



SAFETY DATA SHEET HYDROCARBONS C9 AROMATICS

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

1.1. Product identifier

Product name	HYDROCARBONS C9 AROMATICS
Product number	23106
Synonyms; trade names	NAFTASOL P 100, SOLVENT NAPHTHA 100, REASOL, EVERSON 100, SOLVAREX 9, SOLVANT NAPHTHA 90-170, CAROMAX 18, SOLVENT NAPHTHA LIGHT 100, SOLVENT 100, SOLVESSO 100 AE, SOLVENT NAPHTHA B, SOLVENT AR310, NAPHTHA LIGHT 100, SOLVAREX 9 A
REACH registration number	01-2119455851-35-XXXX
CAS number	128601-23-0
EC number	918-668-5

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

Identified uses	Industrial Solvent Agriculture Cleaning agent. Laboratory reagent. Lubricant. Polymers Water treatment. For further information, see attached Exposure Scenario.
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1.3. Details of the supplier of the safety data sheet

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

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	23106

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

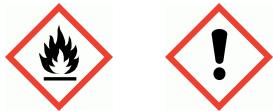
Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 3 - H226
Health hazards	STOT SE 3 - H335, H336 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Chronic 2 - H411

2.2. Label elements

EC number	918-668-5
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HYDROCARBONS C9 AROMATICS

Hazard pictograms

Signal word

Danger

Hazard statements

H226 Flammable liquid and vapour.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H304 May be fatal if swallowed and enters airways.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P331 Do NOT induce vomiting.
 P501 Dispose of contents/ container in accordance with national regulations.

Supplemental label information

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients
3.1. Substances

Product name HYDROCARBONS C9 AROMATICS

REACH registration number 01-2119455851-35-XXXX

CAS number 128601-23-0

EC number 918-668-5

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures
4.1. Description of first aid measures

Inhalation Remove person to fresh air and keep comfortable for breathing. Get medical attention.

Ingestion Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist after washing.

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

Inhalation Vapours may cause headache, fatigue, dizziness and nausea. May cause respiratory irritation.

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Ingestion	Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	May cause temporary eye irritation.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Flammable liquid and vapour. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapours may form explosive mixtures with air.
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5.3. Advice for firefighters

Protective actions during firefighting	Containers close to fire should be removed or cooled with water. Avoid the spillage or runoff entering drains, sewers or watercourses. Contain and collect extinguishing water.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	No smoking, sparks, flames or other sources of ignition near spillage. Avoid the spillage or runoff entering drains, sewers or watercourses. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Use only non-sparking tools. Ground/bond container and receiving equipment.
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6.2. Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	No smoking, sparks, flames or other sources of ignition near spillage. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely.
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6.4. Reference to other sections

Reference to other sections	Wear protective clothing as described in Section 8 of this safety data sheet.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Provide adequate ventilation. Avoid heat, flames and other sources of ignition. Avoid inhalation of vapours/spray and contact with skin and eyes.
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Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Avoid contact with oxidising agents. Avoid exposure to high temperatures or direct sunlight.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

100 mg/m³, 19 ppm, TWA Manuf. data

DNEL Industry - Dermal; : 25 mg/kg/day
Industry - Inhalation; : 150 mg/m³
Consumer - Dermal; : 11 mg/kg/day
Consumer - Inhalation; : 32 mg/m³
Consumer - Oral; : 11 mg/kg/day

8.2. Exposure controls

Protective equipment



Appropriate engineering controls Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients. Use explosion-proof electrical, ventilating and lighting equipment. Provide eyewash station and safety shower.

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

Hand protection The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 8 hours. Nitrile rubber. Viton rubber (fluoro rubber). To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection Wear suitable protective clothing as protection against splashing or contamination. For the greatest protection, clothing should include anti-static overalls, boots and gloves.

Hygiene measures When using do not eat, drink or smoke. Wash after use and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas.

Respiratory protection If ventilation is inadequate, suitable respiratory protection must be worn. Gas filter, type A2. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

HYDROCARBONS C9 AROMATICS

Appearance	Clear liquid.
Colour	Colourless.
Odour	Aromatic.
Odour threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	140 - 200°C
Flash point	> 35°C
Evaporation rate	< 1 (butyl acetate = 1)
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	<0.1 kPa
Vapour density	>1
Relative density	0.801 - 0.951 @ 15°C
Bulk density	800 kg/m³
Solubility(ies)	Insoluble in water.
Partition coefficient	log Pow: < 4.5
Auto-ignition temperature	>400°C
Decomposition Temperature	No information available.
Viscosity	< 1 cSt @ 20°C
Explosive properties	No information available.
Explosive under the influence of a flame	No information available.
Oxidising properties	No information available.
<u>9.2. Other information</u>	
Other information	No information available.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	125
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

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SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Not determined.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 3,492.0

Species Rat

Notes (oral LD₅₀) OECD 401

ATE oral (mg/kg) 3,492.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 3,160.0

Species Rabbit

Notes (dermal LD₅₀) OECD 402

ATE dermal (mg/kg) 3,160.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LD₅₀ >6193 mg/m³, Inhalation, Rat OECD 403

Skin corrosion/irritation

Animal data Causes mild skin irritation. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Not irritating. Rabbit

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Not sensitising. Guinea pig

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Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

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

Specific target organ toxicity - single exposure

STOT - single exposure May cause drowsiness or dizziness. May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

General information Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

Inhalation May cause respiratory irritation. May cause drowsiness or dizziness.

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

Skin contact Repeated exposure may cause skin dryness or cracking.

Eye contact May cause temporary eye irritation.

SECTION 12: Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity Toxic to aquatic life.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 9.2 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 3.2 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 2.9 mg/l, Algae
NOEC, 72 hours: 1 mg/l, Pseudokirchneriella subcapitata

Chronic aquatic toxicity

Chronic toxicity - fish early life stage NOEC, 28 days: 1.23 mg/l, Oncorhynchus mykiss (Rainbow trout)
QSAR

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 2.14 mg/l, Daphnia magna
QSAR

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

Biodegradation - 78%: 28 days
OECD 301F

12.3. Bioaccumulative potential

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Bioaccumulative potential No information available.

Partition coefficient log Pow: < 4.5

12.4. Mobility in soil

Mobility The product is insoluble in water.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

Other adverse effects No information required.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Do not discharge into drains or watercourses or onto the ground.

