



SAFETY DATA SHEET

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

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

1.1. Product identifier

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
Product number	23045
Synonyms; trade names	VARSOL 40, WHITE SPIRIT, MIRASOL HT, WHITE SPIRIT, ASOL WS (ESTISURF CC02), ASOL WS (NYRMO 40), ASOL WS (STATOIL), WHITE SPIRIT HT, WHITE SPIRIT BE
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0

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

Identified uses	Industrial 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.	23045

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

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

2.2. Label elements

EC number	919-446-0
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Hazard pictograms



Signal word

Danger

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

Hazard statements	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H336 May cause drowsiness or dizziness. H372 Causes damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260 Do not breathe vapour/ spray. P273 Avoid release to the environment. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P501 Dispose of contents/ container in accordance with national regulations. P403+P235 Store in a well-ventilated place. Keep cool.
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.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
Ingredient notes	ATE: Acute Toxicity Estimate. Oral > 15000 mg/kg ATE: Acute Toxicity Estimate. Dermal > 3400 mg/kg ATE: Acute Toxicity Estimate. Inhalation > 13.1 mg/l
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

Inhalation	Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
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 immediately. Continue to rinse.

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

Inhalation	May cause drowsiness or dizziness. Vapour may affect central nervous system. Headache. Nausea, vomiting.
Ingestion	May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

Skin contact Repeated exposure may cause skin dryness or cracking.

Eye contact May cause temporary eye irritation.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media 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 The product is flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Water spray should be used to cool containers. 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 Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Avoid heat, flames and other sources of ignition. If ventilation is inadequate, suitable respiratory protection must be worn. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. Use only non-sparking tools. Use explosion-proof electrical equipment. Use water spray to reduce vapours. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid inhalation of vapours and contact with skin and eyes. Avoid heat, flames and other sources of ignition. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Provide adequate ventilation.

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

Advice on general occupational hygiene

When using do not eat, drink or smoke. Wash skin thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Eliminate all sources of ignition. Avoid contact with 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

DNEL

Industry - Dermal; : 44 mg/kg/day
 Industry - Inhalation; : 330 mg/kg/day
 Consumer - Dermal; : 26 mg/kg/day
 Consumer - Inhalation; : 71 mg/m³
 Consumer - Oral; : 26 mg/kg/day

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Use explosion-proof ventilating equipment. Avoid inhalation of vapours. Provide adequate ventilation.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Wear chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

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. Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The selected gloves should have a breakthrough time of at least 8 hours. Nitrile rubber. Protective gloves should have a minimum thickness of 0.38 mm. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Take off immediately all contaminated clothing and wash it before reuse.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Gas filter, type A EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Clear liquid.

Colour

Colourless to pale yellow.

Odour

Pungent.

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

Odour threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	155 - 194°C
Flash point	43°C
Evaporation rate	0.2 (butyl acetate = 1)
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 0.7 % Upper flammable/explosive limit: 6.0 %
Other flammability	No information available.
Vapour pressure	0.2 kPa @ 20°C
Vapour density	4.9 @ 101 kPa
Relative density	0.79 @ 15°C
Bulk density	790 kg/m ³
Solubility(ies)	Insoluble in water.
Partition coefficient	: >4
Auto-ignition temperature	242°C
Decomposition Temperature	No information available.
Viscosity	1.26 cSt @ 20°C 0.96 cSt @ 40°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No information available.

Oxidising properties Does not meet the criteria for classification as oxidising.

9.2. Other information

Refractive index	No information available.
Particle size	No information available.
Molecular weight	143
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions The product is flammable. Vapours may form explosive mixtures with air. Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Static electricity and formation of sparks must be prevented.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

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

Acute toxicity - dermal

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

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LD₅₀ >13.1 mg/l, Inhalation, Rat OECD 403

Skin corrosion/irritation

Animal data No information available.

Serious eye damage/irritation

Serious eye damage/irritation No information available.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met. OECD 406

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

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

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure May cause drowsiness or dizziness.

