



SAFETY DATA SHEET

HYDROCARBONS C10 - C13 N-ALKANES, ISOALKANES, CYCLICS AROMATICS (2 - 25%)

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

1.1. Product identifier

Product name	HYDROCARBONS C10 - C13 N-ALKANES, ISOALKANES, CYCLICS AROMATICS (2 - 25%)
Product number	50124
Synonyms; trade names	VAR SOL 60
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8

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

Identified uses	Solvent. For further information, see attached Exposure Scenario.
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	50124

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

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

2.2. Label elements

EC number	919-164-8
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Hazard pictograms



HYDROCARBONS C10 - C13 N-ALKANES, ISOALKANES, CYCLICS AROMATICS (2 - 25%)

Signal word	Danger
Hazard statements	H372 Causes damage to organs through prolonged or repeated exposure if inhaled. H304 May be fatal if swallowed and enters airways. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P260 Do not breathe vapour/ spray. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P331 Do NOT induce vomiting.
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Product is a static accumulator Vapours may form explosive mixtures with air.
This substance is not classified as PBT or vPvB according to current EU criteria.
May cause eye and respiratory system irritation. May be slightly irritating to skin.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	HYDROCARBONS C10 - C13 N-ALKANES, ISOALKANES, CYCLICS AROMATICS (2 - 25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Composition comments	The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	First aid personnel should wear appropriate protective equipment during any rescue. Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues. If breathing stops, provide artificial respiration. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Get medical attention immediately.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. Get medical attention immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if symptoms are severe or persist after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

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

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Inhalation	Causes damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled. Gas or vapour in high concentrations may irritate the respiratory system. Vapours may cause headache, fatigue, dizziness and nausea. Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Dizziness. Central nervous system depression.
Ingestion	Aspiration hazard if swallowed. May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.
Skin contact	Repeated exposure may cause skin dryness or cracking. Product has a defatting effect on skin. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.
Eye contact	Vapour or spray in the eyes may cause irritation and smarting.

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

Notes for the doctor	Treat symptomatically. Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
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	Harmful to aquatic life with long lasting effects. Vapours may form explosive mixtures with air. When heated, vapours/gases hazardous to health may be formed. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO ₂). Carbon monoxide (CO). Acrid smoke or fumes.

5.3. Advice for firefighters

Protective actions during firefighting	Evacuate area. No action shall be taken without appropriate training or involving any personal risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Control run-off water by containing and keeping it out of sewers and watercourses. Contain and collect extinguishing water.
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	No action shall be taken without appropriate training or involving any personal risk. Follow precautions for safe handling described in this safety data sheet. Keep unnecessary and unprotected personnel away from the spillage. Approach the spillage from upwind. Provide adequate ventilation. Avoid inhalation of vapours and contact with skin and eyes. Do not touch or walk into spilled material. No smoking, sparks, flames or other sources of ignition near spillage. Eliminate all sources of ignition.
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6.2. Environmental precautions

Environmental precautions	Harmful to aquatic life with long lasting effects. Avoid the spillage or runoff entering drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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HYDROCARBONS C10 - C13 N-ALKANES, ISOALKANES, CYCLICS AROMATICS (2 - 25%)

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if safe to do so. Eliminate all sources of ignition. Use water spray to reduce vapours. No smoking, sparks, flames or other sources of ignition near spillage. Avoid the spillage or runoff entering drains, sewers or watercourses. Use only non-sparking tools. Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Clean contaminated objects and areas thoroughly, observing environmental regulations.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. Collect and dispose of spillage as indicated in Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Handle all packages and containers carefully to minimise spills. Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid inhalation of vapours and contact with skin and eyes.
Product is a static accumulator Vapours may form explosive mixtures with air. Earth container and transfer equipment to eliminate sparks from static electricity. Static electricity and formation of sparks must be prevented.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Provide eyewash station and safety shower.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Product is a static accumulator Earth container and transfer equipment to eliminate sparks from static electricity. Storage tanks and other containers must be earthed. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Avoid excessive heat for prolonged periods of time. Container must be kept tightly closed when not in use. Loosen closure cautiously before opening.
Suitable container materials: Carbon steel. Stainless steel. Polytetrafluoroethylene (PTFE, Teflon). Polyethylene.
Unsuitable container materials: Butyl rubber. Rubber (natural, latex).
Store away from the following materials: Strong oxidising agents.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

350 mg/m³, 56 ppm, TWA Manuf. data

8.2. Exposure controls

Protective equipment



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Appropriate engineering controls	Provide adequate ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Use explosion-proof ventilating equipment. Avoid inhalation of vapours and contact with skin and eyes. Provide eyewash station and safety shower.
Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber. Protective gloves should have a minimum thickness of 0.38 mm. Frequent changes are recommended.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Wear anti-static protective clothing if there is a risk of ignition from static electricity.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Wash contaminated clothing before reuse.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Organic vapour filter. Gas filter, type A2. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless to pale yellow.
Odour	Pungent. Petroleum.
Odour threshold	No information available.
pH	Technically not feasible.
Melting point	~ -57°C
Initial boiling point and range	183 - 214°C @ 760 mm Hg
Flash point	65°C Pensky-Martens closed cup.
Evaporation rate	0.05 (butyl acetate = 1)
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 6.0 % Lower flammable/explosive limit: 0.6 %
Other flammability	No information available.
Vapour pressure	0.06 kPa @ 20°C Calculation method.

