



Signal word

Danger

Hazard statements

H304 - May be fatal if swallowed and enters airways

H226 - Flammable liquid and vapour

Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P280 - Wear protective gloves and eye/face protection

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor

P331 - Do NOT induce vomiting

P370 + P378 - In case of fire: Use dry chemical, CO2, water spray or alcohol-resistant foam to extinguish

P403 + P235 - Store in a well-ventilated place. Keep cool

Unknown aquatic toxicity

Contains 0 % of components with unknown hazards to the aquatic environment.

2.3. Other hazards

Product is a static accumulator. Vapours can form explosive mixtures with air. Vapours may travel to source of ignition and flash back.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS -	50 - 60%	918-167-1	01-7096030383-5-XXXX	Asp. Tox. 1 (H304) Flam. Liq. 3 (H226)	-	-	-
HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS -	50 - 60%	920-901-0	01-8511566070-7-XXXX	Asp. Tox. 1 (H304)	-	-	-

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation

Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical attention. Delayed pulmonary edema may occur. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation occurs: Get medical advice/attention.
Ingestion	ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

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

Symptoms	Difficulty in breathing. Coughing and/ or wheezing. Dizziness.
Inhalation	May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. Inhalation of vapours in high concentration may cause irritation of respiratory system.
Dermal	Repeated exposure may cause skin dryness or cracking.
Ingestion	May be fatal if swallowed and enters airways Risk of chemical pneumonia after aspiration.

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

Note to doctors	Because of the danger of aspiration, emesis or gastric lavage should not be used unless the risk is justified by the presence of additional toxic substances.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO ₂). Water spray. Alcohol resistant foam.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Product is a static accumulator.
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5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Cool containers with flooding quantities of water until well after fire is out. Do not allow runoff to sewer, waterway or ground.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Avoid contact with skin, eyes and inhalation of vapours. In case of inadequate ventilation wear respiratory protection. Use non sparking handtools and explosion-proof electric equipment.
Other information	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. Use nonsparking tools and explosion-proof lamps and electric appliances.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Product is a static accumulator.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Take off all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children. Store away from other materials.

7.3. Specific end use(s)

Specific use(s)
See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits Vapour: 1200 mg/m³, 8 hr TWA, Manuf.data.

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers No information available

Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls

Ensure adequate ventilation. Use explosion-proof ventilating equipment.

Personal protective equipment

Eye/face protection

Tight sealing safety goggles. Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166.

Hand protection

Wear suitable gloves. Impervious gloves. Gloves must conform to standard EN 374. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Nitrile rubber	>= 0.38 mm	480 minutes

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection

In case of inadequate ventilation or when the product is heated, use suitable respiratory equipment with gas filter (type A2).

General hygiene considerations

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Take off all contaminated clothing and wash it before reuse.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear liquid
Colour	Colourless
Odour	Slight.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available.
Initial boiling point and boiling range	182 - 270 °C	No information available.
Flammability		No information available.
Flammability Limit in Air		No information available.
Upper flammability or explosive limits	6.0	
Lower flammability or explosive limits	0.6	
Flash point	> 59 °C	No information available.
Autoignition temperature	> 222 °C	No information available.
Decomposition temperature		No information available.
pH		No information available.
pH (as aqueous solution)		No information available.
Kinematic viscosity	1.2 cSt	@ 40 °C.
1.6 cSt		@ 20 °C.
Dynamic viscosity	1.6 cSt @ 25°C	No information available.
Water solubility	negligible	No information available.
Solubility(ies)		No information available.
Partition coefficient		No information available.
Vapour pressure	0.06 kPa	@ 20 °C.
Relative density	0.76	15 °C. Calculation method.
Bulk density		No information available
Liquid Density	760 kg/m ³	No information available
Relative vapour density	5.6	No information available.
Particle characteristics		No information available.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidising properties	No information available	

9.2. Other information

Molecular weight	162
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SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity The following materials may react with the product: Strong oxidising agents.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Incompatible materials Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Information on likely routes of exposure****Product Information**

Inhalation Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Inhalation of vapours in high concentration may cause irritation of respiratory system. May cause central nervous system depression.