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

Toxicokinetics	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Inhalation	May cause drowsiness or dizziness. Overexposure may cause the following adverse effects: Headache. Nausea, vomiting. Central nervous system depression. Vapours in high concentrations are anaesthetic.
Ingestion	May be fatal if swallowed and enters airways.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	May cause temporary eye irritation.

SECTION 12: Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity Toxic to aquatic life.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 10 - 30 mg/l, Fish

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

Acute toxicity - aquatic plants IC₅₀, 72 hours: 4.6 - 10 mg/l, Algae

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 0.097 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

Biodegradation - 74.7%: 28 days

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient : >4

12.4. Mobility in soil

Mobility The product is insoluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste.

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

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 Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID)	1300
UN No. (IMDG)	1300
UN No. (ICAO)	1300
UN No. (ADN)	1300

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	TURPENTINE SUBSTITUTE
Proper shipping name (IMDG)	TURPENTINE SUBSTITUTE
Proper shipping name (ICAO)	TURPENTINE SUBSTITUTE
Proper shipping name (ADN)	TURPENTINE SUBSTITUTE

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-E, S-E
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HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

ADR transport category	3
Emergency Action Code	3Y
Hazard Identification Number (ADR/RID)	30
Tunnel restriction code	(D/E)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not determined.

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.
This product may impact SEVESO storage regulations.

Seveso Directive - Control of major accident hazards P5c E2

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

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.

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

SECTION 16: Other information

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.
	LC ₅₀ : Lethal Concentration to 50 % of a test population.
	LD ₅₀ : 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.
	EC ₅₀ : 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	24/01/2023
Version number	4.002
Supersedes date	25/08/2022

HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)

SDS number	23045
SDS status	Approved.
Hazard statements in full	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H336 May cause drowsiness or dizziness. H372 Causes damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.
Signature	Jitendra Panchal

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



Exposure scenario Manufacture of substance

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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

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)
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SPERC	ESVOC SPERC 1.1.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 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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2. Conditions of use affecting exposure (Industrial - Environment 1)

Manufacture of substance

Product characteristics

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

Amounts used

Annual site tonnage: 17000 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 56000 kg
 Regional use tonnage: 17000 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 3200000 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.01
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.003
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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
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: 93.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.7%

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, provide the required onsite wastewater removal efficiency of 0%. 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	During manufacturing no waste of the substance is generated. External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Manufacture of substance

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).

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

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

3. Exposure estimation (Environment 1)

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

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.

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

Scaled local assessments for EU refineries have been performed using site-specific data and are attached in PETRORISK file – “Site-Specific Production” worksheet.

3. Exposure estimation (Health 1)

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Distribution of substance

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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
<u>Environment</u>	
Environmental release category	ERC1 Manufacture of the substance ERC2 Formulation into mixture
SPERC	ESVOC SPERC 1.1b.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) PROC15 Use as laboratory reagent.

Distribution 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: 3.4 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.002
 Maximum daily site tonnage: 170 kg
 Regional use tonnage: 1700 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 210000 kg/day

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): 0.001
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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
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: 93.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.7%

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, provide the required onsite wastewater removal efficiency of 0%. 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.

Conditions and measures related to external recovery of waste

Distribution of substance

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).

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

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

3. Exposure estimation (Environment 1)

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

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.

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

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Formulation and (re)packing of substances and mixtures

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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: 2400 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 7800 kg
 Regional use tonnage: 2400 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 950000 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 0.01
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.002
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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.

Formulation and (re)packing of substances and mixtures

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.7%
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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	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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).

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.
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Technical conditions and measures at process level (source) to prevent release

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

3. Exposure estimation (Environment 1)

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

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
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Formulation and (re)packing of substances and mixtures

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

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 Coatings - Industrial

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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. 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: 4300 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 43000 kg
 Regional use tonnage: 4300 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 270000 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 100 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.98
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.007
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.

