related to external treatment of waste for disposal

Waste treatment Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Use as a Fuel - Consumer

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES21

1. Title of exposure scenario

Main title	Use as a Fuel - Consumer
Process scope	Covers consumer uses in liquid fuels.
Product category	PC13 Fuels.
Main sector	SU21 Consumer uses
Environment	
Environmental release category	ERC8b Wide dispersive indoor use of reactive substances in open systems. ERC8e Wide dispersive outdoor use of reactive substances in open systems. ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
SPERC	ESVOC SpERC 9.12c.v1

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 30 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 1.5E-02 tonnes
Maximum daily site tonnage: 4.1E-02 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 1.0E-04
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 1.0E-05
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 1.0E-05

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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Risk management measures

Use as a Fuel - Consumer

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 64 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.

Conditions and measures related to external recovery of waste

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

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

Control of Non-industrial exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Use as Functional Fluids - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES22

1. Title of exposure scenario

Main title	Use as Functional Fluids - Industrial
Process scope	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment, including maintenance and related material transfers.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC7 Industrial use of substances in closed systems.
SPERC	ESVOC SpERC 7.13a.v1
Worker	
Process category	<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>PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing).</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: 100 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 10 tonnes
 Maximum daily site tonnage: 500 kg

Frequency and duration of use

Continuous release.
 Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

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

Use as Functional Fluids - Industrial

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

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

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 600 tonne/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

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

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Manufacture of Substance - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES01

1. Title of exposure scenario

Main title	Manufacture of Substance - Industrial
Process scope	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals
Environment	
Environmental release category	ERC1 Manufacture of substances. ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 1.1.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC15 Use as laboratory reagent.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 3300 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 3300 tonnes
Maximum daily site tonnage: 33 tonnes

Frequency and duration of use

Continuous release.
Emission days: 100 days/year

Manufacture of Substance - Industrial

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 1.0E-03
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 3.0E-05
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 1.0E-04

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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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.
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STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Removal efficiency (total): 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1100 tonne/day Assumed domestic sewage treatment plant flow: 10 000 m ³ /day Assumed domestic sewage treatment plant flow (m ³ /day): 10 000.
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

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

Conditions and measures related to external treatment of waste for disposal

Waste treatment	During manufacturing no waste of the substance is generated.
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Conditions and measures related to external recovery of waste

Recovery method	During manufacturing no waste of the substance is generated.
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2. Conditions of use affecting exposure (Workers - Health 1)

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method)
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

Exposure scenario

Distribution of Substance - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES02

1. Title of exposure scenario

Main title	Distribution of Substance - Industrial
Process scope	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	<p>ERC1 Manufacture of substances.</p> <p>ERC2 Formulation of preparations.</p> <p>ERC3 Formulation in materials.</p> <p>ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.</p> <p>ERC5 Industrial use resulting in inclusion into or onto a matrix.</p> <p>ERC6a Industrial use resulting in manufacture of another substance (use of intermediates).</p> <p>ERC6b Industrial use of reactive processing aids.</p> <p>ERC6c Industrial use of monomers for manufacture of thermoplastics.</p> <p>ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers.</p> <p>ERC7 Industrial use of substances in closed systems.</p>
SPERC	ESVOC SpERC 1.1b.v1
Worker	
Process category	<p>PROC1 Use in closed process, no likelihood of exposure.</p> <p>PROC2 Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3 Use in closed batch process (synthesis or formulation).</p> <p>PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.</p> <p>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)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Distribution of Substance - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 500 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 1.0 tonnes
 Maximum daily site tonnage: 50 kg

Frequency and duration of use

Continuous release.
 Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 1.0E-04
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-06
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-05

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
 Removal efficiency (total): 91.7%
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 78 tonne/day
 Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of 90%.
Water No wastewater treatment required. 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)

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

Distribution of Substance - Industrial

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

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

Exposure scenario

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

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES03

1. Title of exposure scenario

Main title	Formulation & (Re)packing of Substances and Mixtures - Industrial
Process scope	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging
Environment	
Environmental release category	ERC2 Formulation of preparations.
SPERC	ESVOC SpERC 2.2.v1
Worker	
Process category	<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

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

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 370 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 370 tonnes
 Maximum daily site tonnage: 3.7 tonnes

Frequency and duration of use

Continuous release.
 Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 5.0E-03

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 2.0E-05

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-04

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
 Removal efficiency (total): 91.7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 330 tonne/day
 Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

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

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

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

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Uses in Coatings - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES04