Eye contact Specific test data for the substance or mixture is not available. May cause irritation. May cause slight eye irritation.

Skin contact Repeated exposure may cause skin dryness or cracking.

Ingestion Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness.

Acute toxicity**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICIS	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICIS	> 5000 mg/kg	> 5000 mg/kg	> 20 - < 50 mg/l

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS (-)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 404	Rabbit	Dermal			Mild skin irritant

HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS (-)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Repeated exposure may cause skin dryness or cracking

Serious eye damage/eye irritation May cause slight eye irritation.

HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS (-)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 405	Rabbit	eye			non-irritant

HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS (-)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause temporary eye irritation Read-across

Respiratory or skin sensitisation Based on available data the classification criteria are not met.

HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS (-)

Method	Species	Exposure route	Results
OECD 406	Guinea pig	Dermal	Not a skin sensitiser

HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS (-)

Method	Species	Exposure route	Results
	Guinea pig		Not a skin sensitiser

Germ cell mutagenicity Based on available data the classification criteria are not met.

Component Information

HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS (-)

Method	Species	Results
	in vivo	Not mutagenic
	in vitro	Not mutagenic

Carcinogenicity

No information available.

Component Information

HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS (-)

Method	Species	Results
		Not Carcinogenic

Reproductive toxicity

Based on available data the classification criteria are not met.

HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS (-)

Method	Species	Results
		Based on available data the classification criteria are not met.

STOT - single exposure

No information available.

STOT - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

May be fatal if swallowed and enters airways.

Other adverse effects

No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Unknown aquatic toxicity

Contains 0 % of components with unknown hazards to the aquatic environment.

HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS (-)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Green Algae	EL50	> 1000 mg/L	72 hours	
	Oncorhynchus mykiss (rainbow trout)	LL50	> 1000 mg/L	96 hours	
	Water flea	EL50	> 1000 mg/L	48 hours	
	Green Algae	NOEL	1000 mg/L	72 hours	
	Daphnia magna	NOEL	> 1 mg/L	21 days	

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS	EC50: > 1000 mg/l (72hr) Pseudokirchneriella subcapitata	LC50: > 1000 mg/l (96hr) Oncorhynchus mykiss	-	EC50: > 1000 mg/l (48hr) Daphnia magna

12.2. Persistence and degradability

Persistence and degradability

Inherently Biodegradable.

HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS (-)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)	28 days	31.3%	Not readily biodegradable

HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS (-)

Method	Exposure time	Value	Results
	28 days	Biodegradation 31.1%	Inherently Biodegradable

12.3. Bioaccumulative potential

Bioaccumulation

There is no data for this product.

12.4. Mobility in soil

Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS	The substance is not PBT / vPvB
HYDROCARBONS, C11 - C13, ISOALKANES, <2% AROMATICS	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. Should not be released into the environment. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number	UN3295
14.2 UN proper shipping name	HYDROCARBONS, LIQUID, N.O.S.(CONTAINS HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS)
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	A324, A3
ERG Code	3L

IMDG

14.1 UN number or ID number	UN3295
UN proper shipping name	HYDROCARBONS, LIQUID, N.O.S.(CONTAINS HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS)
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	223
EmS-No	F-E, S-D
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN3295
14.2 UN proper shipping name	HYDROCARBONS, LIQUID, N.O.S.(CONTAINS HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS)
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
Classification code	F1

ADR

14.1 UN number or ID number	UN3295
14.2 UN proper shipping name	HYDROCARBONS, LIQUID, N.O.S.(CONTAINS HYDROCARBONS, C11-C12, ISOALKANES, < 2% AROMATICS)
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
Classification code	F1
Tunnel restriction code	(D/E)

SECTION 15: Regulatory information

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

National regulations

Authorisations and/or restrictions on use:

This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

Product restricted per REACH Annex XVII: 3

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Dangerous substance category per COMAH Regulations 2015 (as amended)

P5c - FLAMMABLE LIQUIDS

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC - Australian Inventory of Industrial Chemicals

NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H226 - Flammable liquid and vapour

