



SAFETY DATA SHEET NESSOL 40

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

1.1. Product identifier

Product name	NESSOL 40
Chemical name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
Product number	ID 10523
Internal identification	135148, 137111
Synonyms; trade names	Previous product name: NESSOL LI 200. Previous product number: 750311.
REACH registration number	01-2119458049-33-0006

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

Identified uses	Manufacture of substance, Distribution of substance, Formulation & (re)packing of substances and mixtures, Uses in coatings Use in cleaning agents Use in oil and gas field drilling and production operations Lubricants Metal working fluids/rolling oils Use in agrochemicals Use as a fuel, Functional fluids Road and construction applications Use in laboratories Rubber production and processing Polymer processing Water treatment chemicals
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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 number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 3 - H226
Health hazards	STOT SE 3 - H336 STOT RE 1 - H372 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Chronic 2 - H411

2.2. Label elements

Pictogram



Signal word

Danger

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Hazard statements	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H336 May cause drowsiness or dizziness. H372 Causes damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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. P102 Keep out of reach of children. P273 Avoid release to the environment.
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.
Contains	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
2.3. Other hazards	
Other hazards	Vapours may accumulate on the floor and in low-lying areas., Vapours may form explosive mixtures with air., 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, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	100 %
CAS number: —	REACH registration number: 01-2119458049-33-XXXX
Classification Flam. Liq. 3 - H226 STOT SE 3 - H336 STOT RE 1 - H372 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411	

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

Composition comments	aromatic hydrocarbons 12...20 vol-%. Benzene (CAS 71-43-2) < 0,1 %. n-hexane (CAS 110-54-3) < 1,0%.
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	Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash skin thoroughly 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. Vapours in high concentrations are narcotic. May cause nausea, headache, dizziness and intoxication. 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 Flammable liquid and vapour. Containers can burst violently or explode when heated, due to excessive pressure build-up. Severe explosion hazard when vapours are exposed to flames.

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. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Use only in well-ventilated areas. Eliminate all ignition sources if safe to do so.

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

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

SECTION 7: Handling and storage

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). Polypropylene 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.

PNEC Not available.

Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

DNEL

- Workers - Inhalation; Short term systemic effects: 570 mg/m³
- Workers - Inhalation; Long term systemic effects: 330 mg/m³
- Workers - Dermal; Long term systemic effects: 44 mg/kg/day
- Consumer - Inhalation; Short term systemic effects: 570 mg/m³
- Consumer - Inhalation; Long term systemic effects: 71 mg/m³
- Consumer - Oral; Long term systemic effects: 26 mg/kg/day

8.2. Exposure controls

Appropriate engineering controls All handling should only take place in well-ventilated areas. Use personal protective equipment and/or local ventilation when needed. Handle in accordance with good industrial hygiene and safety practice.

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. 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.

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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

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	150...200°C (EN ISO 3405)
Flash point	≥ 39°C (DIN 51755)
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 0,6 % Estimated value. Lower flammable/explosive limit: 7 % Estimated value.
Vapour pressure	~ 0,23 kPa @ 20°C ~ 3 kPa @ 50°C
Vapour density	> 3 (Air = 1.0)
Relative density	0,720 - 0,825 @ 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 24-27 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

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

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Materials to avoid Oxidising agents.

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).

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 413, 415)

Reproductive toxicity - development Based on available data the classification criteria are not met. (OECD 414)

Specific target organ toxicity - single exposure

STOT - single exposure May cause nausea, headache, dizziness and intoxication. Anaesthetic in high concentrations.

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.

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Hydrocarbons, C9-C12, 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

12.1. Toxicity

Toxicity Toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Acute aquatic toxicity

Acute toxicity - fish LL₅₀, 96 hours: 10 - 30 mg/l, Fish
NOELR, 96 hours: 0,3 mg/l, Fish
(OECD 203)

Acute toxicity - aquatic invertebrates EL50, 48 hours: 10 - 22 mg/l,
(OECD 202)

Acute toxicity - aquatic plants EC₅₀, 96 hours: 0,58 - 1,2 mg/l, Algae
NOEC, 96 hours: 0,16 mg/l, Algae
EL50, 72 hours: 4,6 - 10 mg/l, Algae
NOELR, 72 hours: 0,22 - 1,0 mg/l, Algae
(OECD 201)

Chronic aquatic toxicity

Chronic toxicity - fish early life stage NOELR, 28 days: 0,13 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, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Biodegradation Rapidly degradable
(OECD 301F)

12.3. Bioaccumulative potential

Bioaccumulative potential No data available.

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Partition coefficient log Kow: 2...7

12.4. Mobility in soil

Mobility Volatile. Volatilization is the fastest and most dominant elimination process in surface water and soil. 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

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

14.1. UN number

UN No. (ADR/RID) 1300

14.2. UN proper shipping name

Proper shipping name (ADR/RID) UN 1300 TURPENTINE SUBSTITUTE (white spirit)

14.3. Transport hazard class(es)

ADR/RID class 3

14.4. Packing group

ADR/RID packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
MARINE POLLUTANT

14.6. Special precautions for user

Hazard Identification Number (ADR/RID) 30

Tunnel restriction code (D/E)

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, F, (6) n.o.s. (NESSOL 40 contains white spirit, low (15 - 20 %) aromatic). Ship type: 2 Pollution category: Cat Y According to MARPOL: "Non-solidifying substance"

SECTION 15: Regulatory information

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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, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%), 2014.
Revision comments	Updated, sections: 1, 9, 14, 16. Product name change.
Revision date	21/11/2017
Supersedes date	04/10/2016
SDS number	5696
Hazard statements in full	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H336 May cause drowsiness or dizziness. H372 Causes damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.

Exposure scenario

Manufacture of Substance - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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 within closed or contained systems. Includes incidental exposures during recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).
Main sector	SU3 Industrial uses
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: 17,000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 17,000 tonnes
Maximum daily site tonnage: 56 tonnes

Frequency and duration of use

Continuous release.
Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 1.0E-02

Manufacture of Substance - Industrial

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

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: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 3200 tonne/day
Assumed domestic sewage treatment plant flow (m³/day):
10 000.

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

Air Treat air emission to provide a typical removal efficiency of 90%.

Water 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.

Conditions and measures related to external recovery of waste

Recovery method During manufacturing no waste of the substance is generated.

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

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Manufacture of Substance - Industrial

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

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

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Process sampling
No other specific measures identified.

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Laboratory activities
No other specific measures identified.

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

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

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Equipment cleaning and maintenance
No other specific measures identified.

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Storage
No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Distribution of Substance - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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	ERC1 Manufacture of substances. ERC2 Formulation of preparations. ERC3 Formulation in materials. ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC5 Industrial use resulting in inclusion into or onto a matrix. ERC6a Industrial use resulting in manufacture of another substance (use of intermediates). ERC6b Industrial use of reactive processing aids. ERC6c Industrial use of monomers for manufacture of thermoplastics. ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers. ERC7 Industrial use of substances in closed systems.
SPERC	ESVOC SpERC 1.1b.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC15 Use as laboratory reagent.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Distribution of Substance - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 1700 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 3.4 tonnes
 Maximum daily site tonnage: 170 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
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: 93.7%
 Removal efficiency (total): 93,7%
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 170 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)

Product characteristics

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

Distribution of Substance - Industrial

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Setting

Assumes a good basic standard of occupational hygiene is implemented.

Temperature

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

Risk management measures

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

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

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Process sampling
No other specific measures identified.

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Laboratory activities
No other specific measures identified.

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

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

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Drum and small package filling
No other specific measures identified.

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Equipment cleaning and maintenance
No other specific measures identified.

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Storage
No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

Assessment method

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

Distribution of Substance - Industrial

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

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

Exposure scenario

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

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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
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

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 2400 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 2400 tonnes
 Maximum daily site tonnage: 7.8 tonnes

Frequency and duration of use

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

Continuous release.
Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 1.0E-02

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: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 950 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 No air emission controls required; required removal efficiency is 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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

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

Risk management measures

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

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

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Batch processes at elevated temperatures
Operation is carried out at elevated temperature (> 20°C above ambient temperature).
No other specific measures identified.

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Process sampling
No other specific measures identified.

.
Laboratory activities
No other specific measures identified.

.
Bulk transfers
No other specific measures identified.

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

.
Transfer from/pouring from containers
Manual
No other specific measures identified.

.
Drum/batch transfers
No other specific measures identified.

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

.
Drum and small package filling
No other specific measures identified.

.
Equipment cleaning and maintenance
No other specific measures identified.