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

SECTION 14: Transport information

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

14.1. UN number

UN No. (ADR/RID) 1268

UN No. (IMDG) 1268

UN No. (ICAO) 1268

UN No. (ADN) 1268

14.2. UN proper shipping name

Proper shipping name (ADR/RID) PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (CONTAINS HYDROCARBONS C9 AROMATICS)

Proper shipping name (IMDG) PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (HYDROCARBONS C9 AROMATICS)

Proper shipping name (ICAO) PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (CONTAINS HYDROCARBONS C9 AROMATICS)

Proper shipping name (ADN) PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S. (CONTAINS HYDROCARBONS C9 AROMATICS)

14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID classification code F1

ADR/RID label 3

IMDG class 3

ICAO class/division 3

ADN class 3

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Transport labels



14.4. Packing group

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

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

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

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

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. This product may impact SEVESO storage regulations.
Restrictions (Annex XVII Regulation 1907/2006)	This product is/contains a substance that is included in REGULATION (EC) No 1907/2006 (REACH) ANNEX XVII - RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES. Entry number: 3
Seveso Directive - Control of major accident hazards	P5c E2

15.2. Chemical safety assessment

HYDROCARBONS C9 AROMATICS

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

Korea - KECDI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

SECTION 16: Other information

HYDROCARBONS C9 AROMATICS

Abbreviations and acronyms used in the safety data sheet	<p>ATE: Acute Toxicity Estimate.</p> <p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.</p> <p>CAS: Chemical Abstracts Service.</p> <p>DNEL: Derived No Effect Level.</p> <p>IATA: International Air Transport Association.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>Kow: Octanol-water partition coefficient.</p> <p>LC₅₀: Lethal Concentration to 50 % of a test population.</p> <p>LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>PNEC: Predicted No Effect Concentration.</p> <p>REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.</p> <p>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p> <p>IARC: International Agency for Research on Cancer.</p> <p>MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.</p> <p>cATpE: Converted Acute Toxicity Point Estimate.</p> <p>BCF: Bioconcentration Factor.</p> <p>BOD: Biochemical Oxygen Demand.</p> <p>EC₅₀: 50% of maximal Effective Concentration.</p> <p>LOAEC: Lowest Observed Adverse Effect Concentration.</p> <p>LOAEL: Lowest Observed Adverse Effect Level.</p> <p>NOAEC: No Observed Adverse Effect Concentration.</p> <p>NOAEL: No Observed Adverse Effect Level.</p> <p>NOEC: No Observed Effect Concentration.</p> <p>LOEC: Lowest Observed Effect Concentration.</p> <p>DMEL: Derived Minimal Effect Level.</p> <p>EL50: Exposure Limit 50</p> <p>hPa: Hectopascal</p> <p>LL50: Lethal Loading fifty</p> <p>OECD: Organisation for Economic Co-operation and Development</p> <p>POW: Octanol-water partition coefficient</p> <p>SCBA: self-contained breathing apparatus</p> <p>STP: Sewage Treatment Plant</p> <p>VOC: Volatile Organic Compounds</p>
Classification abbreviations and acronyms	<p>Acute Tox. = Acute toxicity</p> <p>Aquatic Acute = Hazardous to the aquatic environment (acute)</p> <p>Aquatic Chronic = Hazardous to the aquatic environment (chronic)</p>
Key literature references and sources for data	Supplier's information.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	10/01/2023
Version number	4.001
Supersedes date	23/10/2019
SDS number	23106

HYDROCARBONS C9 AROMATICS

SDS status	Approved.
Hazard statements in full	H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H411 Toxic to aquatic life with long lasting effects.
Signature	Jitendra Panchal

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



Exposure scenario Manufacture of substance

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

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

Environment

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

Manufacture of substance

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

Amounts used

Annual site tonnage: 24000 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 79000 kg
 Regional use tonnage: 24000 tonnes/year

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): 0.001
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.0003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 10000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 90%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Risk from environmental exposure is driven by freshwater sediment. Typical onsite wastewater treatment technology provides removal efficiency of 15.9%.

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

Manufacture of substance

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Technical protective measures	Drain down and flush system prior to equipment break-in or maintenance. PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities Provide enhanced general ventilation by mechanical means.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the PETRORISK model. Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Health 1)

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



Exposure scenario Distribution of substance

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Distribution of substance
Process scope	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals

Environment

Environmental release category	ERC1 Manufacture of the substance ERC2 Formulation into mixture
SPERC	ESVOC SPERC 1.1b.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 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC15 Use as laboratory reagent.
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Distribution of substance

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

Product characteristics

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

Amounts used

Annual site tonnage: 1 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0012
 Maximum daily site tonnage: 50 kg
 Regional use tonnage: 850 tonnes/year
 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): 0.00001
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): 0.00001

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 90%.
Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Distribution of substance

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
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Concentration details	Covers concentrations up to 100 %.
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Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Technical protective measures	Drain down and flush system prior to equipment break-in or maintenance. PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities Provide enhanced general ventilation by mechanical means.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Health 1)

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



Exposure scenario Formulation and (re)packing of substances and mixtures

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

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

Formulation and (re)packing of substances and mixtures

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

Product characteristics

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

Amounts used

Annual site tonnage: 730 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 7300 kg
 Regional use tonnage: 730 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 310000 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): 0.01
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.0002
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

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

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

Formulation and (re)packing of substances and mixtures

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical protective measures	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Ensure material transfers are under containment or extract ventilation. 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 Tabletting, compression, extrusion, pelletisation, granulation Provide enhanced general ventilation by mechanical means.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities Bulk transfers Avoid carrying out operation for more than 1 hour.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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Formulation and (re)packing of substances and mixtures

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

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



Exposure scenario Use in Coatings - Industrial

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in Coatings - Industrial
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 4.3a.v1
<u>Worker</u>	

Use in Coatings - Industrial

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC10 Roller application or brushing PROC13 Treatment of articles by dipping and pouring. PROC14 Tabletting, compression, extrusion, pelletisation, granulation PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

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

Amounts used

Annual site tonnage: 7600 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 25000 kg
 Regional use tonnage: 7600 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 88000 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.01
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.0002
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.

Use in Coatings - Industrial

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 90%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by freshwater sediment. Typical onsite wastewater treatment technology provides removal efficiency of 77.7%.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical protective measures	Provide enhanced general ventilation by mechanical means. PROC7 Industrial spraying Spraying (automatic/robotic) Carry out in a vented booth provided with laminar airflow.
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Risk management measures

- PROC7 Industrial spraying
- Manual spraying
- Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

Use in Coatings - Industrial

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

3. Exposure estimation (Health 1)

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

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

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

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



Exposure scenario Use in Cleaning Agents - Industrial

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Industrial
Process scope	Covers the use as a component of cleaning products, including transfer from storage, pouring/unloading from drums or containers and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 4.4a.v1
<u>Worker</u>	
Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC7 Industrial spraying PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC10 Roller application or brushing PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Use in Cleaning Agents - Industrial

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.
<u>Amounts used</u>	
Annual site tonnage: 100 tonnes Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 0.32 Maximum daily site tonnage: 5000 kg Regional use tonnage: 320 tonnes/year Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 8300000 kg/day	
<u>Frequency and duration of use</u>	
Continuous release. Emission days: 100 days/year	
<u>Other given operational conditions affecting environmental exposure</u>	
Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.3
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.000003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0
<u>Environmental factors not influenced by risk management measures</u>	
Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
<u>Risk management measures</u>	
Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
<u>Technical onsite conditions and measures to reduce or limit discharges to air, water and soil</u>	
Air	Treat air emission to provide a typical removal efficiency of 70%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.
<u>Conditions and measures related to external treatment of waste for disposal</u>	
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.
<u>Conditions and measures related to external recovery of waste</u>	
Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Use in Cleaning Agents - Industrial

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

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Provide enhanced general ventilation by mechanical means.

Risk management measures

PROC7 Industrial spraying

Manual spraying

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

, or:

Avoid carrying out operation for more than 1 hour.