Use in Coatings - Industrial

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.7%
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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	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by freshwater sediment. Typical onsite wastewater treatment technology provides removal efficiency of 59.8%.

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).

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	PROC7 Industrial spraying Spraying (automatic/robotic) Carry out in a vented booth provided with laminar airflow. PROC7 Industrial spraying Manual spraying Provide enhanced general ventilation by mechanical means.
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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. 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.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Use in Coatings - Industrial

3. Exposure estimation (Health 1)

Assessment method

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Cleaning Agents - Industrial

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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	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)

Product characteristics

Use in Cleaning Agents - Industrial

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

Amounts used

Annual site tonnage: 100 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.071
 Maximum daily site tonnage: 5000 kg
 Regional use tonnage: 1400 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 5100000 kg/day

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
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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
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: 93.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.7%

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 70%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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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Use in Cleaning Agents - Industrial

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).

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures PROC7 Industrial spraying Provide enhanced general ventilation by mechanical means.

3. Exposure estimation (Environment 1)

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

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.

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

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Lubricants - Industrial

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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 machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.
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
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 10 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 500 kg
 Regional use tonnage: 10 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 570000 kg/day

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): 0.005
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): 0.001

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.

Lubricants - Industrial

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.7%
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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	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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).

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Store substance within a closed system. Transfer via enclosed lines. Drain or remove substance from equipment prior to break-in or maintenance. Avoid manual contact with wet work pieces. PROC13 Treatment of articles by dipping and pouring. Allow time for product to drain from workpiece. PROC7 Industrial spraying Provide enhanced general ventilation by mechanical means.
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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. 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.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Lubricants - Industrial

3. Exposure estimation (Health 1)

Assessment method

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario
Metal working fluids / rolling oils - Industrial

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 100 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 5000 kg
 Regional use tonnage: 100 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 6400000 kg/day

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): 0.0003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.

Metal working fluids / rolling oils - Industrial

STP details

Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
 RMMs: 93.7%

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 70%.

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

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).

Other given operational conditions affecting workers exposure

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

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

Technical protective measures PROC7 Industrial spraying Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

3. Exposure estimation (Environment 1)

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

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.

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

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

3. Exposure estimation (Health 1)

Metal working fluids / rolling oils - Industrial

Assessment method

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

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 - Industrial

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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 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
Concentration details	Covers concentrations up to 100 %.

Functional Fluids - Industrial

Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 10 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.1
 Maximum daily site tonnage: 500 kg
 Regional use tonnage: 100 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 570000 kg/day

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): 0.000003
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.005
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

Good practice Common practices vary across sites, thus conservative process release estimates used.
Technical measures Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type Municipal STP.
STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.7%

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

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

Functional Fluids - Industrial

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).

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

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

3. Exposure estimation (Environment 1)

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

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.

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

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use in laboratories

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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
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

Use in laboratories

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
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 390 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.025
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.02
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.0001

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.
Technical measures Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type Municipal STP.
STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.7%

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

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 %.

Use in laboratories

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.

Assumes a good basic standard of occupational hygiene is implemented.

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

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

3. Exposure estimation (Environment 1)

Assessment method

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

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.

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

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

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 Coatings - Professional

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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
Concentration details	Covers concentrations up to 100 %.
	Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 0.84 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 2.3 kg
 Regional use tonnage: 1700 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1900 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.98
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.0001

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.

Use in Coatings - Professional

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.7%
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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	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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).

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	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	Avoid manual contact with wet work pieces.
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Risk management measures

PROC11 Non industrial spraying
Outdoor.
Wear a respirator conforming to EN140 with Type A filter or better.
, or:
Avoid carrying out activities involving exposure for more than 4 hours.

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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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.

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

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in Cleaning Agents - Professional

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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 8.4c.v1
<u>Worker</u>	
Process category	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.

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

Product characteristics

Use in Cleaning Agents - Professional

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

Amounts used

Annual site tonnage: 0.17 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 0.47 kg
 Regional use tonnage: 340 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 580 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from 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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
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: 93.7% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.7%

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

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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Use in Cleaning Agents - Professional

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).