.
Storage
No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

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

3. Exposure estimation (Health 1)

Assessment method

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

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

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

Exposure scenario

Uses in Coatings - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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>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>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

Uses in Coatings - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 4300 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 4300 tonnes
 Maximum daily site tonnage: 43 tonnes

Frequency and duration of use

Continuous release.
 Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 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: 93.7%
 Removal efficiency (total): 93,7%
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 270 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 (%): ≥ 59.8. 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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Uses in Coatings - Industrial

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Uses in Coatings - Industrial

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

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General exposures (closed systems)
With sample collection
Use in contained systems
No other specific measures identified.

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Film formation - force drying, stoving and other technologies
Operation is carried out at elevated temperature (> 20°C above ambient temperature).
No other specific measures identified.

.

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

.

Film formation - air drying
No other specific measures identified.

.

Preparation of material for application
Mixing operations
(open systems)
No other specific measures identified.

.

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

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

.

Material transfers
No other specific measures identified.

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Roller, spreader, flow application
No other specific measures identified.

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Dipping, immersion and pouring
No other specific measures identified.

.

Laboratory activities
No other specific measures identified.

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Material transfers
Drum/batch transfers
Transfer from/pouring from containers
No other specific measures identified.

.

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

.

Equipment cleaning and maintenance
No other specific measures identified.

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Storage

Uses in Coatings - Industrial

No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Uses in Coatings - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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, spreader, dip, flow, fluidised bed on production lines 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: 1700 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.84 tonnes
Maximum daily site tonnage: 2.3 kg

Frequency and duration of use

Uses in Coatings - 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): 0.98
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 soil.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1.9 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

Water No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil Risk from environmental exposure is driven by soil. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Uses in Coatings - Professional

General exposures (closed systems)

Handle substance within a closed system.

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Filling/preparation of equipment from drums or containers.

Use in contained systems

Handle substance within a closed system.

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Preparation of material for application

Use in contained batch processes

No other specific measures identified.

.

Film formation - air drying

Indoor/outdoor use.

No other specific measures identified.

.

Preparation of material for application

Indoor/outdoor use.

No other specific measures identified.

.

Material transfers

Drum/batch transfers

Non-dedicated facility

No other specific measures identified.

.

Material transfers

Drum/batch transfers

Dedicated facility

No other specific measures identified.

.

Roller, spreader, flow application

Indoor/outdoor use.

No other specific measures identified.

.

Manual spraying

Indoor.

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

, or:

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

.

Manual spraying

Outdoor.

Ensure operation is undertaken outdoors.

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

, or:

Ensure operation is undertaken outdoors.

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

.

Dipping, immersion and pouring

Indoor/outdoor use.

Avoid manual contact with wet work pieces.

.

Laboratory activities

No other specific measures identified.

.

Hand application - fingerpaints, pastels, adhesives

Uses in Coatings - Professional

Indoor/outdoor use.
No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Uses in Coatings - Consumer

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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. PC8 Biocidal products. PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC9c Finger paints. PC15 Non-metal-surface treatment products. 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
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.3c.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: 4400 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 2.2 tonnes
Maximum daily site tonnage: 6.0 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: 93.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1.9 tonne/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

PC1 Adhesives, sealants. : PC1_1 Glues, hobby use PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) PC1_3 Glue from spray PC1_4 Sealants PC4 Anti-freeze and de-icing products. : PC4_1 Washing car window PC4_2 Pouring into radiator PC4_3 Lock de-icer PC8 Biocidal products. , PC8a Excipient only : PC8_1 Laundry and dish-washing products PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Concentration details PC1 Adhesives, sealants. : Covers concentrations up to 30 %. PC4_1 Washing car window : Covers concentrations up to 1 %. PC4_2 Pouring into radiator : Covers concentrations up to 10 %. PC4_3 Lock de-icer : Covers concentrations up to 50 %. PC8_1 Laundry and dish-washing products , PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) : Covers concentrations up to 5 %. PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) : Covers concentrations up to 15 %.

Amounts used

Uses in Coatings - Consumer

PC1_1 Glues, hobby use

For each use event, covers use amounts up to 9 g.

PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue)

For each use event, covers use amounts up to 6390 g.

PC1_3 Glue from spray

For each use event, covers use amounts up to 85.05 g.

PC1_4 Sealants

For each use event, covers use amounts up to 75 g.

PC4_1 Washing car window

For each use event, covers use amounts up to 0.5 g.

PC4_2 Pouring into radiator

For each use event, covers use amounts up to 2000 g.

PC4_3 Lock de-icer

For each use event, covers use amounts up to 4 g.

PC8_1 Laundry and dish-washing products

For each use event, covers use amounts up to 15 g.

PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)

For each use event, covers use amounts up to 27 g.

PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

For each use event, covers use amounts up to 35 g.

Frequency and duration of use

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

Covers use up to 365 days/year.

Unless otherwise stated.

.

PC1_1 Glues, hobby use

Covers exposure up to 4,00 hours per event.

PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue)

Covers exposure up to 6,00 hours per event.

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

PC1_3 Glue from spray

Covers exposure up to 4,00 hours per event.

Covers use up to 6 day(s)/year.

PC1_4 Sealants

Covers exposure up to 1,00 hour per event.

PC4_1 Washing car window

Covers exposure up to 0,02 hours per event.

PC4_2 Pouring into radiator

Covers exposure up to 0,17 hours per event.

PC4_3 Lock de-icer

Covers exposure up to 0,25 hours per event.

PC8_1 Laundry and dish-washing products

Covers exposure up to 0,50 hours per event.

PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)

Covers exposure up to 0,33 hours per event.

Covers use up to 128 day(s)/year.

PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

Covers exposure up to 0,17 hours per event.

Covers use up to 128 day(s)/year.

Human factors not influenced by risk management

Uses in Coatings - Consumer

Potentially exposed body parts PC1_1 Glues, hobby use : Covers skin contact area up to 35.73 cm². PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) : Covers skin contact area up to 110.00 cm². PC1_3 Glue from spray , PC1_4 Sealants : Covers skin contact area up to 35,73 cm². PC4_1 Washing car window : Covers skin contact area up to 857,5 cm². PC4_2 Pouring into radiator : Covers skin contact area up to 428,00 cm². PC4_3 Lock de-icer : Covers skin contact area up to 214.40 cm². PC8_1 Laundry and dish-washing products , PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) : Covers skin contact area up to 857,50 cm². PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) : Covers skin contact area up to 428.00 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Covers use under typical household ventilation. Covers use in room size of 20 m³. Unless otherwise stated.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Room size PC4 Anti-freeze and de-icing products. : Covers use in a one car garage (34 m³) under typical ventilation.

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

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

Control of Non-industrial exposure

PC9a Coatings and paints, thinners, paint removers. : PC9a_1 Water-borne latex wall paint PC9a_2 Solvent-rich, high-solid, water-borne paint PC9a_3 Aerosol spray can. PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover). PC9b Fillers, putties, plasters, modelling clay. : PC9b_1 Fillers and putty PC9b_2 Plasters and floor equalisers PC9b_3 Modelling clay PC9c Finger paints.

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Concentration details PC9a_1 Water-borne latex wall paint Covers concentrations up to 1,5 %. PC9a_2 Solvent-rich, high-solid, water-borne paint Covers concentrations up to 27,5 %. PC9a_3 Aerosol spray can. , PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover). Covers concentrations up to 50 %. PC9b_1 Fillers and putty , PC9b_2 Plasters and floor equalisers Covers concentrations up to 2 %. PC9b_3 Modelling clay Covers concentrations up to 1 %. PC9c Finger paints. Covers concentrations up to 50 %.

PC9c Finger paints. Avoid using at a product concentration greater than 5%.

Amounts used

Uses in Coatings - Consumer

For each use event, covers use amounts up to 13 800 g.
Unless otherwise stated.

PC9a_1 Water-borne latex wall paint

For each use event, covers use amounts up to 2760 g.

PC9a_2 Solvent-rich, high-solid, water-borne paint

For each use event, covers use amounts up to 744 g.

PC9a_3 Aerosol spray can.

For each use event, covers use amounts up to 215 g.

PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover).

For each use event, covers use amounts up to 491 g.

PC9b_1 Fillers and putty

For each use event, covers use amounts up to 85 g.

Frequency and duration of use

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

PC9a_1 Water-borne latex wall paint

Covers exposure up to 2,20 hours per event.

Covers use up to 4 day(s)/year.

PC9a_2 Solvent-rich, high-solid, water-borne paint

Covers exposure up to 2,20 hours per event.

Covers use up to 6 day(s)/year.

PC9a_3 Aerosol spray can.

Covers exposure up to 0,33 hours per event.

Covers use up to 2 day(s)/year.

PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover).

Covers exposure up to 2,00 hours per event.

Covers use up to 3 day(s)/year.

PC9b_1 Fillers and putty

Covers exposure up to 4,00 hours per event.