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

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



Exposure scenario Lubricants - Industrial

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Lubricants - Industrial
Process scope	Covers the use of formulated lubricants in closed and open systems, including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.
Main sector	SU3 Industrial uses
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	
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

Lubricants - 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

Annual site tonnage: 100 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.14
 Maximum daily site tonnage: 5000 kg
 Regional use tonnage: 700 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2100000 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): 0.0015
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.001

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 70%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

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

Lubricants - Industrial

Conditions and measures related to external recovery of waste

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

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

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Drain down and flush system prior to equipment break-in or maintenance. Provide enhanced general ventilation by mechanical means. PROC7 Industrial spraying Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

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



Exposure scenario
Metal working fluids / rolling oils - Industrial

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Metal working fluids / rolling oils - Industrial
Process scope	Covers the use in formulated MWFs/rolling oils, including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 4.7a.v1
<u>Worker</u>	

Metal working fluids / rolling oils - Industrial

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

Product characteristics

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

Amounts used

Annual site tonnage: 10 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 5000 kg
 Regional use tonnage: 10 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 940244 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): 0.00003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

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

Metal working fluids / rolling oils - Industrial

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 70%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical protective measures	Drain down and flush system prior to equipment break-in or maintenance. Provide enhanced general ventilation by mechanical means. PROC7 Industrial spraying Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

3. Exposure estimation (Health 1)

Metal working fluids / rolling oils - Industrial

Assessment method

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

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

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

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



Exposure scenario

Use as binders and release agents - Industrial

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as binders and release agents - Industrial
Process scope	Covers the use as binders and release agents, including material transfers, mixing, application (including spraying and brushing), mould forming and casting and handling of waste.
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC5 Use at industrial site leading to inclusion into/onto article
SPERC	ESVOC SPERC 4.10a.v1
Worker	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC6 Calendering operations. PROC7 Industrial spraying PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC10 Roller application or brushing PROC14 Tabletting, compression, extrusion, pelletisation, granulation

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

Product characteristics

Use as binders and release agents - Industrial

Physical state	Liquid
Concentration details	<p>Covers concentrations up to 100 %.</p> <p>Predominantly hydrophobic. Substance is complex UVCB.</p>
<u>Amounts used</u>	<p>Annual site tonnage: 70 tonnes</p> <p>Fraction of EU tonnage used in region: 0.1</p> <p>Fraction of Regional tonnage used locally: 1</p> <p>Maximum daily site tonnage: 3500 kg</p> <p>Regional use tonnage: 70 tonnes/year</p> <p>Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 7444132 kg/day</p>
<u>Frequency and duration of use</u>	
	<p>Continuous release.</p> <p>Emission days: 20 days/year</p>
<u>Other given operational conditions affecting environmental exposure</u>	
Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.2
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.000003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0
<u>Environmental factors not influenced by risk management measures</u>	
Dilution	<p>Local freshwater dilution factor: 10</p> <p>Local marine water dilution factor: 100</p>
<u>Risk management measures</u>	
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	<p>Assumed domestic sewage treatment plant flow: 2000 m³/day</p> <p>Estimated substance removal from wastewater via domestic sewage treatment: 93.6%</p> <p>Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%</p>
<u>Technical onsite conditions and measures to reduce or limit discharges to air, water and soil</u>	
Air	Treat air emission to provide a typical removal efficiency of 80%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.
<u>Conditions and measures related to external treatment of waste for disposal</u>	
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.
<u>Conditions and measures related to external recovery of waste</u>	
Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Use as binders and release agents - Industrial

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

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Provide enhanced general ventilation by mechanical means. PROC7 Industrial spraying
Spraying/fogging by machine application Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Risk management measures

PROC7 Industrial spraying

Manual spraying

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

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

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



Exposure scenario Functional Fluids - Industrial

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Functional Fluids - Industrial
Process scope	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment, including maintenance and related material transfers.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC7 Use of functional fluid at industrial site
SPERC	ESVOC SPERC 7.13a.v1
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

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

Product characteristics

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

Functional Fluids - Industrial

Predominantly hydrophobic. Substance is complex UVCB.

Amounts used

Annual site tonnage: 10 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.67
 Maximum daily site tonnage: 500 kg
 Regional use tonnage: 15 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 940245 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.005
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00003
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.001

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Functional Fluids - Industrial

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Provide enhanced general ventilation by mechanical means. Drain down and flush system prior to equipment break-in or maintenance.

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

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



Exposure scenario Use in laboratories - Industrial

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

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

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

Product characteristics

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

Amounts used

Use in laboratories - Industrial

Annual site tonnage: 2 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.8
 Maximum daily site tonnage: 100 kg
 Regional use tonnage: 2.5 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 3100 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 20 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.025
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.02
Emission factor - soil	Release fraction to soil from 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: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by freshwater sediment.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

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

Use in laboratories - Industrial

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Technical protective measures Provide enhanced general ventilation by mechanical means.

3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Health 1)

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



Exposure scenario Polymer processing - Industrial

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	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
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC7 Use of functional fluid at industrial site
SPERC	ESVOC SPERC 4.21a.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 Tabletting, 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

Annual site tonnage: 52 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 2595 kg
 Regional use tonnage: 52 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 8145482 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): 0.00001
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Polymer processing - Industrial

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical protective measures	Drain down and flush system prior to equipment break-in or maintenance. Provide enhanced general ventilation by mechanical means. PROC6 Calendering operations. PROC14 Tabletting, compression, extrusion, pelletisation, granulation Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

Polymer processing - Industrial

3. Exposure estimation (Health 1)

Assessment method

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

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

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

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



**Exposure scenario
Water treatment chemicals - Industrial**

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

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

Water treatment chemicals - Industrial

Amounts used

Annual site tonnage: 30 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.54
 Maximum daily site tonnage: 100 kg
 Regional use tonnage: 55 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 110 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): 0.56
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by freshwater sediment. Typical onsite wastewater treatment technology provides removal efficiency of 92.9%.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Water treatment chemicals - Industrial

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Drain down and flush system prior to equipment break-in or maintenance. Provide enhanced general ventilation by mechanical means.

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

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



Exposure scenario Use in Coatings - Professional

Identification

Product name HYDROCARBONS C9 AROMATICS

REACH registration number 01-2119455851-35-XXXX

EC number 918-668-5

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

1. Title of exposure scenario

Main title Use in Coatings - Professional

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

Main sector SU22 Professional uses

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 8.3b.v1

Worker

Use in Coatings - Professional

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC19 Manual activities involving hand contact
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

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

Amounts used

Annual site tonnage: 1.1 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 3 kg
 Regional use tonnage: 2200 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 4700 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.

Use in Coatings - Professional

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by soil.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical protective measures	Provide enhanced general ventilation by mechanical means. , or: Ensure operation is undertaken outdoors. PROC10 Roller application or brushing Indoor. Carry out in a vented booth or extracted enclosure.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	PROC11 Non industrial spraying Indoor. Avoid carrying out operation for more than 1 hour. PROC11 Non industrial spraying Outdoor. Avoid carrying out operation for more than 15 minutes. PROC19 Manual activities involving hand contact Indoor. Avoid carrying out operation for more than 4 hours. PROC19 Manual activities involving hand contact Outdoor. Avoid carrying out operation for more than 15 minutes.
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Risk management measures

PROC10 Roller application or brushing
Outdoor.
Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation (Environment 1)

Use in Coatings - 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)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

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



Exposure scenario Use in Cleaning Agents - Professional

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Professional
Process scope	Covers the use as a component of cleaning products, including pouring/unloading from drums or containers and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand).
Main sector	SU22 Professional uses
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 8.4b.v1
Worker	
Process category	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Use in Cleaning Agents - Professional