1. Title of exposure scenario

Main title	Uses in Coatings - Industrial
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 4.3a.v1
Worker	
Process category	<p>PROC1 Use in closed process, no likelihood of exposure.</p> <p>PROC2 Use in closed, continuous process with occasional controlled exposure</p> <p>PROC3 Use in closed batch process (synthesis or formulation).</p> <p>PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.</p> <p>PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).</p> <p>PROC7 Spraying in industrial settings and applications.</p> <p>PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.</p> <p>PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.</p> <p>PROC10 Roller application or brushing of adhesive and other coating.</p> <p>PROC13 Treatment of articles by dipping and pouring.</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: 370 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 370 tonnes
 Maximum daily site tonnage: 19 tonnes

Frequency and duration of use

Uses in Coatings - Industrial

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.98
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 7.0E-05
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 94 tonne/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of 90%.
Water Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 58.1. 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)

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Uses in Coatings - 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>).

Exposure scenario

Uses in Coatings - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES05

1. Title of exposure scenario

Main title	Uses in Coatings - Professional
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.3b.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC19 Hand-mixing with intimate contact and only PPE available.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 21 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1.0E-02 tonnes
Maximum daily site tonnage: 2.9E-02 kg

Uses in Coatings - Professional

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.98
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.01
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.01

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 42 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of N/A%.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Uses in Coatings - 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>).

Exposure scenario Uses in Coatings - Consumer

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES06

1. Title of exposure scenario

Main title	Uses in Coatings - Consumer
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.
Product category	PC1 Adhesives, sealants. PC4 Anti-freeze and de-icing products. PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC9c Finger paints. PC18 Ink and toners. PC23 Leather tanning, dye, finishing, impregnation and care products. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends. PC34 Textile dyes, finishing and impregnating products, including bleaches and other processing aids.
Main sector	SU21 Consumer uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.3c.v1

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 1600 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 0.81 tonnes
Maximum daily site tonnage: 2.2 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.985

Uses in Coatings - Consumer

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

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.005

Environmental factors not influenced by risk management measures

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

Risk management measures

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 660 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of Non-industrial exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario

Use in Cleaning Agents - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES07

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Industrial
Process scope	Covers the use as a component of cleaning products, including transfer from storage, pouring/unloading from drums or containers and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 4.4a.v1
Worker	
Process category	<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>PROC7 Spraying in industrial settings and applications.</p> <p>PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.</p> <p>PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.</p> <p>PROC10 Roller application or brushing of adhesive and other coating.</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: 530 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 100 tonnes
 Maximum daily site tonnage: 5.0 tonnes

Frequency and duration of use

Continuous release.
 Emission days: 20 days/year

Use in Cleaning Agents - Industrial

Other given operational conditions affecting environmental exposure

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

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by soil.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Removal efficiency (total): 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 3800 tonne/day Assumed domestic sewage treatment plant flow (m ³ /day): 2000.

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

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

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
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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.
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2. Conditions of use affecting exposure (Workers - Health 1)

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method	Used Petrorisk model. (Hydrocarbon Block Method)
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

Exposure scenario

Use in Cleaning Agents - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES08

1. Title of exposure scenario

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

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 5.0E-03 tonnes
Maximum daily site tonnage: 1.4E-02 kg

Frequency and duration of use

Use in Cleaning Agents - Professional

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.02
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.0E-06
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 22 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Use in Cleaning Agents - 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>).

Exposure scenario

Use in Cleaning Agents - Consumer

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES09

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Consumer
Process scope	Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.
Product category	PC1 Adhesives, sealants. PC4 Anti-freeze and de-icing products. PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC9c Finger paints. PC18 Ink and toners. PC23 Leather tanning, dye, finishing, impregnation and care products. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.
Main sector	SU21 Consumer uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.4c.v1

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 5.0E-03 tonnes
Maximum daily site tonnage: 1.4E-02 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.95
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.025
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.025

Use in Cleaning Agents - Consumer

Environmental factors not influenced by risk management measures

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

Risk management measures

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 20 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of Non-industrial exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

Exposure scenario Lubricants - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-0005
Version number	2010
Es reference	ES10

1. Title of exposure scenario

Main title	Lubricants - Industrial
Process scope	Covers the use of formulated lubricants in closed and open systems, including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC7 Industrial use of substances in closed systems.
SPERC	ESVOC SpERC 4.6a.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC7 Spraying in industrial settings and applications. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process. PROC18 Greasing at high energy conditions.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 140 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 100 tonnes
Maximum daily site tonnage: 5.0 tonnes

Lubricants - Industrial

Frequency and duration of use

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 1.0E-03
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 3.0E-06
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-03

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Removal efficiency (total): 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2200 tonne/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Control of workers exposure

No exposure assessment presented for human health.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Lubricants - Industrial

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