Covers use up to 12 day(s)/year.

PC9b_2 Plasters and floor equalisers

Covers exposure up to 2,00 hours per event.

Covers use up to 12 day(s)/year.

PC9b_3 Modelling clay

Covers exposure up to 6 hours per event.

Covers use up to 365 day(s)/year.

PC9c Finger paints.

Covers exposure up to 6 hours per event.

Covers use up to 365 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts

PC9a_1 Water-borne latex wall paint , PC9a_2 Solvent-rich, high-solid, water-borne paint : Covers skin contact area up to 428,75 cm². PC9a_3 Aerosol spray can. , PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover). : Covers skin contact area up to 857,50 . PC9b_1 Fillers and putty : Covers skin contact area up to 35,73 cm². PC9b_2 Plasters and floor equalisers : Covers skin contact area up to 857,50 cm². PC9b_3 Modelling clay , PC9c Finger paints. : Covers skin contact area up to 254,40 cm².

PC9b_3 Modelling clay For each use event, assumes swallowed amount of (g): 1,0. PC9c Finger paints. For each use event, assumes swallowed amount of (g): 1,35.

Other given operational conditions affecting Non-industrial exposure

Uses in Coatings - Consumer

Setting	Covers use under typical household ventilation. Covers use in room size of 20 m ³ . Unless otherwise stated.
Temperature	Assumes activities are at ambient temperature (unless stated differently).
Room size	PC9a_3 Aerosol spray can. : Covers use in a one car garage (34 m ³) under typical ventilation.
<u>Other given operational conditions affecting Non-industrial exposure</u>	
	No specific risk management measure identified beyond those operational conditions stated.

2. Conditions of use affecting exposure (Non-industrial - Health 3)

Control of Non-industrial exposure

PC15 Non-metal-surface treatment products. : PC15_1 Water-borne latex wall paint PC15_2 Solvent rich, high solid, water-borne paint PC15_3 Aerosol spray can PC15_4 Removers (paint-, glue-, wall paper-, sealant remover) PC18 Ink and toners. PC23 Leather tanning, dye, finishing, impregnation and care products. : PC23_1 Polishes, wax/cream (floor, furniture, shoes) PC23_2 Polishes, spray (furniture, shoes)

Product characteristics

Physical state Liquid

Vapour pressure 231 kPa

Concentration details Covers concentrations up to 50 %. Unless otherwise stated.

PC15_1 Water-borne latex wall paint : Covers concentrations up to 1,5 %. PC15_2 Solvent rich, high solid, water-borne paint : Covers concentrations up to 27,5 %. PC18 Ink and toners. : Covers concentrations up to 10 %.

Amounts used

PC15_1 Water-borne latex wall paint
For each use event, covers use amounts up to 2760 g.
PC15_2 Solvent rich, high solid, water-borne paint
For each use event, covers use amounts up to 744 g.
PC15_3 Aerosol spray can
For each use event, covers use amounts up to 215 g.
PC15_4 Removers (paint-, glue-, wall paper-, sealant remover)
For each use event, covers use amounts up to 491 g.
PC18 Ink and toners.
For each use event, covers use amounts up to 40 g.
PC23 Leather tanning, dye, finishing, impregnation and care products.
For each use event, covers use amounts up to 56 g.

Frequency and duration of use

Uses in Coatings - Consumer

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

PC15_1 Water-borne latex wall paint

Covers exposure up to 2,20 hours per event.

Covers use up to 4 day(s)/year.

PC15_2 Solvent rich, high solid, water-borne paint

Covers exposure up to 2,20 hours per event.

Covers use up to 6 day(s)/year.

PC15_3 Aerosol spray can

Covers exposure up to 0,33 hours per event.

Covers use up to 2 day(s)/year.

PC15_4 Removers (paint-, glue-, wall paper-, sealant remover)

Covers exposure up to 2,00 hours per event.

Covers use up to 3 day(s)/year.

PC18 Ink and toners.

Covers exposure up to 2,20 hours per event.

Covers use up to 365 day(s)/year.

PC23_1 Polishes, wax/cream (floor, furniture, shoes)

Covers exposure up to 1,23 hours per event.

Covers use up to 29 day(s)/year.

PC23_2 Polishes, spray (furniture, shoes)

Covers exposure up to 0,33 hours per event.

Covers use up to 8 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts PC1_1 Glues, hobby use , PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) : Covers skin contact area up to 428,75 cm². PC1_3 Glue from spray , PC1_4 Sealants : Covers skin contact area up to 857,5 cm². PC18 Ink and toners. : Covers skin contact area up to 71,40 cm². PC23 Leather tanning, dye, finishing, impregnation and care products. : Covers skin contact area up to 430,0 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Covers use under typical household ventilation. Covers use in room size of 20 m³. Unless otherwise stated.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Room size PC15_3 Aerosol spray can : Covers use in a one car garage (34 m³) under typical ventilation.

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

2. Conditions of use affecting exposure (Non-industrial - Health 4)

Control of Non-industrial exposure

PC24 Lubricants, greases and release products. : PC24_1 Liquids PC24_2 Pastes PC24_3 Sprays PC31 Polishes and wax blends. : PC31_1 Polishes, wax/cream (floor, furniture, shoes) PC31_2 Polishes, spray (furniture, shoes) PC34 Textile dyes, finishing and impregnating products, including bleaches and other processing aids.

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Uses in Coatings - Consumer

Concentration details

PC24_1 Liquids : Covers concentrations up to 100 %. PC24_2 Pastes : Covers concentrations up to 20 %. PC24_3 Sprays : Covers concentrations up to 50 %. PC31 Polishes and wax blends. : Covers concentrations up to 50 %. PC34 Textile dyes, finishing and impregnating products, including bleaches and other processing aids. : Covers concentrations up to 10 %.

Amounts used

PC24_1 Liquids
For each use event, covers use amounts up to 2200 g.

PC24_2 Pastes
For each use event, covers use amounts up to 34 g.

PC24_3 Sprays
For each use event, covers use amounts up to 73 g.

PC31_1 Polishes, wax/cream (floor, furniture, shoes)
For each use event, covers use amounts up to 142 g.

PC31_2 Polishes, spray (furniture, shoes)
For each use event, covers use amounts up to 35 g.

PC34 Textile dyes, finishing and impregnating products, including bleaches and other processing aids.
For each use event, covers use amounts up to 115 g.

Frequency and duration of use

Covers use up to 1 time(s)/day.
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PC24_1 Liquids
Covers exposure up to 0,17 hours per event.
Covers use up to 4 day(s)/year.

PC24_2 Pastes
Covers exposure up to 4,0 hours per event.
Covers use up to 10 day(s)/year.

PC24_3 Sprays
Covers exposure up to 0,17 hours per event.
Covers use up to 6 day(s)/year.

PC31_1 Polishes, wax/cream (floor, furniture, shoes)
Covers exposure up to 1,23 hours per event.
Covers use up to 29 day(s)/year.

PC31_2 Polishes, spray (furniture, shoes)
Covers exposure up to 0,33 hours per event.
Covers use up to 8 day(s)/year.

PC34 Textile dyes, finishing and impregnating products, including bleaches and other processing aids.
Covers exposure up to 1,0 hour per event.
Covers use up to 365 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts PC24_1 Liquids , PC24_2 Pastes : Covers skin contact area up to 468,0 cm². PC24_3 Sprays : Covers skin contact area up to 428,75 cm². PC31 Polishes and wax blends. : Covers skin contact area up to 430,0 cm². PC34 Textile dyes, finishing and impregnating products, including bleaches and other processing aids. : Covers skin contact area up to 857,50 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Covers use under typical household ventilation. Covers use in room size of 20 m³. Unless otherwise stated.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Room size PC24_1 Liquids : Covers use in a one car garage (34 m³) under typical ventilation.

Uses in Coatings - Consumer

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

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. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate consumer exposures, unless otherwise indicated.

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

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

Exposure scenario

Use in Cleaning Agents - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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: 1400 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

Use in Cleaning Agents - Industrial

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.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 93.7% Removal efficiency (total): 93,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 4600 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)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Use in Cleaning Agents - Industrial

Bulk transfers

No other specific measures identified.

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Automated process with (semi) closed systems

Use in contained systems

No other specific measures identified.

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Automated process with (semi) closed systems

Drum/batch transfers

No other specific measures identified.

.

Application of cleaning products in closed systems

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

No other specific measures identified.

.

Use in contained batch processes

No other specific measures identified.

.

Degreasing small objects in cleaning station

No other specific measures identified.

.

Cleaning with low-pressure washers

No other specific measures identified.

.

Cleaning with high-pressure washers

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

, or:

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

.

Surface cleaning

Manual

No other specific measures identified.

.