Physical state	Liquid
Concentration details	<p>Covers concentrations up to 100 %.</p> <p>Predominantly hydrophobic. Substance is complex UVCB.</p>
<u>Amounts used</u>	<p>Annual site tonnage: 0.001 tonnes</p> <p>Fraction of EU tonnage used in region: 0.1</p> <p>Fraction of Regional tonnage used locally: 0.0005</p> <p>Maximum daily site tonnage: 0.0027 kg</p> <p>Regional use tonnage: 2 tonnes/year</p> <p>Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 7.1 kg/day</p>
<u>Frequency and duration of use</u>	
	<p>Continuous release.</p> <p>Emission days: 365 days/year</p>
<u>Other given operational conditions affecting environmental exposure</u>	
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
<u>Environmental factors not influenced by risk management measures</u>	
Dilution	<p>Local freshwater dilution factor: 10</p> <p>Local marine water dilution factor: 100</p>
<u>Risk management measures</u>	
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	<p>Assumed domestic sewage treatment plant flow: 2000 m³/day</p> <p>Estimated substance removal from wastewater via domestic sewage treatment: 93.6%</p> <p>Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%</p>
<u>Technical onsite conditions and measures to reduce or limit discharges to air, water and soil</u>	
Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.
<u>Conditions and measures related to external treatment of waste for disposal</u>	
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.
<u>Conditions and measures related to external recovery of waste</u>	
Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Use in Cleaning Agents - Professional

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

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Provide enhanced general ventilation by mechanical means. , or: Ensure operation is undertaken outdoors.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures PROC10 Roller application or brushing Limit the substance content in the product to 25%.
 PROC11 Non industrial spraying Indoor. Limit the substance content in the product to 1%.
 PROC11 Non industrial spraying Outdoor. Avoid carrying out activities involving exposure for more than 4 hours. Limit the substance content in the product to 1%. , or: Limit the substance content in the product to 25%.

Risk management measures

PROC11 Non industrial spraying

Outdoor.

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

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

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



Exposure scenario
Use in oil field drilling and production operations - Professional

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in oil field drilling and production operations - Professional
Process scope	Oil field well drilling operations (including drilling muds and well cleaning), including material transfers, onsite formulation, well head operations, shaker room activities and related maintenance.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.5b.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

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

Product characteristics

Physical state	Liquid
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Use in oil field drilling and production operations - Professional

Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.
<u>Amounts used</u>	
	Fraction of EU tonnage used in region: 0.1 Regional use tonnage: 455.3 tonnes/year
<u>Risk management measures</u>	
Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Discharge to aquatic environment is restricted (see Section 4.2).
<u>Conditions and measures related to external treatment of waste for disposal</u>	
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
<u>Conditions and measures related to external recovery of waste</u>	
Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
2. Conditions of use affecting exposure (Workers - Health 1)	
<u>Product characteristics</u>	
Physical state	Liquid
Concentration details	Covers concentrations up to 100 %.
<u>Frequency and duration of use</u>	
	Covers daily exposures up to 8 hours (unless stated differently).
<u>Other given operational conditions affecting workers exposure</u>	
Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented.
<u>Technical conditions and measures at process level (source) to prevent release</u>	
Technical protective measures	Provide enhanced general ventilation by mechanical means. Drain down system prior to equipment break-in or maintenance. Avoid dip sampling.
<u>Risk management measures</u>	
	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Drilling mud (re-)formulation Wear chemically-resistant gloves (tested to EN374) in combination with intensive management supervision controls.
3. Exposure estimation (Environment 1)	
	Qualitative approach used to conclude safe use. Quantitative exposure and risk assessment not possible due to lack of emissions to aquatic environment.
4. Guidance to check compliance with the exposure scenario (Environment 1)	
	Discharge to aquatic environment is restricted by law and industry prohibits release.
3. Exposure estimation (Health 1)	

Use in oil field drilling and production operations - Professional

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

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



Exposure scenario Lubricants - Professional (Low Release)

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119473851-33-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Lubricants - Professional (Low Release)
Process scope	Covers the use of formulated lubricants in closed and open systems, including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
SPERC	ESVOC SPERC 9.6b.v1
<u>Worker</u>	

Lubricants - Professional (Low Release)

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

Product characteristics

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

Amounts used

Annual site tonnage: 0.0058 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 0.016 kg
 Regional use tonnage: 12 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 49 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): 0.01
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.

Lubricants - Professional (Low Release)

STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
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Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Technical protective measures	Provide enhanced general ventilation by mechanical means. Provide extract ventilation to points where emissions occur. Drain or remove substance from equipment prior to break-in or maintenance. PROC17 Lubrication at high energy conditions in metal working operations Limit the substance content in the product to 5%.
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Risk management measures

Lubricants - Professional (Low Release)

PROC10 Roller application or brushing

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

, or:

Limit the substance content in the product to 25%.

PROC11 Non industrial spraying

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

, or:

Avoid carrying out operation for more than 1 hour.

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

PROC13 Treatment of articles by dipping and pouring.

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

, or:

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

3. Exposure estimation (Environment 1)

Assessment method

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

Assessment method

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

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

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

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



**Exposure scenario
Lubricants - Professional (High Release)**

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119473851-33-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Lubricants - Professional (High Release)
Process scope	Covers the use of formulated lubricants in closed and open systems, including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Main sector	SU22 Professional uses
<u>Environment</u>	
SPERC	ESVOC SPERC 8.6c.v1
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) 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

Lubricants - Professional (High Release)

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

Product characteristics

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

Amounts used

Annual site tonnage: 0.0058 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 0.016 kg
 Regional use tonnage: 12 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 48 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): 0.15
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.05
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.05

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Lubricants - Professional (High Release)

Conditions and measures related to external recovery of waste

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

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

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Technical protective measures Provide enhanced general ventilation by mechanical means. Provide extract ventilation to points where emissions occur. Drain or remove substance from equipment prior to break-in or maintenance. PROC17 Lubrication at high energy conditions in metal working operations
Limit the substance content in the product to 5%.

Risk management measures

PROC10 Roller application or brushing

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

, or:

Limit the substance content in the product to 25%.

PROC11 Non industrial spraying

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

, or:

Avoid carrying out operation for more than 1 hour.

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

PROC13 Treatment of articles by dipping and pouring.

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

, or:

Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

Lubricants - Professional (High Release)

Assessment method

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

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

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

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



Exposure scenario Metal working fluids / rolling oils - Professional

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119473851-33-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Metal working fluids / rolling oils - Professional
Process scope	Covers the use in formulated MWFs, including transfer operations, open and contained cutting/machining activities, automated and manual application of corrosion protections, draining and working on contaminated/ reject articles and disposal of waste oils.
Main sector	SU22 Professional uses
<u>Environment</u>	
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 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

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

Product characteristics

Metal working fluids / rolling oils - Professional

Physical state	Liquid
Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.
<u>Amounts used</u>	
Annual site tonnage: 0.005 tonnes Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 0.0005 Maximum daily site tonnage: 0.014 kg Regional use tonnage: 10 tonnes/year Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 42 kg/day	
<u>Frequency and duration of use</u>	
Continuous release. Emission days: 365 days/year	
<u>Other given operational conditions affecting environmental exposure</u>	
Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.15
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.05
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.05
<u>Environmental factors not influenced by risk management measures</u>	
Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
<u>Risk management measures</u>	
Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
<u>Technical onsite conditions and measures to reduce or limit discharges to air, water and soil</u>	
Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.
<u>Conditions and measures related to external treatment of waste for disposal</u>	
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.
<u>Conditions and measures related to external recovery of waste</u>	
Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Metal working fluids / rolling oils - Professional

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

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Provide enhanced general ventilation by mechanical means. Provide extract ventilation to points where emissions occur. Drain or remove substance from equipment prior to break-in or maintenance. PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions in metal working operations Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Risk management measures

PROC11 Non industrial spraying

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

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

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



Exposure scenario
Use as binders and release agents - Professional

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119473851-33-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as binders and release agents - Professional
Process scope	Covers the use as binders and release agents, including material transfers, mixing, application by spraying, brushing and handling of waste.
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 8.10b.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 PROC6 Calendering operations. 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 PROC14 Tabletting, compression, extrusion, pelletisation, granulation

Use as binders and release agents - 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

Annual site tonnage: 0.015 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 0.041 kg
 Regional use tonnage: 30 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 123 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

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

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMS: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Use as binders and release agents - 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.