H304 - May be fatal if swallowed and enters airways

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note [SDS sections updated 1 2 4 6 7 8 9 11 13 15 16](#)

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Prepared By J Spenceley
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**This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

End of Safety Data Sheet

Exposure scenario Manufacture of substance - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Manufacture of substance - Industrial
Process scope	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.
Main sector	SU3 Industrial uses

Environment

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

Worker

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

Product characteristics

Physical state	Liquid
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Manufacture of substance - Industrial

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

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 3900 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 3900 tonnes
Maximum daily site tonnage: 39000 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 860000 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): 0.0001
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.00001
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.0001

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: 10000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1%

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

Conditions and measures related to external treatment of waste for disposal

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

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

3. Exposure estimation (Environment 1)

Manufacture of substance - Industrial

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)

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

3. Exposure estimation (Health 1)

[libraries.html](http://cefic.org/en/reach-for-industries-libraries.html)).

No exposure assessment presented for human health.

Exposure scenario Distribution of substance - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Distribution of substance - Industrial
Process scope	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.
Main sector	SU3 Industrial uses

Environment

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

Worker

Distribution of substance - 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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

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

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 660 tonnes/year
Fraction of Regional tonnage used locally: 0.002
Annual site tonnage: 1.3 tonnes
Maximum daily site tonnage: 66 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 3300 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): 0.00001
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: 2000m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1%

Distribution of substance - Industrial

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	Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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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3. Exposure estimation (Environment 1)

Assessment method	<p>The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.</p> <p>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.</p>
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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 air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario

Formulation & (re)packing of substances and mixtures - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

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

Formulation & (re)packing of substances and mixtures - Industrial

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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 160 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 160 tonnes
Maximum daily site tonnage: 1600 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 67000 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 (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 0.0005
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.000005
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: 2000m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1%

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	Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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.
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Formulation & (re)packing of substances and mixtures - Industrial

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.

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Uses in Coatings - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Uses in Coatings - Industrial
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Main sector	SU3 Industrial uses
<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>	

Uses 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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 300 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 300 tonnes
Maximum daily site tonnage: 15000 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 86000 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): 0.09
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00002
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

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.

Uses in Coatings - Industrial

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1%

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	Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite waste water. Typical onsite wastewater treatment technology provides removal efficiency of 71.9%. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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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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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Uses in Coatings - Professional

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Uses in Coatings - Professional
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Main sector	SU22 Professional uses
<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>	

Uses 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
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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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 300 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.15 tonnes
Maximum daily site tonnage: 0.41 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 18 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 wide dispersive use: 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.01

Environmental factors not influenced by risk management measures

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

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.

Uses in Coatings - Professional

STP details Assumed domestic sewage treatment plant flow: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 95.1%
Estimated substance removal from wastewater via domestic sewage treatment: 95.1%

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 Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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.

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Use in Cleaning Agents - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.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

Environment

Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
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SPERC	ESVOC SPERC 4.4a.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 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.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Use in Cleaning Agents - Industrial

Product characteristics

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

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 240 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.12 tonnes
Maximum daily site tonnage: 0.33 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 16 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.02
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

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: 2000m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1%

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	Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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

Use in Cleaning Agents - Industrial

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

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Use in Cleaning Agents - Professional

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.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 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	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.4b.v1
<u>Worker</u>	

Use in Cleaning Agents - 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
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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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 220 tonnes/year
Fraction of Regional tonnage used locally: 0.00082
Annual site tonnage: 0.18 tonnes
Maximum daily site tonnage: 0.49 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 24 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.

Use in Cleaning Agents - Professional

STP details	Assumed domestic sewage treatment plant flow: 2000m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1% Estimated substance removal from wastewater via domestic sewage treatment: 95.1%
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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	Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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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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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

No exposure assessment presented for human health.

Exposure scenario Lubricants - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.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

Environment

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

Worker

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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 46 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 46 tonnes
Maximum daily site tonnage: 2300 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 11000 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): 0.0003
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): 0.001

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: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 95.1%

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 Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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.