Storage

No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

Use in Cleaning Agents - Industrial

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

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

Exposure scenario

Use in Cleaning Agents - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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. 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.

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: 340 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.17 tonnes
Maximum daily site tonnage: 0.47 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): 0.02

Use in Cleaning Agents - Professional

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: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 470 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

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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use in Cleaning Agents - Professional

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

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Automated process with (semi) closed systems
Use in contained systems
No other specific measures identified.

.
Automated process with (semi) closed systems
Drum/batch transfers
Use in contained batch processes
No other specific measures identified.

.
Semi-automated process (e.g. semi-automatic application of floor care and maintenance products)
No other specific measures identified.

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

.
Surface cleaning
Manual
Dipping, immersion and pouring
No other specific measures identified.

.
Rolling, brushing
Cleaning with low-pressure washers
No spraying
No other specific measures identified.

.
Cleaning with high-pressure washers
Spraying
Indoor.
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
, or:
Wear a respirator conforming to EN140 with Type A filter or better.

.
Cleaning with high-pressure washers
Spraying
Outdoor.
Ensure operation is undertaken outdoors.
Limit the substance content in the product to 25%.
, or:
Wear a respirator conforming to EN140 with Type A filter or better.

.
Surface cleaning
Manual
Spraying
No other specific measures identified.

.
Ad hoc manual application via trigger sprays, dipping, etc.
Rolling, brushing
No other specific measures identified.

.
Application of cleaning products in closed systems
Outdoor.

Use in Cleaning Agents - Professional

No other specific measures identified.

.

Cleaning of medical devices

No other specific measures identified.

.

Storage

No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use in Cleaning Agents - Consumer

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2016

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	PC3 Air care products. PC4 Anti-freeze and de-icing products. PC8 Biocidal products. PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC9c Finger paints. PC24 Lubricants, greases and release products. PC35 Washing and cleaning products (including solvent-based products). PC38 Welding and soldering products, flux products.
Main sector	SU21 Consumer uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.4c.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: 50 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 2.5E-02 tonnes
Maximum daily site tonnage: 6.8E-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

Environmental factors not influenced by risk management measures

Use in Cleaning Agents - Consumer

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

Risk management measures

STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 63 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

PC3 Air care products. : PC3_1 Air care, instant action (aerosol sprays) PC3_n Air care, instant action (aerosol sprays) - pesticidal - excipient only PC3_2 Air care, continuous action (solid and liquid) PC3_n Air care, continuous action (solid and liquid) - pesticidal - excipient only

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Concentration details Covers concentrations up to 50 %. Unless otherwise stated.

PC3_2 Air care, continuous action (solid and liquid) : Covers concentrations up to 10 %.

Amounts used

PC3_1 Air care, instant action (aerosol sprays)
For each use event, covers use amounts up to 0.1 g.
PC3_n Air care, instant action (aerosol sprays) - pesticidal - excipient only
For each use event, covers use amounts up to 0.5 g.
PC3_2 Air care, continuous action (solid and liquid)
For each use event, covers use amounts up to 0.48 g.
PC3_n Air care, continuous action (solid and liquid) - pesticidal - excipient only
For each use event, covers use amounts up to 0.48 g.

Frequency and duration of use

Use in Cleaning Agents - Consumer

Covers use up to 365 days/year.

.
PC3_1 Air care, instant action (aerosol sprays)

PC3_n Air care, instant action (aerosol sprays) - pesticidal - excipient only

Covers exposure up to 0.25 hours per event.

Covers use up to 4 time(s)/day.

.
PC3_2 Air care, continuous action (solid and liquid)

PC3_n Air care, continuous action (solid and liquid) - pesticidal - excipient only

Covers exposure up to 8.00 hours per event.

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

Human factors not influenced by risk management

Potentially exposed body parts PC3_1 Air care, instant action (aerosol sprays) , PC3_n Air care, instant action (aerosol sprays) - pesticidal - excipient only : Covers skin contact area up to 857,5 cm². PC3_2 Air care, continuous action (solid and liquid) , PC3_n Air care, continuous action (solid and liquid) - pesticidal - excipient only : Covers skin contact area up to 35.70 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Covers use under typical household ventilation. Covers use in room size of 20 m³.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

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

Control of Non-industrial exposure

PC4 Anti-freeze and de-icing products. : PC4_1 Washing car window PC4_2 Pouring into radiator PC4_3 Lock de-icer PC8 Biocidal products. : PC8_1 Laundry and dish-washing products PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Concentration details PC4_1 Washing car window : Covers concentrations up to 1 %. PC4_2 Pouring into radiator : Covers concentrations up to 10 %. PC4_3 Lock de-icer : Covers concentrations up to 50 %. PC8_1 Laundry and dish-washing products , PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) : Covers concentrations up to 5 %. PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) : Covers concentrations up to 15 %.

Amounts used

Use in Cleaning Agents - Consumer

PC4_1 Washing car window

For each use event, covers use amounts up to 0,5 g.

PC4_2 Pouring into radiator

For each use event, covers use amounts up to 2000 g.

PC4_3 Lock de-icer

For each use event, covers use amounts up to 4 g.

PC8_1 Laundry and dish-washing products

For each use event, covers use amounts up to 15 g.

PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)

For each use event, covers use amounts up to 27 g.

PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

For each use event, covers use amounts up to 35 g.

Frequency and duration of use

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

Covers use up to 365 day(s)/year.

Unless otherwise stated.

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PC4_1 Washing car window

Covers exposure up to 0,02 hours per event.

PC4_2 Pouring into radiator

Covers exposure up to 0,17 hours per event.

PC4_3 Lock de-icer

Covers exposure up to 0,25 hours per event.

PC8_1 Laundry and dish-washing products

Covers exposure up to 0,50 hours per event.

PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)

Covers exposure up to 0,33 hours per event.

Covers use up to 128 day(s)/year.

PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

Covers exposure up to 0,17 hours per event.

Covers use up to 128 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts

PC4_1 Washing car window : Covers skin contact area up to 857,50 cm². PC4_2 Pouring into radiator : Covers skin contact area up to 428,00 cm². PC4_3 Lock de-icer : Covers skin contact area up to 214,40 cm². PC8_1 Laundry and dish-washing products , PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) : Covers skin contact area up to 857,50 cm². PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) : Covers skin contact area up to 428,00 cm².

Other given operational conditions affecting Non-industrial exposure

Setting

PC4 Anti-freeze and de-icing products. : Covers use in a one car garage (34 m³) under typical ventilation. PC8 Biocidal products. : Covers use under typical household ventilation. Covers use in room size of 20 m³.

Temperature

Assumes activities are at ambient temperature (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

2. Conditions of use affecting exposure (Non-industrial - Health 3)

Use in Cleaning Agents - Consumer

Control of Non-industrial exposure

PC9a Coatings and paints, thinners, paint removers. : PC9a_1 Water-borne latex wall paint
 PC9a_2 Solvent-rich, high-solid, water-borne paint PC9a_3 Aerosol spray can. PC9a_4
 Removers (paint-, glue-, wallpaper-, sealant-remover). PC9b Fillers, putties, plasters,
 modelling clay. : PC9b_1 Fillers and putty PC9b_2 Plasters and floor equalisers PC9b_3
 Modelling clay PC9c Finger paints.

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Concentration details PC9a_1 Water-borne latex wall paint : Covers concentrations up to 1,5 %. PC9a_2 Solvent-rich, high-solid, water-borne paint : Covers concentrations up to 27,5 %. PC9a_3 Aerosol spray can. , PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover). : Covers concentrations up to 50 %. PC9b_1 Fillers and putty , PC9b_2 Plasters and floor equalisers : Covers concentrations up to 2 %. PC9b_3 Modelling clay : Covers concentrations up to 1 %. PC9c Finger paints. : Covers concentrations up to 50 %.

PC9c Finger paints. : Avoid using at a product concentration greater than 5%.

Amounts used

PC9a_1 Water-borne latex wall paint
 For each use event, covers use amounts up to 2760 g.
 PC9a_2 Solvent-rich, high-solid, water-borne paint
 For each use event, covers use amounts up to 744 g.
 PC9a_3 Aerosol spray can.
 For each use event, covers use amounts up to 215 g.
 PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover).
 For each use event, covers use amounts up to 491 g.
 PC9b_1 Fillers and putty
 For each use event, covers use amounts up to 85 g.
 PC9b_2 Plasters and floor equalisers
 For each use event, covers use amounts up to 13 800 g.
 PC9b_3 Modelling clay
 For each use event, covers use amounts up to 13 800 g.
 PC9c Finger paints.
 For each use event, covers use amounts up to 13 800 g.