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

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Provide enhanced general ventilation by mechanical means. PROC11 Non industrial spraying PROC14 Tabletting, compression, extrusion, pelletisation, granulation Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures PROC10 Roller application or brushing Avoid carrying out operation for more than 4 hours.

Risk management measures

PROC6 Calendering operations.

Casting operations

PROC11 Non industrial spraying

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

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

Use as binders and release agents - Professional

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



Exposure scenario Agrochemical uses - Professional

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119473851-33-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Agrochemical uses - Professional
Process scope	Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging, including equipment clean-downs and disposal.
Main sector	SU22 Professional uses
<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 8.11a.v1
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Physical state	Liquid
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Agrochemical uses - Professional

Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.
<u>Amounts used</u>	
	Annual site tonnage: 1.2 tonnes
	Fraction of EU tonnage used in region: 0.1
	Fraction of Regional tonnage used locally: 0.002
	Maximum daily site tonnage: 3.4 kg
	Regional use tonnage: 610 tonnes/year
	Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 4740 kg/day
<u>Frequency and duration of use</u>	
	Continuous release. Emission days: 365 days/year
<u>Other given operational conditions affecting environmental exposure</u>	
Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.9
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.09
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.01
<u>Environmental factors not influenced by risk management measures</u>	
Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
<u>Risk management measures</u>	
Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
<u>Technical onsite conditions and measures to reduce or limit discharges to air, water and soil</u>	
Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by soil.
<u>Conditions and measures related to external treatment of waste for disposal</u>	
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.
<u>Conditions and measures related to external recovery of waste</u>	
Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Agrochemical uses - Professional

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

Product characteristics

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

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Technical protective measures Provide enhanced general ventilation by mechanical means. Drain down system prior to equipment break-in or maintenance. PROC11 Non industrial spraying Spraying/fogging by machine application Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of > 20.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Disposal of wastes PROC13 Treatment of articles by dipping and pouring. Avoid carrying out operation for more than 1 hour.

Risk management measures

PROC11 Non industrial spraying
 Spraying/fogging by machine application
 Wear a respirator conforming to EN140 with Type A filter or better.
 PROC11 Non industrial spraying
 Spraying/fogging by manual application
 Wear a full-face respirator conforming to EN136 with Type A filter or better.

3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
	Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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

Agrochemical uses - Professional

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



Exposure scenario Functional Fluids - Professional

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Functional Fluids - Professional
Process scope	Use as functional fluids e.g. cable oils, transfer oils, insulators, refrigerants, hydraulic fluids in closed professional equipment, including incidental exposures during maintenance and related material transfers.
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
SPERC	ESVOC SPERC 9.13b.v1
Worker	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC20 Use of functional fluids in small devices

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

Product characteristics

Physical state	Liquid
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Functional Fluids - Professional

Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.
<u>Amounts used</u>	
	Annual site tonnage: 0.0075 tonnes
	Fraction of EU tonnage used in region: 0.1
	Fraction of Regional tonnage used locally: 0.0005
	Maximum daily site tonnage: 0.021 kg
	Regional use tonnage: 15 tonnes/year
	Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 63 kg/day
<u>Frequency and duration of use</u>	
	Continuous release. Emission days: 365 days/year
<u>Other given operational conditions affecting environmental exposure</u>	
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
<u>Environmental factors not influenced by risk management measures</u>	
Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
<u>Risk management measures</u>	
Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
<u>Technical onsite conditions and measures to reduce or limit discharges to air, water and soil</u>	
Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.
<u>Conditions and measures related to external treatment of waste for disposal</u>	
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.
<u>Conditions and measures related to external recovery of waste</u>	
Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Functional Fluids - Professional

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

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Use drum pumps or carefully pour from container. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) Remanufacture of reject articles Provide enhanced general ventilation by mechanical means.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) Remanufacture of reject articles Avoid carrying out activities involving exposure for more than 4 hours.

3. Exposure estimation (Environment 1)

Assessment method

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

Assessment method

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

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

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

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



Exposure scenario Road and construction applications

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Road and construction applications
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC8f Widespread use leading to inclusion into/onto article (outdoor)
SPERC	ESVOC SPERC 8.15.v1
<u>Worker</u>	
Process category	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC10 Roller application or brushing PROC11 Non industrial spraying PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

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

Amounts used

Road and construction applications

Annual site tonnage: 0.011 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 0.03 kg
 Regional use tonnage: 22 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 93 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.95
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.01
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.04

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

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

Road and construction applications

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Technical protective measures	Use drum pumps or carefully pour from container. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) Remanufacture of reject articles Provide enhanced general ventilation by mechanical means.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	PROC11 Non industrial spraying Spraying/fogging by machine application Elevated temperature Avoid carrying out activities involving exposure for more than 4 hours.
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Risk management measures

Wear a respirator conforming to EN140 with Type A filter or better.
PROC11 Non industrial spraying
Wear a full-face respirator conforming to EN136 with Type A filter or better.

3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Health 1)

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



Exposure scenario Use in laboratories - Professional

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

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

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

Product characteristics

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

Amounts used

Use in laboratories - Professional

Annual site tonnage: 0.001 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Maximum daily site tonnage: 0.0027 kg
 Regional use tonnage: 2 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 93 kg/day

Frequency and duration of use

Continuous release.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.5
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.5

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

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

Use in laboratories - Professional

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

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

Technical protective measures Handle in a fume cupboard or under extract ventilation.

3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
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4. Guidance to check compliance with the exposure scenario (Health 1)

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



Exposure scenario Polymer processing - Professional

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	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
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC7 Use of functional fluid at industrial site
SPERC	ESVOC SPERC 8.21b.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 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 Tabletting, compression, extrusion, pelletisation, granulation PROC21 Low energy manipulation and handling of substances bound in/on materials or articles

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

Product characteristics

Physical state	Liquid
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Polymer processing - Professional

Concentration details	Covers concentrations up to 100 %. Predominantly hydrophobic. Substance is complex UVCB.
<u>Amounts used</u>	
	Annual site tonnage: 0.03 tonnes
	Fraction of EU tonnage used in region: 0.1
	Fraction of Regional tonnage used locally: 0.0005
	Maximum daily site tonnage: 0.082 kg
	Regional use tonnage: 60 tonnes/year
	Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 249 kg/day
<u>Frequency and duration of use</u>	
	Continuous release. Emission days: 365 days/year
<u>Other given operational conditions affecting environmental exposure</u>	
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
<u>Environmental factors not influenced by risk management measures</u>	
Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
<u>Risk management measures</u>	
Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%
<u>Technical onsite conditions and measures to reduce or limit discharges to air, water and soil</u>	
Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by fresh water.
<u>Conditions and measures related to external treatment of waste for disposal</u>	
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.
<u>Conditions and measures related to external recovery of waste</u>	
Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Polymer processing - Professional

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

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Equipment maintenance Drain down system prior to equipment break-in or maintenance. PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities Material transfers Provide enhanced general ventilation by mechanical means. PROC6 Calendering operations. PROC14 Tabletting, compression, extrusion, pelletisation, granulation Minimise exposure by extracted full enclosure for the operation or equipment.