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Vapour density	5.4 @ 101 kPa
Relative density	0.8 @ 15°C
Bulk density	800 kg/m ³
Solubility(ies)	Immiscible with water.
Partition coefficient	log Pow: > 4 Estimated value.
Auto-ignition temperature	245°C
Decomposition Temperature	No information available.
Viscosity	1.2 cSt @ 40°C 1.6 cSt @ 20°C
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Molecular weight	157 g/mol
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No test data specifically related to reactivity available for this product or its ingredients. See the other subsections of this section for further details.
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10.2. Chemical stability

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

Possibility of hazardous reactions	Vapours may form explosive mixtures with air. Will not polymerise.
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10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Avoid excessive heat for prolonged periods of time. Static electricity and formation of sparks must be prevented.
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10.5. Incompatible materials

Materials to avoid	Avoid contact with the following materials: Strong oxidising agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO ₂). Carbon monoxide (CO). Acrid smoke or fumes.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD ₅₀)	LD ₅₀ > 15000 mg/kg, Oral, Rat OECD 401 Read-across data.
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Acute toxicity - dermal

Notes (dermal LD ₅₀)	LD ₅₀ > 3400 mg/kg, Dermal, Rabbit OECD 402 Read-across data.
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Acute toxicity - inhalation

Notes (inhalation LC ₅₀)	LC ₅₀ (4h) > 13.1 mg/l, Inhalation, Vapour, Rat OECD 403 Read-across data.
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Skin corrosion/irritation

Skin corrosion/irritation Based on available data the classification criteria are not met. Slightly irritating. Read-across data.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met. Slightly irritating. Read-across data.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met. Not sensitising. OECD 406 Read-across data.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met. This substance has no evidence of mutagenic properties. Read-across data.

Genotoxicity - in vivo No information available.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met. There is no evidence that the product can cause cancer. Read-across data.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met. This substance has no evidence of toxicity to reproduction. Read-across data.

Reproductive toxicity - development Based on available data the classification criteria are not met. This substance has no evidence of toxicity to reproduction. Read-across data.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Causes damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

Inhalation

Gas or vapour in high concentrations may irritate the respiratory system. Vapours may cause headache, fatigue, dizziness and nausea. Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Dizziness. Central nervous system depression.

Ingestion

Aspiration hazard if swallowed. May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.

Skin contact

Repeated exposure may cause skin dryness or cracking. Product has a defatting effect on skin. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

Eye contact

Vapour or spray in the eyes may cause irritation and smarting.

Acute and chronic health hazards

May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

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SECTION 12: Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity Harmful to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish LC₀, 96 hours: 10 - 100 mg/l, Oncorhynchus mykiss (Rainbow trout)
Read-across data.

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 10 - 22 mg/l, Daphnia magna
Read-across data.

Acute toxicity - aquatic plants EC₅₀, 72 hours: 10 - 100 mg/l, Pseudokirchneriella subcapitata
Read-across data.
Chronic, NOEC, 72 hour: 3 mg/l, Pseudokirchneriella subcapitata
Read-across data.

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 day: 0.28 mg/l, Daphnia magna
Read-across data.

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

Phototransformation Transformation due to photolysis not expected to be significant.

Stability (hydrolysis) Transformation due to hydrolysis not expected to be significant

Biodegradation Water - Degradation 74.7%: 28 days
Read-across data.

12.3. Bioaccumulative potential

Bioaccumulative potential No specific test data are available.

Partition coefficient log Pow: > 4 Estimated value.

12.4. Mobility in soil

Mobility Highly volatile. The product contains volatile substances which may spread in the atmosphere.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Empty containers or liners may retain some product residues and hence be potentially hazardous. Do not puncture or incinerate, even when empty. Do not pressurise, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition. Containers should be thoroughly emptied before disposal because of the risk of an explosion. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

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Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

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

14.1. UN number

UN No. (ADN) 9003

14.2. UN proper shipping name

Proper shipping name (ADN) SUBSTANCES WITH 60 DEG C < F.P. <= 100 DEG C (ALKYL (C3-C7) BENZENES)

14.3. Transport hazard class(es)

ADN class 9

14.4. Packing group

ADN packing group N/A

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

9 (N2, F)

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 Not applicable.

SECTION 15: Regulatory information

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

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
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).
Commission Regulation (EU) No 2015/830 of 28 May 2015.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

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Australia - AICS

All the ingredients are listed or exempt.

Japan - ENCS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

Taiwan - TCSI

All the ingredients are listed or exempt.

SECTION 16: Other information

HYDROCARBONS C10 - C13 N-ALKANES, ISOALKANES, CYCLICS AROMATICS (2 - 25%)

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

20/05/2022

Version number

5.000

Supersedes date

23/10/2019

SDS number

50124

HYDROCARBONS C10 - C13 N-ALKANES, ISOALKANES, CYCLICS AROMATICS (2 - 25%)

SDS status	Approved.
Hazard statements in full	H304 May be fatal if swallowed and enters airways. H372 Causes damage to organs through prolonged or repeated exposure if inhaled. H412 Harmful to aquatic life with long lasting effects.
Signature	Jacq Pattinson



Exposure scenario Manufacture of substance

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Manufacture of substance
Process scope	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals SU10 Formulation [mixing] of preparations and/or re-packaging

Environment

Environmental release category	ERC1 Manufacture of the substance ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 1.1.v1

Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC15 Use as laboratory reagent.
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Manufacture of substance

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

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 3300 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 33000 kg
 Regional use tonnage: 3300 tonnes/year

Frequency and duration of use

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): 0.001
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

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

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 10000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 91.7%

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	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite waste water. Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	During manufacturing no waste of the substance is generated.

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

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Manufacture of substance

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

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

Risk management measures

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.
Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Further details on scaling and control technologies are provided in SpERC factsheet. 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 air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

3. Exposure estimation (Health 1)

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.



Exposure scenario Distribution of substance

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Distribution of substance
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
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals

Environment

Environmental release category	ERC1 Manufacture of the substance ERC2 Formulation into mixture ERC3 Formulation into solid matrix ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC5 Use at industrial site leading to inclusion into/onto article ERC6a Use of intermediate ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article) ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article) ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) ERC7 Use of functional fluid at industrial site
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SPERC	ESVOC SPERC 1.1b.v1
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Worker

Distribution of substance

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

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

Frequency and duration of use

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): 0.0001
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.000001
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.00001

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 type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m³/day Estimated substance removal from wastewater via domestic sewage treatment: 91.7%

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	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. Common practices vary across sites, thus conservative process release estimates used.

Distribution of substance

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
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.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.
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Risk management measures

Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance. Assumes a good basic standard of occupational hygiene is implemented.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

Further details on scaling and control technologies are provided in SpERC factsheet. 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 air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

3. Exposure estimation (Health 1)

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.