Frequency and duration of use

Use in Cleaning Agents - Consumer

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

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PC9a_1 Water-borne latex wall paint

Covers exposure up to 2,20 hours per event.

Covers use up to 4 day(s)/year.

PC9a_2 Solvent-rich, high-solid, water-borne paint

Covers exposure up to 2,20 hours per event.

Covers use up to 6 day(s)/year.

PC9a_3 Aerosol spray can.

Covers exposure up to 0,33 hours per event.

Covers use up to 2 day(s)/year.

PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover).

Covers exposure up to 2,00 hours per event.

Covers use up to 3 day(s)/year.

PC9b_1 Fillers and putty

Covers exposure up to 4,00 hours per event.

Covers use up to 12 day(s)/year.

PC9b_2 Plasters and floor equalisers

Covers exposure up to 2,00 hours per event.

Covers use up to 12 day(s)/year.

PC9b_3 Modelling clay

Covers exposure up to 8,00 hours per event.

Covers use up to 365 day(s)/year.

PC9c Finger paints.

Covers exposure up to 8,00 hours per event.

Covers use up to 365 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts

PC9a_1 Water-borne latex wall paint , PC9a_2 Solvent-rich, high-solid, water-borne paint : Covers skin contact area up to 428,75 cm². PC9a_3 Aerosol spray can. , PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover). : Covers skin contact area up to 857,50 cm². PC9b_1 Fillers and putty : Covers skin contact area up to 35,73 cm². PC9b_2 Plasters and floor equalisers : Covers skin contact area up to 857,50 cm². PC9b_3 Modelling clay , PC9c Finger paints. : Covers skin contact area up to 254,40 cm².

PC9b_3 Modelling clay For each use event, assumes swallowed amount of (g): 1. PC9c Finger paints. For each use event, assumes swallowed amount of (g): 1,35.

Other given operational conditions affecting Non-industrial exposure

Setting

Covers use under typical household ventilation. Covers use in room size of 20 m³. Unless otherwise stated.

Temperature

Assumes activities are at ambient temperature (unless stated differently).

Room size

PC9a_3 Aerosol spray can. : Covers use in a one car garage (34 m³) under typical ventilation.

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

2. Conditions of use affecting exposure (Non-industrial - Health 4)

Control of Non-industrial exposure

Use in Cleaning Agents - Consumer

PC24 Lubricants, greases and release products. : PC24_1 Liquids PC24_2 Pastes PC24_3 Sprays PC35 Washing and cleaning products (including solvent-based products). : PC35_1 Laundry and dish washing products PC35_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, carpet cleaners, metal cleaners) PC35_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) PC38 Welding and soldering products, flux products.

Product characteristics

Physical state

Liquid

Vapour pressure

231 Pa

Concentration details

PC24_1 Liquids Covers concentrations up to 100 %. PC24_2 Pastes Covers concentrations up to 20 %. PC24_3 Sprays Covers concentrations up to 50 %. PC35_1 Laundry and dish washing products , PC35_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, carpet cleaners, metal cleaners) Covers concentrations up to 5 %. PC35_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) Covers concentrations up to 15 %. PC38 Welding and soldering products, flux products. Covers concentrations up to 20 %.

Amounts used

PC24_1 Liquids

For each use event, covers use amounts up to 2 200 g.

PC24_2 Pastes

For each use event, covers use amounts up to 34 g.

PC24_3 Sprays

For each use event, covers use amounts up to 73 g.

PC35_1 Laundry and dish washing products

For each use event, covers use amounts up to 15 g.

PC35_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, carpet cleaners, metal cleaners)

For each use event, covers use amounts up to 27 g.

PC35_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

For each use event, covers use amounts up to 35 g.

PC38 Welding and soldering products, flux products.

For each use event, covers use amounts up to 12 g.

Frequency and duration of use

Use in Cleaning Agents - Consumer

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

PC24_1 Liquids

Covers exposure up to 0,17 hours per event.

Covers use up to 4 day(s)/year.

PC24_2 Pastes

Covers exposure up to 4,00 hours per event.

Covers use up to 10 day(s)/year.

PC24_3 Sprays

Covers exposure up to 0,17 hours per event.

Covers use up to 6 day(s)/year.

PC35_1 Laundry and dish washing products

Covers exposure up to 0,50 hours per event.

Covers use up to 365 day(s)/year.

PC35_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, carpet cleaners, metal cleaners)

Covers exposure up to 0,33 hours per event.

Covers use up to 128 day(s)/year.

PC35_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

Covers exposure up to 0,17 hours per event.

Covers use up to 128 day(s)/year.

PC38 Welding and soldering products, flux products.

Covers exposure up to 1,00 hour per event.

Covers use up to 365 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts

PC24_1 Liquids , PC24_2 Pastes : Covers skin contact area up to 468,00 cm². PC24_3 Sprays : Covers skin contact area up to 428,75 cm². PC35_1 Laundry and dish washing products , PC35_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, carpet cleaners, metal cleaners) : Covers skin contact area up to 857,50 cm². PC35_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) : Covers skin contact area up to 428,00 cm². PC38 Welding and soldering products, flux products. : Covers skin contact area up to 857,50 cm².

Other given operational conditions affecting Non-industrial exposure

Setting

Covers use under typical household ventilation. Covers use in room size of 20 m³. Unless otherwise stated.

Temperature

Assumes activities are at ambient temperature (unless stated differently).

Room size

PC24_1 Liquids : Covers use in a one car garage (34 m³) under typical ventilation.

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

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. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

Use in Cleaning Agents - Consumer

Assessment method The ECETOC TRA tool has been used to estimate consumer exposures, unless otherwise indicated.

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

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

Exposure scenario

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

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

Main title	Use in Oil and Gas Field Drilling and Production Operations - Professional
Process scope	Oil field well drilling operations (including drilling muds and well cleaning), including material transfers, onsite formulation, well head operations, shaker room activities and related maintenance.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8d Wide dispersive outdoor use of processing aids in open systems.
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>

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 1
Regional use tonnage: 168 tonnes/year

Risk management measures

Good practice Prevent environmental discharge consistent with regulatory requirements. Discharge to aquatic environment is restricted (see Section 4.2).

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

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

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers percentage substance in the product up to 100% (unless stated differently).
<u>Frequency and duration of use</u>	Covers daily exposures up to 8 hours (unless stated differently).
<u>Other given operational conditions affecting workers exposure</u>	
Setting	Assumes a good basic standard of occupational hygiene is implemented.
Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
<u>Risk management measures</u>	<p>Bulk transfers No other specific measures identified.</p> <p>.</p> <p>Filling/preparation of equipment from drums or containers. No other specific measures identified.</p> <p>.</p> <p>Drilling mud (re-)formulation No other specific measures identified.</p> <p>.</p> <p>Drill floor operations No other specific measures identified.</p> <p>.</p> <p>Operation of solids filtering equipment - vapour exposures No other specific measures identified.</p> <p>.</p> <p>Cleaning of solids-filtering equipment No other specific measures identified.</p> <p>.</p> <p>Treatment and disposal of filtered solids No other specific measures identified.</p> <p>.</p> <p>Process sampling No other specific measures identified.</p> <p>.</p> <p>General exposures (closed systems) No other specific measures identified.</p> <p>.</p> <p>Pouring from small containers No other specific measures identified.</p> <p>.</p> <p>General exposures (open systems) No other specific measures identified.</p> <p>.</p> <p>Equipment cleaning and maintenance No other specific measures identified.</p> <p>.</p> <p>Batch process No other specific measures identified.</p>

3. Exposure estimation (Environment 1)

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

Assessment method Qualitative approach used to conclude safe use.

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

Discharge to aquatic environment is restricted by law and industry prohibits release. OSPAR Commission 2009. Discharges, Spills and Emissions from Offshore Oil and Gas Installations in 2007, including the assessment of data reported in 2006 and 2007.

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario Lubricants - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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: 10 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

Lubricants - Industrial

Continuous release.
Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 5.0E-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): 0.001

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: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 460 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)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Lubricants - Industrial

Risk management measures

General exposures (closed systems)

No other specific measures identified.

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General exposures (open systems)

No other specific measures identified.

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Bulk transfers

No other specific measures identified.

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Filling/preparation of equipment from drums or containers.

No other specific measures identified.

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Initial factory fill of equipment

No other specific measures identified.

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Operation and lubrication of high-energy open equipment

No other specific measures identified.

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Rolling, brushing

Manual

No other specific measures identified.

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Treatment by dipping and pouring

Allow time for product to drain from workpiece.

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Spraying

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

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Maintenance (of larger plant items) and machine set up

No other specific measures identified.

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Maintenance (of larger plant items) and machine set up

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

No other specific measures identified.

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Maintenance of small items

No other specific measures identified.

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Remanufacture of reject articles

No other specific measures identified.