Risk management measures

PROC21 Low energy manipulation and handling of substances bound in/on materials or articles

Rework of articles

Wear chemically-resistant gloves (tested to EN374) in combination with intensive management supervision controls.

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

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



**Exposure scenario
Water treatment chemicals - Professional**

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Water treatment chemicals - Professional
Process scope	Covers the use of the substance for the treatment of water in open and closed systems.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC7 Use of functional fluid at industrial site
SPERC	ESVOC SPERC 8.22b.v1
<u>Worker</u>	
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.

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 chemicals - Professional

Amounts used

Annual site tonnage: 1.5 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.059
 Maximum daily site tonnage: 4 kg
 Regional use tonnage: 25 tonnes/year
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 48 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: 0.99
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0

Environmental factors not influenced by risk management measures

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

Good practice	Common practices vary across sites, thus conservative process release estimates used.
Technical measures	Prevent discharge of undissolved substance to or recover from onsite waste water.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 93.6%

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

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0%. Risk from environmental exposure is driven by soil. Typical onsite wastewater treatment technology provides removal efficiency of 23.9%.

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Water treatment chemicals - Professional

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

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

Assumes a good basic standard of occupational hygiene is implemented.

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

Technical protective measures Provide enhanced general ventilation by mechanical means. PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Equipment maintenance Drain down system prior to equipment break-in or maintenance.

3. Exposure estimation (Environment 1)

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in Section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.

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

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

3. Exposure estimation (Health 1)

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

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

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

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



Exposure scenario Use in Coatings - Consumer

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in Coatings - Consumer
Process scope	Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.
Product category	PC1 Adhesives, sealants. PC4 Anti-freeze and de-icing products. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC9c Finger paints. PC15 Non-metal-surface treatment products. PC18 Ink and toners. PC23 Leather treatment products PC24 Lubricants, greases and release products. PC31 Polishes and wax blends. PC34 Textile dyes and impregnating products
Main sector	SU21 Consumer uses

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 8.3c.v1
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Use in Coatings - Consumer

Physical state	Liquid
	Substance is complex UVCB. Predominantly hydrophobic.
<u>Amounts used</u>	
	Regional use tonnage: 270 tonnes/year
	Fraction of EU tonnage used in region: 0.1
	Fraction of Regional tonnage used locally: 0.0005
	Annual site tonnage: 0.13 tonnes
	Maximum daily site tonnage: 0.37 kg
	Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 830 kg/day

<u>Frequency and duration of use</u>	Emission days: 365 days/year Continuous release.
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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: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6%

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
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Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid
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Use in Coatings - Consumer

Concentration details	Covers concentrations up to 100 %. Unless otherwise stated. PC1 Adhesives, sealants. Covers concentrations up to 30 %. PC4_3 Lock de-icer PC9a_3 Aerosol spray can PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) PC23 Leather treatment products PC24_3 Sprays PC31 Polishes and wax blends. Covers concentrations up to 50 %. PC8_1 Laundry and dish-washing products PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) Covers concentrations up to 5 %. PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) Covers concentrations up to 15 %. PC9a_1 Water-borne latex wall paint Covers concentrations up to 1.5 %. PC9a_2 Solvent-rich, high-solid, water-borne paint Covers concentrations up to 27.5 %. PC9b_1 Fillers and putty PC9b_2 Plasters and floor equalisers Covers concentrations up to 2 %. PC4_1 Washing car window PC9b_3 Modelling clay Covers concentrations up to 1 %. PC24_2 Pastes Covers concentrations up to 20 %. PC4_2 Pouring into radiator PC18 Ink and toners. PC34 Textile dyes and impregnating products Covers concentrations up to 10 %.
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Amounts used

Use in Coatings - Consumer

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

Unless otherwise stated.

PC1_1 Glues, hobby use

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

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

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

PC1_3 Glue from spray

PC9b_1 Fillers and putty

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

PC1_4 Sealants

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

PC4_1 Washing car window

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

PC4_2 Pouring into radiator

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

PC4_3 Lock de-icer

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

PC8_1 Laundry and dish-washing products

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

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

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

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

PC31_2 Polishes, spray (furniture, shoes)

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

PC9a_1 Water-borne latex wall paint

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

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

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

PC9a_3 Aerosol spray can

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

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

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

PC18 Ink and toners.

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

PC23 Leather treatment products

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

PC24_1 Liquids

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

PC24_2 Pastes

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

PC24_3 Sprays

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

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

For each use event, covers use amounts up to 142 g.

PC34 Textile dyes and impregnating products

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

Frequency and duration of use

Use in Coatings - Consumer

Covers daily exposure up to 6hours
Unless otherwise stated.

PC1_1 Glues, hobby use
PC1_3 Glue from spray
PC9b_1 Fillers and putty
Covers exposure up to 4 hours per event.
PC1_4 Sealants
PC34 Textile dyes and impregnating products
Covers exposure up to 1 hour per event.
PC4_1 Washing car window
Covers exposure up to 0.02 hours per event.
PC4_2 Pouring into radiator
PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)
PC24 Lubricants, greases and release products.
Covers exposure up to 0.17 hours per event.
PC4_3 Lock de-icer
Covers exposure up to 0.25 hours per event.
PC8_1 Laundry and dish-washing products
Covers exposure up to 0.5 hours per event.
PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)
PC9a_3 Aerosol spray can
PC31_2 Polishes, spray (furniture, shoes)
Covers exposure up to 0.33 hours per event.
PC9a_1 Water-borne latex wall paint
PC9a_2 Solvent-rich, high-solid, water-borne paint
PC18 Ink and toners.
Covers exposure up to 2.2 hours per event.
PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover)
PC9b_2 Plasters and floor equalisers
Covers exposure up to 2 hours per event.
PC31_1 Polishes, wax/cream (floor, furniture, shoes)
Covers exposure up to 1.23 hours per event.

PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers use up to 1 day(s)/year. PC1_3 Glue from spray PC9a_2 Solvent-rich, high-solid, water-borne paint
PC24_3 Sprays Covers use up to 6 day(s)/year. PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)
PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)
Covers use up to 128 day(s)/year. PC9a_1 Water-borne latex wall paint PC24_1 Liquids
Covers use up to 4 day(s)/year. PC9a_3 Aerosol spray can Covers use up to 2 day(s)/year.
PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) Covers use up to 3 day(s)/year. PC9b_1 Fillers and putty PC9b_2 Plasters and floor equalisers Covers use up to 12 day(s)/year. PC31_1 Polishes, wax/cream (floor, furniture, shoes) Covers use up to 29 day(s)/year. PC31_2 Polishes, spray (furniture, shoes) Covers use up to 8 day(s)/year.
PC24_2 Pastes Covers use up to 10 day(s)/year.