Exposure scenario

Formulation and (re)packing of substances and mixtures

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

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

Formulation and (re)packing of substances and mixtures

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC14 Tableting, compression, extrusion, pelletisation, granulation PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 370 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 3700 kg
 Regional use tonnage: 370 tonnes/year

Frequency and duration of use

Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 0.0005
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00002
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

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

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m³/day Estimated substance removal from wastewater via domestic sewage treatment: 91.7%

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%.
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Formulation and (re)packing of substances and mixtures

Water If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite waste water.

Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to external treatment of waste for disposal

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

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

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

Risk management measures

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

Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrisk model.

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

Further details on scaling and control technologies are provided in SpERC factsheet. 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 air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Formulation and (re)packing of substances and mixtures

3. Exposure estimation (Health 1)

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.



Exposure scenario

Use in laboratories - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

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
<u>Environment</u>	
Environmental release category	ERC2 Formulation into mixture ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
<u>Worker</u>	
Process category	PROC10 Roller application or brushing PROC15 Use as laboratory reagent.

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

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 0.01 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 0.5 kg
 Regional use tonnage: 0.01 tonnes/year

Frequency and duration of use

Use in laboratories - Industrial

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): 0.0001

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 type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 91.7%

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	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water. Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
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.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Technical conditions and measures at process level (source) to prevent release

Use in laboratories - Industrial

Technical protective measures Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

Risk management measures

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.
Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Further details on scaling and control technologies are provided in SpERC factsheet. 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 air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

3. Exposure estimation (Health 1)

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.



Exposure scenario

Use in laboratories - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in laboratories - Professional
Process scope	Use of small quantities within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
SPERC	ESVOC SPERC 8.17.v1
<u>Worker</u>	
Process category	PROC10 Roller application or brushing PROC15 Use as laboratory reagent.

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

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 0.000005 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 0.000014 kg
 Regional use tonnage: 0.01 tonnes/year

Use in laboratories - Professional

Frequency and duration of use

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

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 91.7%

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	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water. Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
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.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Technical conditions and measures at process level (source) to prevent release

Use in laboratories - Professional

Technical protective measures Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

Risk management measures

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance.
Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Further details on scaling and control technologies are provided in SpERC factsheet. 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 air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

3. Exposure estimation (Health 1)

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.



Exposure scenario

Use in Coatings - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use 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
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 4.3a.v1
<u>Worker</u>	

Use in Coatings - Industrial

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %. Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 370 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 370 tonnes
 Maximum daily site tonnage: 94000 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): 0.98
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.0007
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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
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Use in Coatings - Industrial

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 94000 kg/day Assumed domestic sewage treatment plant flow: 2000 m³/day
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 90%.
Water	Typical onsite wastewater treatment technology provides removal efficiency of 91.7%. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrisk model.
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Use in Coatings - Industrial

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario

Use in Cleaning Agents - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

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
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 4.4a.v1
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC10 Roller application or brushing PROC13 Treatment of articles by dipping and pouring.

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

Use in Cleaning Agents - Industrial

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 530 tonnes/year
 Fraction of Regional tonnage used locally: 0.36
 Annual site tonnage: 100 tonnes
 Maximum daily site tonnage: 5000 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): 1.0
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.000003
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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (M _{safe}), based on release following total wastewater treatment removal: 3800000 kg/day Assumed domestic sewage treatment plant flow: 2000 m ³ /day

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. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by soil.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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)

Use in Cleaning Agents - Industrial

Product characteristics

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario

Lubricants - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

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 engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC7 Use of functional fluid at industrial site
SPERC	ESVOC SPERC 4.6a.v1
<u>Worker</u>	

Lubricants - Industrial

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %. Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 140 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 100 tonnes
 Maximum daily site tonnage: 5000 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): 0.01
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00003
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
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Risk management measures

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
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Lubricants - Industrial

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2200000 kg/day Assumed domestic sewage treatment plant flow: 2000 m³/day
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 70%.
Water	No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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Lubricants - Industrial

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario
Metal working fluids / rolling oils - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	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
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 4.7a.v1
<u>Worker</u>	

Metal working fluids / rolling oils - Industrial

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions in metal working operations
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %. Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 6 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 6 tonnes
 Maximum daily site tonnage: 300 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): 0.02
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00003
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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
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Metal working fluids / rolling oils - Industrial

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 400000 kg/day Assumed domestic sewage treatment plant flow: 2000 m³/day
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 70%.
Water	No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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Metal working fluids / rolling oils - Industrial

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario

Use as binders and release agents - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as binders and release agents - Industrial
Process scope	Covers the use as binders and release agents, including material transfers, mixing, application (including spraying and brushing), mould forming and casting and handling of waste.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 4.10a.v1

Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC6 Calendering operations. PROC7 Industrial spraying PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC10 Roller application or brushing PROC14 Tableting, compression, extrusion, pelletisation, granulation
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Use as binders and release agents - Industrial

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

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

Frequency and duration of use

Continuous release.
 Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 1.0
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.0000003
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0

Environmental factors not influenced by risk management measures

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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 560000 kg/day Assumed domestic sewage treatment plant flow: 2000 m ³ /day

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. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by soil.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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 as binders and release agents - Industrial

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario

Use as a fuel - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

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
<u>Environment</u>	
Environmental release category	ERC7 Use of functional fluid at industrial site
SPERC	ESVOC SPERC 7.12a.v1
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC16 Use of fuels

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

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Use as a fuel - Industrial

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: 5000 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): 0.05
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.00001
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

Technical measures Prevent discharge of undissolved substance to or recover from onsite waste water.
STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7%
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 660000 kg/day
 Assumed domestic sewage treatment plant flow: 2000 m³/day

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. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.
 Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
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 0.5 - 10 kPa at STP

Use as a fuel - Industrial

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario Functional Fluids - Industrial

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	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
<u>Environment</u>	
Environmental release category	ERC7 Use of functional fluid at industrial site
SPERC	ESVOC SPERC 7.13a.v1
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

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

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
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Functional Fluids - Industrial

Concentration details Covers concentrations up to 100 %.