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures 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 PROC11 Non industrial spraying Outdoor. Limit the substance content in the product to 25%.

3. Exposure estimation (Environment 1)

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

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.

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

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Lubricants - Professional (Low Release)

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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 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.
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) 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
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 0.018 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 0.048 kg
 Regional use tonnage: 35 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 52 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.15
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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.

Lubricants - Professional (Low Release)

STP details

Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
 RMMs: 93.7%

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

Water

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

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).

Other given operational conditions affecting workers exposure

Temperature

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

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

Technical protective measures PROC11 Non industrial spraying Provide enhanced general ventilation by mechanical means.

3. Exposure estimation (Environment 1)

Assessment method

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

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.

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

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

Lubricants - Professional (Low Release)

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Lubricants - Professional (High Release)

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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 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.
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) ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (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
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 0.018 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 0.048 kg
 Regional use tonnage: 35 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 57 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.15
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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.

Lubricants - Professional (High Release)

STP details

Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
 RMMs: 93.7%

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. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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).

Other given operational conditions affecting workers exposure

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

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

Technical protective measures PROC11 Non industrial spraying Provide enhanced general ventilation by mechanical means.

3. Exposure estimation (Environment 1)

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

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.

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

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

3. Exposure estimation (Health 1)

Lubricants - Professional (High Release)

Assessment method

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario
Metal working fluids / rolling oils - Professional

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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) ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (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
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 0.0093 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 0.025 kg
 Regional use tonnage: 19 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 29 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.15
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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.

Metal working fluids / rolling oils - Professional

STP details

Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
 RMMs: 93.7%

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. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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).

Other given operational conditions affecting workers exposure

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

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

Technical protective measures PROC11 Non industrial spraying Provide enhanced general ventilation by mechanical means.

3. Exposure estimation (Environment 1)

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

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.

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

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

3. Exposure estimation (Health 1)

Metal working fluids / rolling oils - Professional

Assessment method

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

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 C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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 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

Physical state	Liquid
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Agrochemical uses - Professional

Concentration details

Covers concentrations up to 100 %.

Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 0.019 tonnes

Fraction of EU tonnage used in region: 0.1

Fraction of Regional tonnage used locally: 0.0019

Maximum daily site tonnage: 0.053 kg

Regional use tonnage: 9.6 tonnes/year

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 63 kg/day

Frequency and duration of use

Continuous release.

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.9

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.09

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

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

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

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.7%

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. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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.

Agrochemical uses - Professional

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).

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.
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Technical conditions and measures at process level (source) to prevent release

Technical protective measures	PROC11 Non industrial spraying Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of > 20. Spraying/fogging by machine application
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Risk management measures

PROC11 Non industrial spraying
Spraying/fogging by manual application
Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation (Environment 1)

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

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 Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Health 1)

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 - Professional

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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, insulators, refrigerants, hydraulic fluids in closed professional equipment, including incidental exposures during maintenance and related material transfers.
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 9.13b.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 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC20 Use of functional fluids in small devices

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

Product characteristics

Physical state	Liquid
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Functional Fluids - Professional

Concentration details

Covers concentrations up to 100 %.

Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 0.05 tonnes

Fraction of EU tonnage used in region: 0.1

Fraction of Regional tonnage used locally: 0.0005

Maximum daily site tonnage: 0.14 kg

Regional use tonnage: 100 tonnes/year

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 140 kg/day

Frequency and duration of use

Continuous release.

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from 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

Risk management measures

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

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

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.7%

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. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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.

Functional Fluids - Professional

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).

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

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

3. Exposure estimation (Environment 1)

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

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.

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

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

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

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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
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 8.15.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 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
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Road and construction applications

Annual site tonnage: 0.093 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 0.25 kg
 Regional use tonnage: 190 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 270 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

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

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.
Technical measures Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type Municipal STP.
STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.7%

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. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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 %.