Human factors not influenced by risk management

Use in Coatings - Consumer

Potentially exposed body parts	PC1_1 Glues, hobby use PC1_3 Glue from spray PC1_4 Sealants PC9b_1 Fillers and putty Covers skin contact area up to 35.73 cm ² . PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers skin contact area up to 110 cm ² . PC4_2 Pouring into radiator PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) PC9a_1 Water-borne latex wall paint PC9a_2 Solvent-rich, high-solid, water-borne paint PC31 Polishes and wax blends. Covers skin contact area up to 428.75 cm ² . PC4_3 Lock de-icer Covers skin contact area up to 214.4 cm ² . PC8_1 Laundry and dish-washing products PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) PC9b_2 Plasters and floor equalisers PC34 Textile dyes and impregnating products Covers skin contact area up to 857.5 cm ² . PC9b_3 Modelling clay Covers skin contact area up to 254.4 cm ² . PC18 Ink and toners. Covers skin contact area up to 71.4 cm ² . PC24 Lubricants, greases and release products. Covers skin contact area up to 468 cm ² .
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Other given operational conditions affecting Non-industrial exposure

Temperature	Assumes activities are at ambient temperature (unless stated differently).
Room size	Covers use in room size of 20 m ³ . Unless otherwise stated. PC4 Anti-freeze and de-icing products. PC9a_3 Aerosol spray can PC24_1 Liquids Covers use in room size of 34 m ³ .
Ventilation rate	Covers use under typical household ventilation. Unless otherwise stated. PC4 Anti-freeze and de-icing products. PC9a_3 Aerosol spray can PC24_1 Liquids Covers use in a one car garage (34 m ³) under typical ventilation.

Other given operational conditions affecting Non-industrial exposure

Application area	PC9b_3 Modelling clay For each use event, avoid swallowing amounts more than 1 g. PC9c Finger paints For each use event, avoid swallowing amounts more than 1.35 g.
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3. Exposure estimation (Environment 1)

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

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

3. Exposure estimation (Health 1)

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

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



**Exposure scenario
Use in Cleaning Agents - Consumer**

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in Cleaning Agents - Consumer
Process scope	Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.
Product category	PC3 Air care products. PC4 Anti-freeze and de-icing products. PC8 Biocidal products PC9a Coatings and paints, thinners, paint removers. PC24 Lubricants, greases and release products. PC35 Washing and cleaning products PC38 Welding and soldering products, flux products
Main sector	SU21 Consumer uses

Environment

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

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

Product characteristics

Physical state	Liquid
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Use in Cleaning Agents - Consumer

Regional use tonnage: 5.1 tonnes/year
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.0026 tonnes
 Maximum daily site tonnage: 0.007 kg
 Maximum allowable site tonnage (Msafe): 18 kg/day

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

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

Environmental factors not influenced by risk management measures

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

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6%

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
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Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid, vapour pressure > 10 Pa (STP)
Concentration details	Covers concentrations up to 100 %. Unless otherwise stated. PC3 Air care products. PC4_3 Lock de-icer PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) PC24_3 Sprays Covers concentrations up to 50 %. PC4_1 Washing car window Covers concentrations up to 1 %. PC4_2 Pouring into radiator Covers concentrations up to 10 %. PC8_1 Laundry and dish-washing products PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) Covers concentrations up to 5 %. PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) Covers concentrations up to 15 %. PC24_2 Pastes PC38 Welding and soldering products, flux products Covers concentrations up to 20 %.

Amounts used

Use in Cleaning Agents - Consumer

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

PC3_1 Air care, instant action (aerosol sprays)

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

PC3_1 Air care, instant action (aerosol sprays)

Consumer use of pest control products

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

PC3_2 Air care, continuous action (solid and liquid)

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

PC4_1 Washing car window

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

PC4_2 Pouring into radiator

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

PC4_3 Lock de-icer

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

PC8_1 Laundry and dish-washing products

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

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

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

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

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

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

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

PC24_1 Liquids

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

PC24_2 Pastes

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

PC24_3 Sprays

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

PC38 Welding and soldering products, flux products

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

Frequency and duration of use

Use in Cleaning Agents - Consumer

Covers use up to 4 times per day.
 Unless otherwise stated.
 Covers exposure up to 8 hours per event.
 Unless otherwise stated.
 PC3_2 Air care, continuous action (solid and liquid)
 PC4_1 Washing car window
 PC4_2 Pouring into radiator
 PC4_3 Lock de-icer
 PC8_1 Laundry and dish-washing products
 PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)
 PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)
 PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover)
 PC24 Lubricants, greases and release products.
 PC38 Welding and soldering products, flux products
 Covers use up to 1 time per day.
 PC3_1 Air care, instant action (aerosol sprays)
 Covers exposure up to 0.25 hours per event.
 PC4_1 Washing car window
 Covers exposure up to 0.02 hours per event.
 PC4_2 Pouring into radiator
 PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)
 PC24 Lubricants, greases and release products.
 Covers exposure up to 0.17 hours per event.
 PC4_3 Lock de-icer
 Covers exposure up to 0.25 hours per event.
 PC8_1 Laundry and dish-washing products
 Covers exposure up to 0.5 hours per event.
 PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)
 Covers exposure up to 0.33 hours per event.
 PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover)
 Covers exposure up to 2 hours per event.
 PC38 Welding and soldering products, flux products
 Covers exposure up to 1 hour per event.
 Covers use up to 365 day(s)/year. Unless otherwise stated. PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) Covers use up to 128 day(s)/year. PC9a_4 Removers (paint-, glue-, wallpaper-, sealant-remover) Covers use up to 3 day(s)/year. PC24_1 Liquids Covers use up to 4 day(s)/year. PC24_2 Pastes Covers use up to 10 day(s)/year. PC24_3 Sprays Covers use up to 6 day(s)/year.

Human factors not influenced by risk management

Potentially exposed body parts	Covers skin contact area up to 857.5 cm ² . Unless otherwise stated. PC3_2 Air care, continuous action (solid and liquid) Covers skin contact area up to 35.73 cm ² . PC4_2 Pouring into radiator PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) PC24_3 Sprays Covers skin contact area up to 428.75 cm ² . PC4_3 Lock de-icer Covers skin contact area up to 214.4 cm ² . PC24_1 Liquids PC24_2 Pastes Covers skin contact area up to 468 cm ² .
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Other given operational conditions affecting Non-industrial exposure

Temperature	Assumes activities are at ambient temperature (unless stated differently).
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Use in Cleaning Agents - Consumer

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

3. Exposure estimation (Environment 1)

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

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

3. Exposure estimation (Health 1)

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

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



Exposure scenario Lubricants - Consumer (Low Release)

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Lubricants - Consumer (Low Release)
Process scope	Covers the consumer use of formulated lubricants in closed and open systems, including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.
Product category	PC1 Adhesives, sealants. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.
Main sector	SU21 Consumer uses

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
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Lubricants - Consumer (Low Release)

Regional use tonnage: 12 tonnes/year
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.0058 tonnes
 Maximum daily site tonnage: 0.016 kg
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 49 kg/day

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

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

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6%

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
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Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

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

Amounts used

Lubricants - Consumer (Low Release)

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

Unless otherwise stated.

PC1_1 Glues, hobby use

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

PC1_3 Glue from spray

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

PC1_4 Sealants

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

PC24_1 Liquids

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

PC24_2 Pastes

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

PC24_3 Sprays

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

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

For each use event, covers use amounts up to 142 g.

PC31_2 Polishes, spray (furniture, shoes)

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

Frequency and duration of use

Covers daily exposure up to 6hours

Unless otherwise stated.

Covers use up to 1 time per day.

Unless otherwise stated.

PC1_1 Glues, hobby use

PC1_3 Glue from spray

Covers exposure up to 4 hours per event.

PC1_4 Sealants

Covers exposure up to 1 hour per event.