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Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Lubricants - Industrial

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

3. Exposure estimation (Health 1)

Assessment method

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

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

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

Exposure scenario

Lubricants - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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 machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.
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. 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 8.6c.v1 ESVOC SpERC 9.6b.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). 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. PROC18 Greasing at high energy conditions. 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	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 8.6c.v1

Product characteristics

Lubricants - Professional

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: 438 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): 0,15
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 domestic sewage treatment: 93.7%
 Removal efficiency (total): 93,7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 43 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

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 Low environmental release:
 ERC9a Wide dispersive indoor use of substances in closed systems.
 ERC9b Wide dispersive outdoor use of substances in closed systems.

Lubricants - Professional

SPERC

ESVOC SpERC 9.6b.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: 438 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 on-site sewage treatment: 93,7%
 Removal efficiency (total): 93,7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 46 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

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)

Product characteristics

Lubricants - Professional

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers percentage substance in the product up to 100% (unless stated differently).
<u>Frequency and duration of use</u>	Covers daily exposures up to 8 hours (unless stated differently).
<u>Other given operational conditions affecting workers exposure</u>	
Setting	Assumes a good basic standard of occupational hygiene is implemented.
Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
<u>Risk management measures</u>	

Lubricants - Professional

General exposures (closed systems)

No other specific measures identified.

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Operation of equipment containing engine oils and similar

No other specific measures identified.

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General exposures (open systems)

No other specific measures identified.

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Bulk transfers

No other specific measures identified.

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Filling/preparation of equipment from drums or containers.

Dedicated facility

No other specific measures identified.

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Filling/preparation of equipment from drums or containers.

Non-dedicated facility

No other specific measures identified.

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Operation and lubrication of high-energy open equipment

Indoor/outdoor use.

No other specific measures identified.

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Maintenance (of larger plant items) and machine set up

No other specific measures identified.

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Maintenance (of larger plant items) and machine set up

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

No other specific measures identified.

.

Maintenance of small items

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

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

.

Engine lubricant service

No other specific measures identified.

.

Rolling, brushing

Manual

No other specific measures identified.

.

Spraying

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

.

Treatment by dipping and pouring

No other specific measures identified.

.

Storage

No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Lubricants - Professional

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario Lubricants - Consumer

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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	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. 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 8.6e.v1 ESVOC SpERC 9.6d.v1

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

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/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Lubricants - Consumer

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0,15
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
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Risk management measures

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 93.7% Maximum allowable site tonnage (M _{safe}), based on release following total wastewater treatment removal: 31 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	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: 0,0005
Annual site tonnage: 0,013 tonnes
Maximum daily site tonnage: 0,034 kg

Frequency and duration of use

Continuous release.
Emission days: 356 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

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: 93,7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 33 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

PC1 Adhesives, sealants. : PC1_1 Glues, hobby use PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) PC1_3 Glue from spray PC1_4 Sealants

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Concentration details Covers concentrations up to 30 %.

Amounts used

PC1_1 Glues, hobby use
For each use event, covers use amounts up to 9 g.
PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue)
For each use event, covers use amounts up to 6390 g.
PC1_3 Glue from spray
For each use event, covers use amounts up to 85.05 g.
PC1_4 Sealants
For each use event, covers use amounts up to 75 g.

Frequency and duration of use

Covers use up to 1 time(s)/day.
.
PC1_1 Glues, hobby use
Covers exposure up to 4.00 hours per event.
Covers use up to 365 days/year.
PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue)
Covers exposure up to 6.00 hours per event.
Covers use up to 1 days/year.
PC1_3 Glue from spray
Covers exposure up to 4.00 hours per event.
Covers use up to 6 days/year.
PC1_4 Sealants
Covers exposure up to 1.00 hour per event.
Covers use up to 365 days/year.

Lubricants - Consumer

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 35.73 cm². Unless otherwise stated. PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) : Covers skin contact area up to 110.00 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Covers use under typical household ventilation. Covers use in room size of 20 m³.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

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

Control of Non-industrial exposure

PC24 Lubricants, greases and release products. : PC24_1 Liquids PC24_2 Pastes PC24_3 Sprays

Product characteristics

Physical state Liquid

Vapour pressure 231 kPa

Concentration details PC24_1 Liquids Covers concentrations up to 100 %. PC24_2 Pastes Covers concentrations up to 20 %. PC24_3 Sprays Covers concentrations up to 50 %.

Amounts used

PC24_1 Liquids
For each use event, covers use amounts up to 2 200 g.
PC24_2 Pastes
For each use event, covers use amounts up to 34 g.
PC24_3 Sprays
For each use event, covers use amounts up to 73 g.

Frequency and duration of use

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

.

PC24_1 Liquids
Covers exposure up to 0,17 hours per event.
Covers use up to 4 day(s)/year.

PC24_2 Pastes
Covers exposure up to 4,00 hours per event.
Covers use up to 10 day(s)/year.

PC24_3 Sprays
Covers exposure up to 0,17 hours per event.
Covers use up to 6 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts PC24_1 Liquids , PC24_2 Pastes : Covers skin contact area up to 468,00 cm². PC24_3 Sprays : Covers skin contact area up to 428,75 cm².

Other given operational conditions affecting Non-industrial exposure

Setting PC24_1 Liquids : Covers use in a one car garage (34 m³) under typical ventilation. PC24_2 Pastes , PC24_3 Sprays : Covers use under typical household ventilation. Covers use in room size of 20 m³.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Lubricants - Consumer

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

2. Conditions of use affecting exposure (Non-industrial - Health 3)

Control of Non-industrial exposure

PC31 Polishes and wax blends. : PC31_1 Polishes, wax/cream (floor, furniture, shoes)
PC31_2 Polishes, spray (furniture, shoes)

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Concentration details PC31 Polishes and wax blends. Covers concentrations up to 50 %.

Amounts used

PC31_1 Polishes, wax/cream (floor, furniture, shoes)
For each use event, covers use amounts up to 142 g.
PC31_2 Polishes, spray (furniture, shoes)
For each use event, covers use amounts up to 35 g.

Frequency and duration of use

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

PC31_1 Polishes, wax/cream (floor, furniture, shoes)
Covers exposure up to 1,23 hours per event.
Covers use up to 29 day(s)/year.
PC31_2 Polishes, spray (furniture, shoes)
Covers exposure up to 0,33 hours per event.
Covers use up to 8 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts PC31 Polishes and wax blends. : Covers skin contact area up to 430,00 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Covers use under typical household ventilation. Covers use in room size of 20 m³.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

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. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

Lubricants - Consumer

Assessment method The ECETOC TRA tool has been used to estimate consumer exposures, unless otherwise indicated.

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

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

Exposure scenario

Use in Metal Working Fluids/Rolling Oils - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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: 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

Use in Metal Working Fluids/Rolling Oils - 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): 0.02
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.
Technical measures Risk from environmental exposure is driven by fresh water.
STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2900 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)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Use in Metal Working Fluids/Rolling Oils - Industrial

Risk management measures

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

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

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Bulk transfers
No other specific measures identified.

.

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

.

Process sampling
No other specific measures identified.

.

Metal machining operations
No other specific measures identified.

.

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

.

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

.

Rolling, brushing
Manual
No other specific measures identified.

.

Automated metal rolling/forming
Use in contained systems
Operation is carried out at elevated temperature (> 20°C above ambient temperature).
No other specific measures identified.

.

Semi-automated metal rolling/forming
(semi-)
Operation is carried out at elevated temperature (> 20°C above ambient temperature).
No other specific measures identified.

.

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

.

Equipment cleaning and maintenance
Dedicated facility
No other specific measures identified.

.

Equipment cleaning and maintenance
Non-dedicated facility
No other specific measures identified.

.

Storage
No other specific measures identified.

3. Exposure estimation (Environment 1)

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use in Metal Working Fluids/Rolling Oils - Professional: High Environmental Release

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

Main title	Use in Metal Working Fluids/Rolling Oils - Professional: High Environmental Release
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	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. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 19 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 9.3E-03 tonnes
Maximum daily site tonnage: 2.5E-02 kg

Frequency and duration of use

Use in Metal Working Fluids/Rolling Oils - Professional: High Environmental Release

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): 0.15
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 domestic sewage treatment: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 24 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

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)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Use in Metal Working Fluids/Rolling Oils - Professional: High Environmental Release

General exposures (closed systems)

Handle substance within a closed system.

.

Bulk transfers

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Dedicated facility

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

Non-dedicated facility

No other specific measures identified.

.

Process sampling

Use dedicated equipment.

.

Metal machining operations

No other specific measures identified.

.

Rolling, brushing

Manual

No other specific measures identified.

.

Spraying

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

, or:

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

.