Road and construction applications

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.

Assumes a good basic standard of occupational hygiene is implemented.

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

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

Risk management measures

PROC11 Non industrial spraying

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

3. Exposure estimation (Environment 1)

Assessment method

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

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.

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

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use in Laboratories - Professional

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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

Use in Laboratories - Professional

Annual site tonnage: 0.000005 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 0.000014 kg
 Regional use tonnage: 0.01 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.017 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0.5
Emission factor - water Release fraction to wastewater from wide dispersive use: 0.5
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 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.
Technical measures Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type Municipal STP.
STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.7%

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. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. 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.

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 %.

Use in Laboratories - 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.

Assumes a good basic standard of occupational hygiene is implemented.

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

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

3. Exposure estimation (Environment 1)

Assessment method

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

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.

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

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

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

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 Coatings - Consumer

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC9c Finger paints. PC15 Non-metal-surface treatment products. PC18 Ink and toners. PC23 Leather 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
Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Regional use tonnage: 4400 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.000005
Annual site tonnage: 2.2 tonnes
Maximum daily site tonnage: 6 kg
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1900 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 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 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: 93.7%

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

Use in Coatings - Consumer

Concentration details

Covers concentrations up to 100 %. Unless otherwise stated. PC1 Adhesives, sealants. Covers concentrations up to 30 %. PC4_3 Lock de-icer PC9a_3 Aerosol spray can PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) PC23 Leather treatment products PC24_3 Sprays PC31 Polishes and wax blends. Covers concentrations up to 50 %. PC8_1 Laundry and dish-washing products PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) Covers concentrations up to 5 %. PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) Covers concentrations up to 15 %. 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 %. PC9b_1 Fillers and putty PC9b_2 Plasters and floor equalisers Covers concentrations up to 2 %. PC4_1 Washing car window PC9b_3 Modelling clay Covers concentrations up to 1 %. PC24_2 Pastes Covers concentrations up to 20 %. PC4_2 Pouring into radiator PC18 Ink and toners. PC34 Textile dyes and impregnating products Covers concentrations up to 10 %.

Amounts used

Use in Coatings - Consumer

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

PC9b_1 Fillers and putty

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

PC1_4 Sealants

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

PC4_1 Washing car window

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

PC4_2 Pouring into radiator

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

PC4_3 Lock de-icer

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

PC8_1 Laundry and dish-washing products

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

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

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

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

PC31_2 Polishes, spray (furniture, shoes)

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

PC18 Ink and toners.

For each use event, covers use amounts up to 40 g.

PC23 Leather treatment products

For each use event, covers use amounts up to 56 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.

PC34 Textile dyes and impregnating products

For each use event, covers use amounts up to 115 g.

Frequency and duration of use

Use in Coatings - Consumer

Covers daily exposure up to 6hours

Unless otherwise stated.

PC1_1 Glues, hobby use

PC1_3 Glue from spray

PC9b_1 Fillers and putty

Covers exposure up to 4 hours per event.

PC1_4 Sealants

PC34 Textile dyes and impregnating products

Covers exposure up to 1 hour 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)

PC9a_3 Aerosol spray can

PC31_2 Polishes, spray (furniture, shoes)

Covers exposure up to 0.33 hours per event.

PC9a_1 Water-borne latex wall paint

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

PC18 Ink and toners.

Covers exposure up to 2.2 hours per event.

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

PC9b_2 Plasters and floor equalisers

Covers exposure up to 2 hours per event.

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

Covers exposure up to 1.23 hours per event.

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

PC24_3 Sprays Covers use up to 6 day(s)/year. 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_1 Water-borne latex wall paint PC24_1 Liquids

Covers use up to 4 day(s)/year. PC9a_3 Aerosol spray can Covers use up to 2 day(s)/year.

PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) Covers use up to 3

day(s)/year. PC9b_1 Fillers and putty PC9b_2 Plasters and floor equalisers Covers use up to

12 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.