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 wide dispersive use (regional only): 0.01

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.00003

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 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

Technical measures Prevent discharge of undissolved substance to or recover from onsite waste water.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 91.7%
 Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 600000 kg/day
 Assumed domestic sewage treatment plant flow: 2000 m³/day

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

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

Water No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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

Conditions and measures related to external treatment of waste for disposal

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

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

Disposal 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 0.5 - 10 kPa at STP

Functional Fluids - Industrial

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario

Use in Coatings - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in Coatings - Professional
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.3b.v1
<u>Worker</u>	

Use in Coatings - Professional

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
	PROC4 Chemical production where opportunity for exposure arises
	PROC5 Mixing or blending in batch processes
	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
	PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
	PROC10 Roller application or brushing
	PROC11 Non industrial spraying
	PROC13 Treatment of articles by dipping and pouring.
	PROC15 Use as laboratory reagent.
	PROC19 Manual activities involving hand contact

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

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 21 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.01 tonnes
Maximum daily site tonnage: 0.029 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.98
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.01

Environmental factors not influenced by risk management measures

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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 42 kg/day Assumed domestic sewage treatment plant flow: 2000 m ³ /day

Use in Coatings - Professional

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. PROC11 Non industrial spraying Carry out in a vented booth or extracted enclosure. , or: Ensure operation is undertaken outdoors.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

Use in Coatings - Professional

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario

Use in Cleaning Agents - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

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
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.4b.v1
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring.

Use in Cleaning Agents - Professional

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

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %. Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Annual site tonnage: 1 tonnes
Maximum daily site tonnage: 0.014 kg

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.02
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.000001
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0

Environmental factors not influenced by risk management measures

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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 91.7% Maximum allowable site tonnage (M _{safe}), based on release following total wastewater treatment removal: 22 kg/day Assumed domestic sewage treatment plant flow: 2000 m ³ /day

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Use in Cleaning Agents - Professional

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

Product characteristics

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

PROC11 Non industrial spraying Provide enhanced general ventilation by mechanical means. , or: Ensure operation is undertaken outdoors.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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

Use in Cleaning Agents - Professional



Exposure scenario

Lubricants - Professional (Low Release)

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Lubricants - Professional (Low Release)
Process scope	Covers the use of formulated lubricants in closed and open systems, including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
SPERC	ESVOC SPERC 9.6b.v1
<u>Worker</u>	

Lubricants - Professional (Low Release)

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC20 Use of functional fluids in small devices
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %. 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: 0.0018 tonnes
 Maximum daily site tonnage: 0.048 kg

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.01
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.01

Environmental factors not influenced by risk management measures

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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
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Lubricants - Professional (Low Release)

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 68 kg/day Assumed domestic sewage treatment plant flow: 2000 m³/day
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. Maintenance of small items Operation is carried out at elevated temperature (> 20°C above ambient temperature). Drain down system prior to equipment break-in or maintenance. PROC11 Non industrial spraying Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Lubricants - Professional (Low Release)

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario

Lubricants - Professional (High Release)

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Lubricants - Professional (High Release)
Process scope	Covers the use of formulated lubricants in closed and open systems, including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.6c.v1
<u>Worker</u>	

Lubricants - Professional (High Release)

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions in metal working operations PROC18 General greasing/lubrication at high kinetic energy conditions PROC20 Use of functional fluids in small devices
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %. Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

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

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.015
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.05
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
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Lubricants - Professional (High Release)

STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 50 kg/day Assumed domestic sewage treatment plant flow: 2000 m³/day
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. Maintenance of small items Operation is carried out at elevated temperature (> 20°C above ambient temperature). Drain down system prior to equipment break-in or maintenance. PROC11 Non industrial spraying Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Lubricants - Professional (High Release)

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario

Metal working fluids / rolling oils - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Metal working fluids / rolling oils - Professional
Process scope	Covers the use in formulated MWFs, including transfer operations, open and contained cutting/machining activities, automated and manual application of corrosion protections, draining and working on contaminated/ reject articles and disposal of waste oils.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.7c.v1
<u>Worker</u>	

Metal working fluids / rolling oils - Professional

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions in metal working operations
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %. Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 1.5 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual site tonnage: 0.00075 tonnes
 Maximum daily site tonnage: 0.0021 kg

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.015
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.05
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 3.2 kg/day Assumed domestic sewage treatment plant flow: 2000 m³/day

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

Metal working fluids / rolling oils - Professional

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. PROC11 Non industrial spraying Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

Metal working fluids / rolling oils - Professional

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario

Functional Fluids - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	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 Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
SPERC	ESVOC SPERC 9.13b.v1

Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC6 Calendering operations. PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC20 Use of functional fluids in small devices
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Functional Fluids - Professional

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

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

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.05
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.025
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.025

Environmental factors not influenced by risk management measures

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

Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 120 kg/day Assumed domestic sewage treatment plant flow: 2000 m ³ /day

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Common practices vary across sites, thus conservative process release estimates used. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Disposal 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

Functional Fluids - Professional

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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)

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



Exposure scenario Use in Coatings - Consumer

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use 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. PC8a Excipient only 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 treatment products PC24 Lubricants, greases and release products. PC31 Polishes and wax blends. PC34 Textile dyes and impregnating products
Main sector	SU21 Consumer uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.3c.v1

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

Product characteristics

Use in Coatings - Consumer

Physical state	Liquid, vapour pressure > 10 Pa (STP)
Concentration details	Covers concentrations up to 100 %.
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 1600 tonnes/year
 Fraction of Regional tonnage used locally: 0.000506
 Annual site tonnage: 0.81 tonnes
 Maximum daily site tonnage: 2.2 kg

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.985
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.005

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
	Risk from environmental exposure is driven by soil.

Risk management measures

STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Assumed domestic sewage treatment plant flow: 2000 m ³ /day Maximum allowable site tonnage (M _{safe}), based on release following total wastewater treatment removal: 660 kg/day

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

PC1 Adhesives, sealants. PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC9c Finger paints PC18 Ink and toners.

Product characteristics

Physical state	Liquid, vapour pressure > 10 Pa (STP)
Concentration details	Covers concentrations up to 100 %. Unless otherwise stated.