Treatment of articles by dipping and pouring

Allow time for product to drain from workpiece.

.

Equipment cleaning and maintenance

Non-dedicated facility

No other specific measures identified.

.

Equipment cleaning and maintenance

Dedicated facility

No other specific measures identified.

.

Storage

Store substance within a closed system.

.

Filling/preparation of equipment from drums or containers.

No other specific measures identified.

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: High Environmental Release

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

3. Exposure estimation (Health 1)

Assessment method

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

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

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

Exposure scenario

Use in Agrochemicals - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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: 9.6 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1.9E-02 tonnes
Maximum daily site tonnage: 5.3E-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): 0.9
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): 0.09

Use in Agrochemicals - Professional

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 51 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

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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use in Agrochemicals - Professional

Transfer from/pouring from containers
No other specific measures identified.

Mixing operations
No other specific measures identified.

Spraying/fogging by manual application
Ensure operation is undertaken outdoors.
Avoid carrying out activities involving exposure for more than 4 hours.

Spraying/fogging by machine application
Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor > 20.

Ad hoc manual application via trigger sprays, dipping, etc.
No other specific measures identified.

Equipment cleaning and maintenance
No other specific measures identified.

Disposal of wastes
No other specific measures identified.

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use in Agrochemicals - Consumer

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

Main title	Use in Agrochemicals - Consumer
Process scope	Covers the consumer use in agrochemicals in liquid and solid forms.
Product category	PC12 Lawn and garden preparations (- fertilizers). PC27 Plant protection products.
Main sector	SU21 Consumer uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.11b.v1

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 1.8 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 3.6E-03 tonnes
Maximum daily site tonnage: 9.9E-03 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): 0.9
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): 0.09

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 Agrochemicals - Consumer

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 93.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 9.7 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 - Health 1)

Control of Non-industrial exposure

PC12 Lawn and garden preparations (- fertilizers). : PC12_1 Lawn and garden preparations
PC27 Plant protection products.

Product characteristics

Physical state	Liquid
Vapour pressure	231 Pa
Concentration details	Covers concentrations up to 50 %.

Frequency and duration of use

Covers use up to 1 time(s)/day.
Covers exposure up to 4.00 hours per event.
Covers use up to 365 days/year.

Human factors not influenced by risk management

Potentially exposed body parts	Covers skin contact area up to 857.50 cm ² . For each use event, assumes swallowed amount of (g): 0.3 g
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Other given operational conditions affecting Non-industrial exposure

Setting	Covers use under typical household ventilation. Covers use in room size of 20 m ³ .
Temperature	Assumes activities are at ambient temperature (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

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. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

Use in Agrochemicals - Consumer

Assessment method The ECETOC TRA tool has been used to estimate consumer exposures, unless otherwise indicated.

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

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

Exposure scenario

Use as a Fuel - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

Main title	Use as a Fuel - Industrial
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC7 Industrial use of substances in closed systems.
SPERC	ESVOC SpERC 7.12a.v1
Worker	
Process category	<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>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>PROC16 Using material as fuel sources, limited exposure to unburned product to be expected.</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: 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
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Use as a Fuel - Industrial

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: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 1900 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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use as a Fuel - Industrial

Bulk transfers
Handle substance within a closed system.

.

Drum/batch transfers
No other specific measures identified.

.

General exposures (closed systems)
Handle substance within a closed system.

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General exposures (closed systems)
Use in contained batch processes
No other specific measures identified.

.

Use as a fuel
Handle substance within a closed system.

.

Equipment cleaning and maintenance
No other specific measures identified.

.

Storage
Store substance within a closed system.
Transfer via enclosed lines.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use as a Fuel - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

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

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 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): 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

Use as a Fuel - Professional

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 140 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

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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use as a Fuel - Professional

Bulk transfers

Handle substance within a closed system.

Clear transfer lines prior to de-coupling.

.

Drum/batch transfers

No other specific measures identified.

.

Refuelling

No other specific measures identified.

.

General exposures (closed systems)

Handle substance within a closed system.

.

Use as a fuel

No other specific measures identified.

.

Equipment cleaning and maintenance

No other specific measures identified.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use as a Fuel - Consumer

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

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

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 29 tonnes/year
Fraction of Regional tonnage used locally: 5.0E-04
Annual site tonnage: 1.5E-02 tonnes
Maximum daily site tonnage: 4.0E-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

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 93.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 39 kg/day Assumed domestic sewage treatment plant flow (m ³ /day): 2000.
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Use as a Fuel - Consumer

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

PC13 Fuels. : PC13_1 Liquid: automotive refuelling PC13_2 Liquid: scooter refuelling PC13_3 Liquid: garden equipment - use PC13_4 Liquid: garden equipment - refuelling PC13_5 Liquid: lamp oil PC13_6 Liquid: home space heater fuel

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Concentration details Covers concentrations up to 100 %.

Amounts used

PC13_1 Liquid: automotive refuelling
For each use event, covers use amounts up to 37.5 kg.
PC13_2 Liquid: scooter refuelling
For each use event, covers use amounts up to 3.75 kg.
PC13_3 Liquid: garden equipment - use
For each use event, covers use amounts up to 750 g.
PC13_4 Liquid: garden equipment - refuelling
For each use event, covers use amounts up to 750 g.
PC13_5 Liquid: lamp oil
For each use event, covers use amounts up to 100 g.
PC13_6 Liquid: home space heater fuel
For each use event, covers use amounts up to 3000 g.

Frequency and duration of use

Use as a Fuel - Consumer

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

PC13_1 Liquid: automotive refuelling

Covers exposure up to 0.05 hours per event.

Covers use up to 52 days/year.

PC13_2 Liquid: scooter refuelling

Covers exposure up to 0.03 hours per event.

Covers use up to 52 days/year.

PC13_3 Liquid: garden equipment - use

Covers exposure up to 2.00 hours per event.

Covers use up to 26 days/year.

PC13_4 Liquid: garden equipment - refuelling

Covers exposure up to 0.03 hours per event.

Covers use up to 26 days/year.

PC13_5 Liquid: lamp oil

Covers exposure up to 0.01 hours per event.

Covers use up to 52 days/year.

PC13_6 Liquid: home space heater fuel

Covers exposure up to 0.03 hours per event.

Covers use up to 365 days/year.

Human factors not influenced by risk management

Potentially exposed body parts PC13_1 Liquid: automotive refuelling , PC13_2 Liquid: scooter refuelling , PC13_5 Liquid: lamp oil , PC13_6 Liquid: home space heater fuel : Covers skin contact area up to 210.00 cm². PC13_3 Liquid: garden equipment - use , PC13_4 Liquid: garden equipment - refuelling : Covers skin contact area up to 420.00 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Covers outdoor use. Covers use in room size of 100 m³. Covers use under typical household ventilation. Unless otherwise stated.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Room size PC13_4 Liquid: garden equipment - refuelling : Covers use in a one car garage (34 m³) under typical ventilation. PC13_5 Liquid: lamp oil , PC13_6 Liquid: home space heater fuel : Covers use in room size of 20 m³. Covers use under typical household ventilation.

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

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. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate consumer exposures, unless otherwise indicated.

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

Use as a Fuel - Consumer

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

Exposure scenario

Use as Functional Fluids - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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): 5.0E-03
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 3.0E-06

Use as Functional Fluids - Industrial

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: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 460 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 No air emission controls required; required removal efficiency is 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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use as Functional Fluids - Industrial

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

Drum/batch transfers
No other specific measures identified.

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

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

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

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

Remanufacture of reject articles
No other specific measures identified.

Equipment cleaning and maintenance
No other specific measures identified.

Storage
No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use as Functional Fluids - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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

Use as Functional Fluids - Professional

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Removal efficiency (total): 93,7%
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

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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use as Functional Fluids - Professional

Drum/batch transfers

No other specific measures identified.

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Transfer from/pouring from containers

No other specific measures identified.

.

Filling/preparation of equipment from drums or containers.

No other specific measures identified.

.

General exposures (closed systems)

No other specific measures identified.

.

Operation of equipment containing engine oils and similar

No other specific measures identified.

.

Operation of equipment containing engine oils and similar

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

No other specific measures identified.

.

Remanufacture of reject articles

No other specific measures identified.

.

Equipment cleaning and maintenance

No other specific measures identified.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use as Functional Fluids - Consumer

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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: 93.7%
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 26 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

PC16 Heat transfer fluids. PC17 Hydraulic fluids.

Product characteristics

Physical state Liquid

Vapour pressure 231 Pa

Concentration details Covers concentrations up to 100 %.

Amounts used

For each use event, covers use amounts up to 2.2 kg.

Frequency and duration of use

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

Covers exposure up to 0.17 hours per event.

Covers use up to 4 days/year.