PC24 Lubricants, greases and release products.

Covers exposure up to 0.17 hours per event.

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

Covers exposure up to 1.23 hours per event.

PC31_2 Polishes, spray (furniture, shoes)

Covers exposure up to 0.33 hours per event.

Covers use up to 365 day(s)/year. Unless otherwise stated. PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers use up to 1 day(s)/year. PC1_3 Glue from spray

PC24_3 Sprays Covers use up to 6 day(s)/year. PC24_1 Liquids Covers use up to 4

day(s)/year. PC24_2 Pastes Covers use up to 10 day(s)/year. PC31_1 Polishes, wax/cream

(floor, furniture, shoes) Covers use up to 29 day(s)/year. PC31_2 Polishes, spray (furniture,

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

Human factors not influenced by risk management

Potentially exposed body parts	Covers skin contact area up to 468 cm ² . Unless otherwise stated. PC1_1 Glues, hobby use PC1_3 Glue from spray PC1_4 Sealants Covers skin contact area up to 35.73 cm ² . PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers skin contact area up to 110 cm ² . PC24_3 Sprays PC31 Polishes and wax blends. Covers skin contact area up to 428.75 cm ² .
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Other given operational conditions affecting Non-industrial exposure

Temperature	Assumes activities are at ambient temperature (unless stated differently).
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Room size	Covers use in room size of 20 m ³ . Unless otherwise stated. PC24_1 Liquids Covers use in room size of 34 m ³ .
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Lubricants - Consumer (Low Release)

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

3. Exposure estimation (Environment 1)

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

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

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

3. Exposure estimation (Health 1)

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

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

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



Exposure scenario Lubricants - Consumer (High Release)

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Lubricants - Consumer (High Release)
Process scope	Covers the consumer use of formulated lubricants in closed and open systems, including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.
Product category	PC1 Adhesives, sealants. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.
Main sector	SU21 Consumer uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.6e.v1

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

Product characteristics

Physical state	Liquid
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Lubricants - Consumer (High Release)

Regional use tonnage: 12 tonnes/year
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.0058 tonnes
 Maximum daily site tonnage: 0.016 kg
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 48 kg/day

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.15
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.05
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.05

Environmental factors not influenced by risk management measures

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

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Estimated substance removal from wastewater via domestic sewage treatment: 93.6%

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.
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Conditions and measures related to external recovery of waste

Recovery method	External recovery and recycling of waste should comply with applicable local and/or national regulations.
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2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

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

Amounts used

Lubricants - Consumer (High Release)

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

Unless otherwise stated.

PC1_1 Glues, hobby use

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

PC1_3 Glue from spray

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

PC1_4 Sealants

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

PC24_1 Liquids

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

PC24_2 Pastes

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

PC24_3 Sprays

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

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

For each use event, covers use amounts up to 142 g.

PC31_2 Polishes, spray (furniture, shoes)

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

Frequency and duration of use

Covers daily exposure up to 6hours

Unless otherwise stated.

Covers use up to 1 time per day.

Unless otherwise stated.

PC1_1 Glues, hobby use

PC1_3 Glue from spray

Covers exposure up to 4 hours per event.

PC1_4 Sealants

Covers exposure up to 1 hour per event.

PC24 Lubricants, greases and release products.

Covers exposure up to 0.17 hours per event.

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

Covers exposure up to 1.23 hours per event.

PC31_2 Polishes, spray (furniture, shoes)

Covers exposure up to 0.33 hours per event.

Covers use up to 365 day(s)/year. Unless otherwise stated. PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers use up to 1 day(s)/year. PC1_3 Glue from spray

PC24_3 Sprays Covers use up to 6 day(s)/year. PC24_1 Liquids Covers use up to 4

day(s)/year. PC24_2 Pastes Covers use up to 10 day(s)/year. PC31_1 Polishes, wax/cream

(floor, furniture, shoes) Covers use up to 29 day(s)/year. PC31_2 Polishes, spray (furniture,

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

Human factors not influenced by risk management

Potentially exposed body parts	Covers skin contact area up to 468 cm ² . Unless otherwise stated. PC1_1 Glues, hobby use PC1_3 Glue from spray PC1_4 Sealants Covers skin contact area up to 35.73 cm ² . PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers skin contact area up to 110 cm ² . PC24_3 Sprays PC31 Polishes and wax blends. Covers skin contact area up to 428.75 cm ² .
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Other given operational conditions affecting Non-industrial exposure

Temperature	Assumes activities are at ambient temperature (unless stated differently).
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Room size	Covers use in room size of 20 m ³ . Unless otherwise stated. PC24_1 Liquids Covers use in room size of 34 m ³ .
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Lubricants - Consumer (High Release)

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

3. Exposure estimation (Environment 1)

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

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

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

3. Exposure estimation (Health 1)

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

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

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



Exposure scenario Functional Fluids - Consumer

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Functional Fluids - Consumer
Process scope	Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.
Product category	PC16 Heat transfer fluids. PC17 Hydraulic fluids.
Main sector	SU21 Consumer uses
<u>Environment</u>	
Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
SPERC	ESVOC SPERC 9.13c.v1

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

Product characteristics

Physical state	Liquid
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Regional use tonnage: 15 tonnes/year
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.0005
 Annual site tonnage: 0.0075 tonnes
 Maximum daily site tonnage: 0.021 kg
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 63 kg/day

Frequency and duration of use

Functional Fluids - Consumer

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

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

Emission factor - water Release fraction to wastewater from wide dispersive use: 0.025

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

Environmental factors not influenced by risk management measures

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

Risk management measures

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Estimated substance removal from wastewater via domestic sewage treatment: 93.6%

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

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

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

Amounts used

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

Frequency and duration of use

Covers exposure up to 0.17 hours per event.

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

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 468 cm². Unless otherwise stated.

Other given operational conditions affecting Non-industrial exposure

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

Room size Covers use in room size of 34 m³.

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

3. Exposure estimation (Environment 1)

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

Functional Fluids - Consumer

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

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

3. Exposure estimation (Health 1)

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

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



Exposure scenario Agrochemical uses - Consumer

Identification

Product name	HYDROCARBONS C9 AROMATICS
REACH registration number	01-2119455851-35-XXXX
EC number	918-668-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Agrochemical uses - Consumer
Process scope	Covers the consumer use in agrochemicals in liquid and solid forms.
Product category	PC12 Lawn and garden preparations (- fertilizers). PC27 Plant protection products.
Main sector	SU21 Consumer uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
SPERC	ESVOC SPERC 8.11b.v1

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

Product characteristics

Physical state	Liquid
	Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Regional use tonnage: 20 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.002
Annual site tonnage: 0.04 tonnes
Maximum daily site tonnage: 0.11 kg
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 32 kg/day

Agrochemical uses - Consumer

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

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

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

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0.09

Environmental factors not influenced by risk management measures

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

Risk management measures

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Estimated substance removal from wastewater via domestic sewage treatment: 93.6%

Conditions and measures related to external treatment of waste for disposal

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

Conditions and measures related to external recovery of waste

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

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

Product characteristics

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

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

Amounts used

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

Frequency and duration of use

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

Human factors not influenced by risk management

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

Other given operational conditions affecting Non-industrial exposure

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

Room size Covers use in room size of 20 m³.

Ventilation rate Covers use under typical household ventilation.

3. Exposure estimation (Environment 1)

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

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

Agrochemical uses - Consumer

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

3. Exposure estimation (Health 1)

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

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