Use in Coatings - Consumer

PC1 Adhesives, sealants. Covers concentrations up to 30 %.

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)

PC9c Finger paints 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 %.

PC18 Ink and toners. Covers concentrations up to 10 %.

Amounts used

For each use event, covers use amounts up to 13800 g.
Unless otherwise stated.

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 85.5 g.

PC1_4 Sealants For each use event, covers use amounts up to 75 g.

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 13800 g.

PC9b_3 Modelling clay For each use event, avoid swallowing amounts more than 1 g.

PC9c Finger paints For each use event, avoid swallowing amounts more than 1.35 g.

PC18 Ink and toners. For each use event, covers use amounts up to 40 g.

PC9b_1 Fillers and putty For each use event, covers use amounts up to 85 g.

Frequency and duration of use

Covers daily exposure up to 6hours
Unless otherwise stated.

PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) PC9a_2 Solvent-rich, high-solid, water-borne paint Covers frequency up to 1 days/year, , .

PC1_3 Glue from spray Covers frequency up to 6 days/year, , .

PC9a_1 Water-borne latex wall paint Covers frequency up to 4 days/year, , .

PC9a_3 Aerosol spray can Covers frequency up to 2 days/year, , .

PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) Covers frequency up to 3 days/year, , .

PC9b_1 Fillers and putty Covers frequency up to 12 days/year, , . PC9b_2 Plasters and floor equalisers

Human factors not influenced by risk management

Potentially exposed body parts

Covers skin contact area up to 857.5 cm². Unless otherwise stated.

Use in Coatings - Consumer

PC1_1 Glues, hobby use PC1_3 Glue from spray PC1_4 Sealants PC9b_1 Fillers and putty
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 cm².

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_4 Removers (paint-, glue-, wallpaper-, sealant-remover) 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.

PC18 Ink and toners. Covers skin contact area up to 71.40 cm².

Other given operational conditions affecting Non-industrial exposure

Temperature Covers use at ambient temperatures.

Room size Covers use in room size of 20 m³.

Ventilation rate Covers use under typical household ventilation.

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

Exposure time PC1_1 Glues, hobby use PC1_3 Glue from spray PC9b_1 Fillers and putty For each use, avoid using for more than 4 hours.
PC1_4 Sealants For each use, avoid using for more than 1 hour.
PC9a_1 Water-borne latex wall paint PC9a_2 Solvent-rich, high-solid, water-borne paint PC18 Ink and toners. For each use, avoid using for more than 2.2 hours.
PC9a_3 Aerosol spray can. For each use, avoid using for more than 0.33 hours.
PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) PC9b_2 Plasters and floor equalisers For each use, avoid using for more than 2 hours.

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

Control of Non-industrial exposure

PC4 Anti-freeze and de-icing products. PC15 Non-metal-surface treatment products. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.

Product characteristics

Physical state Liquid, vapour pressure > 10 Pa (STP)

Concentration details Covers concentrations up to 100 %. Unless otherwise stated.

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 PC15 Non-metal-surface treatment products. PC9a_3 Aerosol spray can.

PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) PC24_3 Sprays PC31 Polishes and wax blends. Covers concentrations up to 50 %.

PC15 Non-metal-surface treatment products. PC9a_1 Water-borne latex wall paint Covers concentrations up to 1.5 %.

PC15 Non-metal-surface treatment products. PC9a_2 Solvent-rich, high-solid, water-borne paint Covers concentrations up to 27.5 %.

PC24_2 Pastes Covers concentrations up to 20 %.

Amounts used

For each use event, covers use amounts up to 13800 g.
Unless otherwise stated.

Use in Coatings - 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.
 PC15 Non-metal-surface treatment products. PC9a_1 Water-borne latex wall paint For each use event, covers use amounts up to 2760 g.
 PC15 Non-metal-surface treatment products. PC9a_2 Solvent-rich, high-solid, water-borne paint For each use event, covers use amounts up to 744 g.
 PC15 Non-metal-surface treatment products. PC9a_3 Aerosol spray can For each use event, covers use amounts up to 215 g.
 PC15 Non-metal-surface treatment products. PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) For each use event, covers use amounts up to 491 g.
 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.

Frequency and duration of use

Covers daily exposure up to hours
 Unless otherwise stated.

PC15 Non-metal-surface treatment products. PC9a_1 Water-borne latex wall paint PC24_1 Liquids Covers frequency up to 4 days/year, , .
 PC15 Non-metal-surface treatment products. PC9a_2 Solvent-rich, high-solid, water-borne paint Covers frequency up to 6 days/year, , .
 PC15 Non-metal-surface treatment products. PC9a_2 Solvent-rich, high-solid, water-borne paint PC24_3 Sprays Covers frequency up to 6 days/year, , .
 PC15 Non-metal-surface treatment products. PC9a_3 Aerosol spray can Covers frequency up to 2 days/year, , .
 PC15 Non-metal-surface treatment products. PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) Covers frequency up to 3 days/year, , .
 PC24_2 Pastes Covers frequency up to 10 days/year, , .
 PC31_1 Polishes, wax/cream (floor, furniture, shoes) Covers frequency up to 29 days/year, , .
 PC31_2 Polishes, spray (furniture, shoes) Covers frequency up to 8 days/year, , .

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 857.5 cm². Unless otherwise stated.

PC4_2 Pouring into radiator PC15 Non-metal-surface treatment products. PC9a_1 Water-borne latex wall paint PC15 Non-metal-surface treatment products. PC9a_2 Solvent-rich, high-solid, water-borne paint Covers skin contact area up to 428 cm².
 PC4_3 Lock de-icer Covers skin contact area up to 214.4 cm².
 PC24_1 Liquids PC24_2 Pastes Covers skin contact area up to 468 cm².
 PC31 Polishes and wax blends. Covers skin contact area up to 430 cm².

Other given operational conditions affecting Non-industrial exposure

Temperature Covers use at ambient temperatures.
Room size Covers use in room size of 20 m³.
Ventilation rate Covers use under typical household ventilation.