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Lubricants - Professional Low Environmental Release

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

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

Lubricants - Professional Low Environmental 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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 23 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.012 tonnes
Maximum daily site tonnage: 0.032 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1.6 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): 0.01
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.01

Environmental factors not influenced by risk management measures

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

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.

Lubricants - Professional Low Environmental Release

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1% Estimated substance removal from wastewater via domestic sewage treatment: 95.1%

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	Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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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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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Lubricants - Professional High Environmental Release

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

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

Lubricants - Professional High Environmental 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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 23 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.012 tonnes
Maximum daily site tonnage: 0.032 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1.5 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): 0.015
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.05
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

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

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.

Lubricants - Professional High Environmental Release

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1% Estimated substance removal from wastewater via domestic sewage treatment: 95.1%

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	Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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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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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario
Metal working fluids / rolling oils - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 43 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 43 tonnes
Maximum daily site tonnage: 2100 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 10000 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): 0.006
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

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: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 95.1%

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 Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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.

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario
Metal working fluids / rolling oils - Professional

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

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

Metal working fluids / rolling oils - Professional

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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 21 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.011 tonnes
Maximum daily site tonnage: 0.029 kg
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1.4 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): 0.015
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.05
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

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

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: 2000m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1% Estimated substance removal from wastewater via domestic sewage treatment: 95.1%

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	Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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.

Metal working fluids / rolling oils - Professional

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.

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Use in Agrochemicals - Professional

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Agrochemicals - Professional
Process scope	Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging, including equipment clean-downs and disposal.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a 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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Use in Agrochemicals - Professional

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

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 0.002
Annual site tonnage: 0.02 tonnes
Maximum daily site tonnage: 0.055 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2.7 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: 0.01
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

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: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 95.1%
Estimated substance removal from wastewater via domestic sewage treatment: 95.1%

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 Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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.

Use in Agrochemicals - Professional

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Functional fluids - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.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

Environment

Environmental release category	ERC7 Use of functional fluid at industrial site
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SPERC	ESVOC SPERC 7.13a.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 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
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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 %.

Functional fluids - Industrial

Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Fraction of EU tonnage used in region: 0.1

Regional use tonnage: 70 tonnes/year

Fraction of Regional tonnage used locally: 0.14

Annual site tonnage: 10 tonnes

Maximum daily site tonnage: 500 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 24000 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): 0.001

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: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 95.1%

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 Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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.

3. Exposure estimation (Environment 1)

Functional fluids - Industrial

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)

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

3. Exposure estimation (Health 1)

[libraries.html](http://cefic.org/en/reach-for-industries-libraries.html)).

No exposure assessment presented for human health.

Exposure scenario Functional Fluids - Professional

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Functional Fluids - Professional
Process scope	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment, including maintenance and related material transfers.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
SPERC	ESVOC SPERC 9.13b.v1

Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC20 Use of functional fluids in small devices
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

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

Functional Fluids - Professional

Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Fraction of EU tonnage used in region: 0.1

Regional use tonnage: 70 tonnes/year

Fraction of Regional tonnage used locally: 0.0005

Annual site tonnage: 0.035 tonnes

Maximum daily site tonnage: 0.096 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 4.5 kg/day

Frequency and duration of use

Continuous release.

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

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

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

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

Environmental factors not influenced by risk management measures

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

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: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 95.1%

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 Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. No wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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.

3. Exposure estimation (Environment 1)

Functional Fluids - Professional

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)

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

3. Exposure estimation (Health 1)

[libraries.html](http://cefic.org/en/reach-for-industries-libraries.html)).

No exposure assessment presented for human health.

Exposure scenario Use in laboratories - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in laboratories - Industrial
Process scope	Use of the substance within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC2 Formulation into mixture ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
<u>Worker</u>	
Process category	PROC10 Roller application or brushing PROC15 Use as laboratory reagent.

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

Product characteristics

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

Amounts used

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

Use in laboratories - Industrial

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 86 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): 0.025
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

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: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1%

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 Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Typical onsite wastewater treatment technology provides removal efficiency of 91.6%.

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.

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)

Use in laboratories - Industrial

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

No exposure assessment presented for human health.