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

Human factors not influenced by risk management

Use in Coatings - Consumer

Potentially exposed body parts	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 cm ² . PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers skin contact area up to 110 cm ² . PC4_2 Pouring into radiator PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) PC9a_1 Water-borne latex wall paint PC9a_2 Solvent-rich, high-solid, water-borne paint PC31 Polishes and wax blends. Covers skin contact area up to 428.75 cm ² . PC4_3 Lock de-icer Covers skin contact area up to 214.4 cm ² . PC8_1 Laundry and dish-washing products PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) PC9b_2 Plasters and floor equalisers PC34 Textile dyes and impregnating products Covers skin contact area up to 857.5 cm ² . PC9b_3 Modelling clay Covers skin contact area up to 254.4 cm ² . PC18 Ink and toners. Covers skin contact area up to 71.4 cm ² . PC24 Lubricants, greases and release products. Covers skin contact area up to 468 cm ² .
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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 m ³ . Unless otherwise stated. PC4 Anti-freeze and de-icing products. PC9a_3 Aerosol spray can PC24_1 Liquids Covers use in room size of 34 m ³ .
Ventilation rate	Covers use under typical household ventilation. Unless otherwise stated. PC4 Anti-freeze and de-icing products. PC9a_3 Aerosol spray can PC24_1 Liquids Covers use in a one car garage (34 m ³) under typical ventilation.

Other given operational conditions affecting Non-industrial exposure

Application area	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.
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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. 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

Use in Cleaning Agents - Consumer

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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

Regional use tonnage: 50 tonnes/year
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.025 tonnes
 Maximum daily site tonnage: 0.068 kg
 Maximum allowable site tonnage (Msafe): 77 kg/day

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: 93.7%

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 (High Release)

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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)

Regional use tonnage: 25 tonnes/year
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.00005
 Annual site tonnage: 0.013 tonnes
 Maximum daily site tonnage: 0.034 kg
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 38 kg/day

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): 0.15
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 Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%

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 (High 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 6 hours

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 (High 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 (Low Release)

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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.
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Amounts used

Lubricants - Consumer (Low Release)

Regional use tonnage: 25 tonnes/year
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.013 tonnes
 Maximum daily site tonnage: 0.034 kg
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 38 kg/day

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): 0.5
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 Assumed domestic sewage treatment plant flow: 2000 m³/day
 Estimated substance removal from wastewater via domestic sewage treatment: 93.7%

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

Agrochemical uses - Consumer

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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 - Consumer
Process scope	Covers the consumer use in agrochemicals in liquid and solid forms.
Product category	PC12 Lawn and garden preparations (- fertilizers). PC27 Plant protection products.
Main sector	SU21 Consumer uses
<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 8.11b.v1

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

Product characteristics

Physical state	Liquid
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Regional use tonnage: 1.8 tonnes/year
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.0036 tonnes
 Maximum daily site tonnage: 0.0099 kg
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 12 kg/day

Agrochemical uses - Consumer

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): 0.9
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): 0.09

Environmental factors not influenced by risk management measures

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

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: 93.7%

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 50 %. Unless otherwise stated.

Amounts used

For each use event, avoid swallowing amounts more than 0.3 g.

Frequency and duration of use

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

Human factors not influenced by risk management

Potentially exposed body parts	Covers skin contact area up to 857.5 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 20 m ³ .
Ventilation rate	Covers use under typical household 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)

Agrochemical uses - Consumer

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

Functional Fluids - Consumer

Identification

Product name	HYDROCARBONS C9-12 N-ALKANES, ISOALKANES CYCLIC AROMATICS (2-25%)
REACH registration number	01-2119458049-33-XXXX
EC number	919-446-0
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

Regional use tonnage: 20 tonnes/year
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.005 tonnes
 Maximum daily site tonnage: 0.01 kg
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 33 kg/day

Frequency and duration of use

Functional Fluids - Consumer

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

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: 93.7%

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.