Use in Coatings - Consumer

PC4 Anti-freeze and de-icing products. PC15 Non-metal-surface treatment products. PC9a_3 Aerosol spray can PC24_1 Liquids Covers use in a one car garage (34 m³) under typical ventilation.

Other given operational conditions affecting Non-industrial exposure

Exposure time	PC4_1 Washing car window For each use, avoid using for more than 0.02 hours.
	PC4_2 Pouring into radiator For each use, avoid using for more than 0.17 hours.
	PC4_3 Lock de-icer For each use, avoid using for more than 0.25 hours.
	PC15 Non-metal-surface treatment products. PC9a_1 Water-borne latex wall paint PC15 Non-metal-surface treatment products. PC9a_2 Solvent-rich, high-solid, water-borne paint For each use, avoid using for more than 2.2 hours.
	PC15 Non-metal-surface treatment products. PC9a_3 Aerosol spray can PC31_2 Polishes, spray (furniture, shoes) For each use, avoid using for more than 0.33 hours.
	PC15 Non-metal-surface treatment products. PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) For each use, avoid using for more than 2 hours.
	PC24_1 Liquids For each use, avoid using for more than 0.17 hours.
	PC31_1 Polishes, wax/cream (floor, furniture, shoes) For each use, avoid using for more than 1.23 hours.

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

Control of Non-industrial exposure

PC8 Biocidal products

Product characteristics

Physical state Liquid, vapour pressure > 10 Pa (STP)

Concentration details Covers concentrations up to 100 %. Unless otherwise stated.

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

For each use event, covers use amounts up to 13800 g.
Unless otherwise stated.

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 daily exposure up to hours
Unless otherwise stated.

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) Covers frequency up to 128 days/year, , .

Human factors not influenced by risk management

Use in Coatings - Consumer

Potentially exposed body parts Covers skin contact area up to 857.5 cm². Unless otherwise stated.

PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)
Covers skin contact area up to 428 cm².

Other given operational conditions affecting Non-industrial exposure

Temperature Covers use at ambient temperatures.

Room size Covers use in room size of 20 m³.

Ventilation rate Covers use under typical household ventilation.

Other given operational conditions affecting Non-industrial exposure

Exposure time PC8_1 Laundry and dish-washing products For each use, avoid using for more than 0.5 hours.
PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) For each use, avoid using for more than 0.33 hours.
PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) For each use, avoid using for more than 0.17 hours.

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

Control of Non-industrial exposure

PC23 Leather treatment products PC34 Textile dyes and impregnating products

Product characteristics

Physical state Liquid, vapour pressure > 10 Pa (STP)

Concentration details Covers concentrations up to 100 %. Unless otherwise stated.

PC23 Leather treatment products Covers concentrations up to 50 %.
PC34 Textile dyes and impregnating products Covers concentrations up to 10 %.

Amounts used

For each use event, covers use amounts up to 13800 g.
Unless otherwise stated.

PC23 Leather treatment products For each use event, covers use amounts up to 56 g.
PC34 Textile dyes and impregnating products For each use event, covers use amounts up to 115 g.

Frequency and duration of use

Covers daily exposure up to 6hours
Unless otherwise stated.

PC23 Leather treatment products PC31_1 Polishes, wax/cream (floor, furniture, shoes)
Covers frequency up to 29 days/year, , .
PC23 Leather treatment products PC31_2 Polishes, spray (furniture, shoes) Covers frequency up to 8 days/year, , .

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 857.5 cm². Unless otherwise stated.

PC23 Leather treatment products Covers skin contact area up to 430 cm².

Other given operational conditions affecting Non-industrial exposure

Use in Coatings - Consumer

Temperature	Covers use at ambient temperatures.
Room size	Covers use in room size of 20 m ³ .
Ventilation rate	Covers use under typical household ventilation.

Other given operational conditions affecting Non-industrial exposure

Exposure time	PC23 Leather treatment products PC31_1 Polishes, wax/cream (floor, furniture, shoes) For each use, avoid using for more than 1.23 hours. PC23 Leather treatment products PC31_2 Polishes, spray (furniture, shoes) For each use, avoid using for more than 0.33 hours. PC34 Textile dyes and impregnating products For each use, avoid using for more than 1 hours.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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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)

Assessment method	The ECETOC TRA tool has been used to estimate consumer 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 Cleaning Agents - Consumer

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

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. PC24 Lubricants, greases and release products. PC35 Washing and cleaning products PC38 Welding and soldering products, flux products
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.4c.v1

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

Product characteristics

Physical state	Liquid Substance is complex UVCB. Predominantly hydrophobic.
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Amounts used

Use in Cleaning Agents - Consumer

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 10 tonnes/year
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.005 tonnes
 Maximum daily site tonnage: 0.014 kg

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.95
Emission factor - water Release fraction to wastewater from wide dispersive use: 0.025
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.025

Environmental factors not influenced by risk management measures

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

Risk management measures

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

Physical state Liquid, vapour pressure > 10 Pa (STP)
Concentration details Covers concentrations up to 100 %. Unless otherwise stated. PC3 Air care products. PC4_3 Lock de-icer PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) PC24_3 Sprays Covers concentrations up to 50 %. PC4_1 Washing car window Covers concentrations up to 1 %. PC4_2 Pouring into radiator Covers concentrations up to 10 %. 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 %. PC24_2 Pastes PC38 Welding and soldering products, flux products Covers concentrations up to 20 %.

Amounts used

Use in Cleaning Agents - Consumer

For each use event, covers use amounts up to 13800 g.
Unless otherwise stated.

PC3_1 Air care, instant action (aerosol sprays)

For each use event, covers use amounts up to 0.1 g.

PC3_1 Air care, instant action (aerosol sprays)

Consumer use of pest control products

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

PC3_2 Air care, continuous action (solid and liquid)

For each use event, covers use amounts up to 0.48 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.

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

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

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.

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 4 times per day.

Unless otherwise stated.

Covers exposure up to 8 hours per event.

Unless otherwise stated.