Exposure scenario Use in laboratories - Professional

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in laboratories - Professional
Process scope	Use of the substance within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a 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

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 1 tonnes/year
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.0005 tonnes
 Maximum daily site tonnage: 0.0014 kg

Use in laboratories - Professional

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.067 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.5
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.5
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

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: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1%

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 Risk from environmental exposure is driven by fresh water. No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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.

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)

Use in laboratories - Professional

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

No exposure assessment presented for human health.

Exposure scenario
Polymer processing - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Polymer processing - Industrial
Process scope	Processing of formulated polymers, including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers etc.), moulding, curing and forming activities, material reworks, storage and associated maintenance.
Main sector	SU3 Industrial uses
<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 4.21a.v1
<u>Worker</u>	

Polymer processing - 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 PROC6 Calendering operations. PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC13 Treatment of articles by dipping and pouring. PROC14 Tableting, compression, extrusion, pelletisation, granulation PROC21 Low energy manipulation and handling of substances bound in/on materials or articles
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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

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 3.9 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 3.9 tonnes
Maximum daily site tonnage: 200 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 130000 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
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.

Polymer processing - Industrial

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1%

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

Air	Treat air emission to provide a typical removal efficiency of 80%.
Water	Risk from environmental exposure is driven by fresh water. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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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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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Polymer processing - Professional

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Polymer processing - Professional
Process scope	Processing of formulated polymers, including material transfers, moulding and forming activities, material reworks and associated maintenance.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a 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 8.21b.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 PROC6 Calendering operations. PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC14 Tableting, compression, extrusion, pelletisation, granulation PROC21 Low energy manipulation and handling of substances bound in/on materials or articles
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Polymer processing - Professional

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

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 0.015 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.0000075 tonnes
Maximum daily site tonnage: 0.000021 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 0.001 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

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

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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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 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 95.1%

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	Risk from environmental exposure is driven by fresh water. No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%.

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

Polymer processing - Professional

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

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Water treatment chemicals - Industrial

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Water treatment chemicals - Industrial
Process scope	Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC3 Formulation into solid matrix ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 3.22a.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 PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Physical state	Liquid
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Water treatment chemicals - Industrial

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

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 43 tonnes/year
Fraction of Regional tonnage used locally: 0.71
Annual site tonnage: 30 tonnes
Maximum daily site tonnage: 100 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 100 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): 0.05
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.016
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.
Technical measures Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type Municipal STP.
STP details Assumed domestic sewage treatment plant flow: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 99.8%

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 Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite waste water. Onsite wastewater treatment required. Typical onsite wastewater treatment technology provides removal efficiency of 99.8%. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 96.4%.

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.

Water treatment chemicals - Industrial

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Water treatment - Professional

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Water treatment - Professional
Process scope	Covers the use of the substance for the treatment of water in open and closed systems.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8f Widespread use leading to inclusion into/onto article (outdoor)
SPERC	ESVOC SPERC 8.22b.v1

Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of 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 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
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.

Water treatment - Professional

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 43 tonnes/year
Fraction of Regional tonnage used locally: 0.035
Annual site tonnage: 1.5 tonnes
Maximum daily site tonnage: 4 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 4 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.01
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.39
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.
Technical measures Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type Municipal STP.
STP details Assumed domestic sewage treatment plant flow: 2000m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 97.9%

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 Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite waste water. Onsite wastewater treatment required. Typical onsite wastewater treatment technology provides removal efficiency of 97.9%. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 57.0%.

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.

3. Exposure estimation (Environment 1)

Water treatment - Professional

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)

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

3. Exposure estimation (Health 1)

[libraries.html](http://cefic.org/en/reach-for-industries-libraries.html)).

No exposure assessment presented for human health.

Exposure scenario Uses in Coatings - Consumer

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Uses in Coatings - Consumer
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.
Product category	PC1 Adhesives, sealants. PC4 Anti-freeze and de-icing products. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC9c Finger paints. PC15 Non-metal-surface treatment products. PC18 Ink and toners. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC31 Polishes and wax blends. PC34 Textile dyes and impregnating 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 8.3c.v1

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

Product characteristics

Uses in Coatings - Consumer

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

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 60 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.03 tonnes
Maximum daily site tonnage: 0.082 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 4 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): 0.985
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
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Risk management measures

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 95.1% Risk from environmental exposure is driven by fresh water.