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 468.00 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Covers use in a one car garage (34 m³) under typical ventilation.

Temperature Assumes activities are at ambient temperature (unless stated differently).

Other given operational conditions affecting Non-industrial exposure

No specific risk management measure identified beyond those operational conditions stated.

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. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

Use as Functional Fluids - Consumer

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate consumer exposures, unless otherwise indicated.

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

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

Exposure scenario

Use in Road and Construction Applications - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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: 190 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 9.3E-02 tonnes
Maximum daily site tonnage: 0.25 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
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.04

Use in Road and Construction Applications - Professional

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 230 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

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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use in Road and Construction Applications - Professional

Drum/batch transfers
 Non-dedicated facility
 No other specific measures identified.

Drum/batch transfers
 Dedicated facility
 Use dedicated equipment.
 Clear transfer lines prior to de-coupling.

Drum/batch transfers
 Dedicated facility
 Operation is carried out at elevated temperature (> 20°C above ambient temperature).
 Use dedicated equipment.
 Clear transfer lines prior to de-coupling.

Rolling, brushing
 Manual
 No other specific measures identified.

Spraying/fogging by machine application
 Operation is carried out at elevated temperature (> 20°C above ambient temperature).
 Ensure operation is undertaken outdoors.
 Wear a respirator conforming to EN140 with Type A filter or better.

Spraying/fogging by machine application
 Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Dipping, immersion and pouring
 No other specific measures identified.

Equipment cleaning and maintenance
 Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Drum and small package filling
 No other specific measures identified.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

Use in Road and Construction Applications - Professional

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

Exposure scenario

Use in Laboratories - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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.
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: 0.50 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): 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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Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
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Use in Laboratories - Industrial

Risk from environmental exposure is driven by fresh water.

STP details

Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Removal efficiency (total): 93,7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 340 kg/day
 Assumed domestic sewage treatment plant flow: 2000 m³/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	No air emission controls required; required removal efficiency is 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.
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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)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Laboratory activities
 No other specific measures identified.
 .
 Cleaning
 No other specific measures identified.

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)

Use in Laboratories - 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.

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
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4. Guidance to check compliance with the exposure scenario (Health 1)

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

Exposure scenario

Use in Laboratories - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

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
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.17.v1
<u>Worker</u>	
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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
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Use in Laboratories - Professional

Risk from environmental exposure is driven by fresh water.

STP details

Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Removal efficiency (total): 93,7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 1.4E-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	No air emission controls required; required removal efficiency is 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.
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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)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Risk management measures

Laboratory activities
 No other specific measures identified.
 .
 Cleaning
 No other specific measures identified.

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)

Use in Laboratories - Professional

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

3. Exposure estimation (Health 1)

Assessment method

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

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

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

Exposure scenario

Rubber Production and Processing - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

Main title	Rubber Production and Processing - Industrial
Process scope	Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC1 Manufacture of substances. ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers.
SPERC	ESVOC SpERC 4.19.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC6 Calendering operations. PROC7 Spraying in industrial settings and applications. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC13 Treatment of articles by dipping and pouring. PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation. PROC15 Use as laboratory reagent. PROC21 Low energy manipulation of substances bound in materials and/or articles

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Rubber Production and Processing - Industrial

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 34 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 34 tonnes
 Maximum daily site tonnage: 1.7 tonnes

Frequency and duration of use

Continuous release.
 Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

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

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: 93.7%
 Removal efficiency (total): 93,7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 640 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 No air emission controls required; required removal efficiency is 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)

Product characteristics

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

Rubber Production and Processing - Industrial

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Setting

Assumes a good basic standard of occupational hygiene is implemented.

Temperature

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

Risk management measures

Rubber Production and Processing - Industrial

Material transfers

(closed systems)

No other specific measures identified.

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Material transfers

No other specific measures identified.

.

Bulk weighing

Handle substance within a closed system.

.

Small scale weighing

No other specific measures identified.

.

Additive premixing

No other specific measures identified.

.

Calendering (including Banburys)

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

No other specific measures identified.

.

Pressing uncured rubber blanks

No other specific measures identified.

.

Tyre build up

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

.

Vulcanisation

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

No other specific measures identified.

.

Vulcanisation

Manual

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

No other specific measures identified.

.

Cooling cured articles

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

No other specific measures identified.

.

Production of articles by dipping and pouring

No other specific measures identified.

.

Finishing operations

No other specific measures identified.

.

Laboratory activities

No other specific measures identified.

.

Equipment maintenance

No other specific measures identified.

.

Storage

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Rubber Production and Processing - 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>).

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use in Polymer Processing - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

Main title	Use in Polymer Processing - Industrial
Process scope	Processing of formulated polymers, including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers etc.), moulding, curing and forming activities, material reworks, storage and associated maintenance.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 4.21a.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>PROC6 Calendering operations.</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>PROC13 Treatment of articles by dipping and pouring.</p> <p>PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation.</p> <p>PROC21 Low energy manipulation of substances bound in materials and/or articles</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: 300 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 300 tonnes
 Maximum daily site tonnage: 15 tonnes

Frequency and duration of use

Use in Polymer Processing - 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): 0.25
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1.0E-05

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 15,000 tonne/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

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

Air Treat air emission to provide a typical removal efficiency of 80%.
Water 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)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Use in Polymer Processing - Industrial

Risk management measures

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

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Bulk transfers
No other specific measures identified.

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Bulk weighing
No other specific measures identified.

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Small scale weighing
No other specific measures identified.

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Additive premixing
No other specific measures identified.

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

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Calendering (including Banburys)
Operation is carried out at elevated temperature (> 20°C above ambient temperature).
No other specific measures identified.

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

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Extrusion and masterbatching
No other specific measures identified.

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Injection moulding of articles
No other specific measures identified.

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Finishing operations
No other specific measures identified.

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Equipment maintenance
No other specific measures identified.

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Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

Use in Polymer Processing - Industrial

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

3. Exposure estimation (Health 1)

Assessment method

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

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

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

Exposure scenario

Use in Polymer Processing - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

Main title	Use in Polymer Processing - Professional
Process scope	Processing of formulated polymers, including material transfers, moulding and forming activities, material reworks and associated maintenance.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
SPERC	ESVOC SpERC 8.21b.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC6 Calendering operations. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation. PROC21 Low energy manipulation of substances bound in materials and/or articles

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 280 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 0.14 tonnes
Maximum daily site tonnage: 0.38 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): 0.98
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.01

Use in Polymer Processing - Professional

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: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 320 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

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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use in Polymer Processing - Professional

Bulk transfers
(closed systems)
Handle substance within a closed system.

Material transfers
Transfer via enclosed lines.

Injection moulding of articles
No other specific measures identified.

Rework of articles
No other specific measures identified.

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

Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use in Water Treatment Chemicals - Industrial

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

Main title	Use in Water Treatment Chemicals - Industrial
Process scope	Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC3 Formulation in materials. ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
SPERC	ESVOC SpERC 3.22a.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 11 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 11 tonnes
Maximum daily site tonnage: 37 kg

Frequency and duration of use

Continuous release.
Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

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

Use in Water Treatment Chemicals - Industrial

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Removal efficiency (total): 96,6%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 37 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 No air emission controls required; required removal efficiency is 0%.

Water Onsite wastewater treatment required. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 96.6 If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%): ≥ 46,3 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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use in Water Treatment Chemicals - Industrial

Bulk transfers
 Use in contained systems
 Transfer via enclosed lines.
 .
 Drum/batch transfers
 No other specific measures identified.
 .
 General exposures (closed systems)
 No other specific measures identified.
 .
 General exposures (open systems)
 No other specific measures identified.
 .
 Pouring from small containers
 No other specific measures identified.
 .
 Equipment maintenance
 No other specific measures identified.
 .
 Storage
 Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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

Exposure scenario

Use in Water Treatment Chemicals - Professional

Identification

Product name	Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119458049-33-0006
Version number	2014

1. Title of exposure scenario

Main title	Use in Water Treatment Chemicals - Professional
Process scope	Covers the use of the substance for the treatment of water in open and closed systems.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix.
SPERC	ESVOC SpERC 8.22b.v1
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 4.5 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 1.5 tonnes
Maximum daily site tonnage: 4.0 kg

Frequency and duration of use

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): 0.99
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

Use in Water Treatment Chemicals - Professional

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

Risk management measures

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

STP details Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Removal efficiency (total): 93,7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 19 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

Water Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 69.8 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)

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Risk management measures

Use in Water Treatment Chemicals - Professional

Drum/batch transfers
No other specific measures identified.

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

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

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Pouring from small containers
No other specific measures identified.

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Equipment maintenance
No other specific measures identified.

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Storage
Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)

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

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

3. Exposure estimation (Health 1)

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

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

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