PC3_2 Air care, continuous action (solid and liquid)

PC4_1 Washing car window

PC4_2 Pouring into radiator

PC4_3 Lock de-icer

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)

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

PC24 Lubricants, greases and release products.

PC38 Welding and soldering products, flux products

Covers use up to 1 time per day.

PC3_1 Air care, instant action (aerosol sprays)

Covers exposure up to 0.25 hours per event.

PC4_1 Washing car window

Covers exposure up to 0.02 hours per event.

PC4_2 Pouring into radiator

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

PC24 Lubricants, greases and release products.

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 0.5 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.

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

Covers exposure up to 2 hours per event.

PC38 Welding and soldering products, flux products

Covers exposure up to 1 hour per event.

Covers use up to 365 day(s)/year. Unless otherwise stated. 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) Covers use up to 128 day(s)/year. PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) Covers use up to 3 day(s)/year. PC24_1 Liquids Covers use up to 4 day(s)/year. PC24_2 Pastes Covers use up to 10 day(s)/year. PC24_3 Sprays Covers use up to 6 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts

Covers skin contact area up to 857.5 cm². Unless otherwise stated. PC3_2 Air care, continuous action (solid and liquid) Covers skin contact area up to 35.73 cm². PC4_2 Pouring into radiator PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) PC24_3 Sprays Covers skin contact area up to 428.75 cm². PC4_3 Lock de-icer Covers skin contact area up to 214.4 cm². PC24_1 Liquids PC24_2 Pastes Covers skin contact area up to 468 cm².

Other given operational conditions affecting Non-industrial exposure

Temperature

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

Use in Cleaning Agents - Consumer

Room size	Covers use in room size of 20 m ³ . Unless otherwise stated. PC4 Anti-freeze and de-icing products. PC24_1 Liquids Covers use in room size of 34 m ³ .
Ventilation rate	Covers use under typical household ventilation. Unless otherwise stated. PC24_1 Liquids PC4 Anti-freeze and de-icing products. Covers use in a one car garage (34 m ³) under typical ventilation.

3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate consumer 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

Lubricants - Consumer (Low Release)

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Lubricants - Consumer (Low Release)
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
<u>Environment</u>	
Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
SPERC	ESVOC SPERC 9.6d.v1

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

Product characteristics

Physical state	Liquid
	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

Lubricants - Consumer (Low Release)

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 28

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.01

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.01

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.01

Environmental factors not influenced by risk management measures

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

Risk management measures

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 50 kg/day

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

Physical state Liquid, vapour pressure > 10 Pa (STP)

Concentration details Covers concentrations up to 100 %. Unless otherwise stated. PC1_1 Glues, hobby use PC1_4 Sealants Covers concentrations up to 1 %. PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers concentrations up to 3 %. PC1_3 Glue from spray Covers concentrations up to 10 %. PC24_2 Pastes Covers concentrations up to 20 %. PC24_3 Sprays PC31 Polishes and wax blends. Covers concentrations up to 50 %.

Amounts used

Lubricants - Consumer (Low Release)

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

Unless otherwise stated.

PC1_1 Glues, hobby use

For each use event, covers use amounts up to 5 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 25 g.

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.

Frequency and duration of use

Covers daily exposure up to 6hours

Unless otherwise stated.

Covers use up to 1 time per day.

Unless otherwise stated.

PC1_1 Glues, hobby use

PC1_3 Glue from spray

Covers exposure up to 4 hours per event.

PC1_4 Sealants

Covers exposure up to 1 hour per event.

PC24 Lubricants, greases and release products.

Covers exposure up to 0.17 hours per event.

PC31_1 Polishes, wax/cream (floor, furniture, shoes)

Covers exposure up to 1.23 hours per event.

PC31_2 Polishes, spray (furniture, shoes)

Covers exposure up to 0.33 hours per event.

Covers use up to 365 day(s)/year. Unless otherwise stated. PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers use up to 1 day(s)/year. PC1_3 Glue from spray PC24_3 Sprays Covers use up to 6 day(s)/year. PC24_1 Liquids Covers use up to 4 day(s)/year. PC24_2 Pastes Covers use up to 10 day(s)/year. PC31_1 Polishes, wax/cream (floor, furniture, shoes) Covers use up to 29 day(s)/year. PC31_2 Polishes, spray (furniture, shoes) Covers use up to 8 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts

Covers skin contact area up to 468 cm². Unless otherwise stated. PC1_1 Glues, hobby use PC1_3 Glue from spray PC1_4 Sealants 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 cm². PC24_3 Sprays PC31 Polishes and wax blends. Covers skin contact area up to 428.75 cm².

Other given operational conditions affecting Non-industrial exposure

Temperature

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

Room size

Covers use in room size of 20 m³. Unless otherwise stated. PC24_1 Liquids Covers use in room size of 34 m³.

Lubricants - Consumer (Low Release)

Ventilation rate Covers use under typical household ventilation. Unless otherwise stated. PC24_1 Liquids
Covers use in a one car garage (34 m³) under typical ventilation.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

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 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 Lubricants - Consumer (High Release)

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Lubricants - Consumer (High Release)
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
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.6e.v1

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

Product characteristics

Physical state	Liquid
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Lubricants - Consumer (High Release)

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

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.015
Emission factor - water Release fraction to wastewater from wide dispersive use: 0.05
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

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

Risk management measures

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

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

Physical state Liquid, vapour pressure > 10 Pa (STP)
Concentration details Covers concentrations up to 100 %. Unless otherwise stated.
 PC1 Adhesives, sealants. Covers concentrations up to 30 %.
 PC24_2 Pastes Covers concentrations up to 20 %.
 PC24_3 Sprays PC31 Polishes and wax blends. Covers concentrations up to 50 %.

Amounts used

Lubricants - Consumer (High Release)

For each use event, covers use amounts up to 13800 g.

Unless otherwise stated.

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.

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.

Frequency and duration of use

Covers daily exposure up to 8hours

Covers use up to 1 time per day.

Unless otherwise stated.

PC1_1 Glues, hobby use

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

Covers exposure up to 6 hours per event.

PC1_3 Glue from spray

Covers exposure up to 4 hours per event.