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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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)

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

No exposure assessment presented for human health.

Exposure scenario Use in Cleaning Agents - Consumer

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.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
<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

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

Product characteristics

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

Amounts used

Use in Cleaning Agents - Consumer

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 30 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.015 tonnes
Maximum daily site tonnage: 0.041 kg

Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 2 kg/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from 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: 95.1%
Risk from environmental exposure is driven by fresh water.

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.

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)

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

Use in Cleaning Agents - Consumer

3. Exposure estimation (Health 1)

No exposure assessment presented for human health.

Exposure scenario Lubricants - Consumer Low Environmental Release

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Lubricants - Consumer Low Environmental 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

Environment

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

Amounts used

Lubricants - Consumer Low Environmental Release

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 20 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.01 tonnes
Maximum daily site tonnage: 0.027 kg

Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 1.3 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): 0.01
Emission factor - water Release fraction to wastewater from wide dispersive use: 0.01
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.01

Environmental factors not influenced by risk management measures

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

Risk management measures

STP type Municipal STP.
STP details Assumed domestic sewage treatment plant flow: 2000m³/day
Estimated substance removal from wastewater via domestic sewage treatment: 95.1%
Risk from environmental exposure is driven by fresh water.

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.

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)

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

Lubricants - Consumer Low Environmental Release

3. Exposure estimation (Health 1)

No exposure assessment presented for human health.

Exposure scenario Lubricants- Consumer High Environmental Release

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Lubricants- Consumer High Environmental 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

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 8.6e.v1

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

Product characteristics

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

Amounts used

Lubricants- Consumer High Environmental Release

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 20 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 0.01 tonnes
Maximum daily site tonnage: 0.027 kg

Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 1.3 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): 0.015
Emission factor - water Release fraction to wastewater from wide dispersive use: 0.05
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

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

Risk management measures

STP type Municipal STP.
STP details Assumed domestic sewage treatment plant flow: 2000m³/day
Estimated substance removal from wastewater via domestic sewage treatment: 95.1%
Risk from environmental exposure is driven by fresh water.

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.

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)

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

Lubricants- Consumer High Environmental Release

3. Exposure estimation (Health 1)

No exposure assessment presented for human health.

Exposure scenario Use in Agrochemicals - Consumer

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Use in Agrochemicals - Consumer
Process scope	Covers the consumer use in agrochemicals in liquid and solid forms.
Product category	PC12 Lawn and garden preparations (- fertilizers). PC27 Plant protection products.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a 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
Concentration details	Covers concentrations up to 100 %. Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 10 tonnes/year
Fraction of Regional tonnage used locally: 0.002
Annual site tonnage: 0.02 tonnes
Maximum daily site tonnage: 0.055 kg

Use in Agrochemicals - Consumer

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2.7 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: 0.01
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

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: 95.1%
Risk from environmental exposure is driven by fresh water.

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.

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Functional Fluids - Consumer

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.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
Concentration details	Covers concentrations up to 100 %. Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
 Regional use tonnage: 70 tonnes/year
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.035 tonnes
 Maximum daily site tonnage: 0.096 kg

Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 4.5 kg/day

Functional Fluids - Consumer

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

STP type Municipal STP.
STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Estimated substance removal from wastewater via domestic sewage treatment: 95.1%
Risk from environmental exposure is driven by fresh water.

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.

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)

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. 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)

libraries.html).

No exposure assessment presented for human health.

Exposure scenario Other Consumer Uses

Identification

Product name	Hydrocarbons, C11-C12, isoalkanes, <2% aromatics
REACH registration number	01-2119472146-39-XXXX
EC number	918-167-1
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com

1. Title of exposure scenario

Main title	Other Consumer Uses
Process scope	Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: for cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.
Product category	PC28 Perfumes, fragrances. PC39 Cosmetics, personal care.
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 8.16.v1

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

Product characteristics

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

Amounts used