PC1_4 Sealants

Covers exposure up to 1 hour per event.

PC24 Lubricants, greases and release products.

Covers exposure up to 0.17 hours per event.

PC31_1 Polishes, wax/cream (floor, furniture, shoes)

Covers exposure up to 1.23 hours per event.

PC31_2 Polishes, spray (furniture, shoes)

Covers exposure up to 0.33 hours per event.

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

PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers use up to 1 day(s)/year.

PC1_3 Glue from spray PC24_3 Sprays Covers use up to 6 day(s)/year.

PC24_1 Liquids Covers use up to 4 day(s)/year.

PC24_2 Pastes Covers use up to 10 day(s)/year.

PC31_1 Polishes, wax/cream (floor, furniture, shoes) Covers use up to 29 day(s)/year.

PC31_2 Polishes, spray (furniture, shoes) Covers use up to 8 day(s)/year.

Human factors not influenced by risk management

Lubricants - Consumer (High Release)

Potentially exposed body parts	Covers skin contact area up to 857.5 cm². Unless otherwise stated. PC1_1 Glues, hobby use PC1_3 Glue from spray PC1_4 Sealants 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 cm². PC24_1 Liquids PC24_2 Pastes Covers skin contact area up to 468 cm². PC24_3 Sprays PC31 Polishes and wax blends. Covers skin contact area up to 428.75 cm².
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Other given operational conditions affecting Non-industrial exposure

Temperature	Assumes activities are at ambient temperature (unless stated differently).
Room size	Covers use in room size of 20 m³. Unless otherwise stated. PC24_1 Liquids Covers use in room size of 34 m³.
Ventilation rate	Covers use under typical household ventilation. Unless otherwise stated. PC24_1 Liquids Covers use in a one car garage (34 m³) under typical ventilation.

3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate consumer 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

Functional Fluids - Consumer

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	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
<u>Environment</u>	
Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
SPERC	ESVOC SPERC 9.13c.v1

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

Product characteristics

Physical state	Liquid
	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: 0.0005
 Annual site tonnage: 0.001 tonnes
 Maximum daily site tonnage: 0.027 kg

Frequency and duration of use

Emission days: 365 days/year

Functional Fluids - Consumer

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.05
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.025
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.025

Environmental factors not influenced by risk management measures

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

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 91.7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 38 kg/day

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)

Product characteristics

Physical state	Liquid, vapour pressure > 10 Pa (STP)
Concentration details	Covers concentrations up to 100 %. Unless otherwise stated.

Amounts used

For each use event, covers use amounts up to 2200 g.
Unless otherwise stated.

Frequency and duration of use

Covers exposure up to 0.17 hours per event.
Covers use up to 4 day(s)/year. Unless otherwise stated.

Human factors not influenced by risk management

Potentially exposed body parts	Covers skin contact area up to 468 cm ² . Unless otherwise stated.
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Other given operational conditions affecting Non-industrial exposure

Temperature	Assumes activities are at ambient temperature (unless stated differently).
Room size	Covers use in room size of 34 m ³ .
Ventilation rate	Covers use in a one car garage (34 m ³) under typical ventilation.

3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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Functional Fluids - Consumer

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

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. 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 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

Agrochemical uses - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Agrochemical uses - 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 Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
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SPERC	ESVOC SPERC 8.11a.v1
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Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC4 Chemical production where opportunity for exposure arises PROC6 Calendering operations. PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Agrochemical uses - Professional

Physical state Liquid

Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 4.6 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual amount per site: 0.0092 tonnes
 Maximum daily site tonnage: 0.025 kg
 Maximum allowable site tonnage (Msafe): 940 kg/day

Frequency and duration of use

Emission days: 365 days/year
 Continuous release.

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

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.

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

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 Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.

Conditions and measures related to external treatment of waste for disposal

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

Waste treatment External treatment and disposal 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 concentrations up to 100 %. Unless otherwise stated.

Agrochemical uses - Professional

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Store substance within a closed system.
 PROC11 Non industrial spraying Spraying/fogging by machine application Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of > 20. Limit the substance content in the product to 25%.
 PROC13 Treatment of articles by dipping and pouring. Ad hoc manual application via trigger sprays, dipping, etc. Ensure operation is undertaken outdoors.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Spraying/fogging by manual application PROC11 Non industrial spraying Avoid carrying out operation for more than 4 hours.

Risk management measures

PROC11 Non industrial spraying
 Wear a respirator conforming to EN140 with Type A filter or better.
 Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

The use is assessed to be safe.

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

Further details on scaling and control technologies are provided in SpERC factsheet. 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.

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

Road and construction applications - Professional

Identification

Product name	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
REACH registration number	01-2119473977-17-XXXX
EC number	919-164-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	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
<u>Environment</u>	
Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC8f Widespread use leading to inclusion into/onto article (outdoor)
SPERC	ESVOC SPERC 9.13b.v1
<u>Worker</u>	
Process category	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Physical state	Liquid Predominantly hydrophobic. Substance is complex UVCB.
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Amounts used

Road and construction applications - Professional

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 17 tonnes/year
 Fraction of Regional tonnage used locally: 1
 Annual amount per site: 0.0084 tonnes
 Maximum daily site tonnage: 0.023 kg/day

Frequency and duration of use

Emission days: 365 days/year
 Continuous release.

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

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.
STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 91.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 91.7%
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 34 kg/day

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

Water Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment External treatment and disposal 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 concentrations up to 100 %. Unless otherwise stated.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Road and construction applications - Professional

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Ensure operation is undertaken outdoors. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.
 Spraying/fogging by machine application Elevated temperature Stay upwind/keep distance from source.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Ensure operatives are trained to minimise exposure.
 Drum/batch transfers Elevated temperature Avoid carrying out operation for more than 4 hours.
 Spraying/fogging by machine application Avoid carrying out operation for more than 1 hour.

Risk management measures

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC10 Roller application or brushing
 PROC11 Non industrial spraying
 Wear a respirator conforming to EN140 with Type A filter or better.
 Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

Assessment method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
 The use is assessed to be safe.

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

Further details on scaling and control technologies are provided in SpERC factsheet. 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.

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.