SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

As of the revision date above, this SDS meets the regulations in the United Kingdom & Ireland.

1.1. PRODUCT IDENTIFIER

Product Name: **ISOPAR™ L**
Product Description: Isoparaffinic Hydrocarbon

Registration Name:
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics

Identification Number: (EC #)920-901-0

Registration Number:
01-2119456810-40-0000

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Intended Use: Solvent

Identified Uses:
Manufacture of substance
Distribution of substance
Formulation and (re)packing of substances and mixtures
Use in Coatings - Industrial
Use in Cleaning Agents - Industrial
Lubricants - Industrial
Metal working fluids / rolling oils - Industrial
Use as a fuel - Industrial
Functional Fluids - Industrial
Use in laboratories - Industrial
Rubber production and processing
Polymer processing - Industrial
Water treatment chemicals - Industrial
Use in Coatings - Professional
Use in Cleaning Agents - Professional
Lubricants - Professional (Low Release)
Lubricants - Professional (High Release)
Metal working fluids / rolling oils - Professional
Agrochemical uses - Professional
Use as a fuel - Professional
Functional Fluids - Professional
Road and construction applications
Use in laboratories - Professional
Polymer processing - Professional
Water treatment chemicals - Professional

Use in Coatings - Consumer
Use in Cleaning Agents - Consumer
Agrochemical uses - Consumer
Use as a fuel - Consumer
Functional Fluids - Consumer
Uses in cosmetics/personal care products, perfumes and fragrances – Consumer

See Section 16 for list of REACH Use Descriptors for Identified Uses shown above.

Uses advised against: The above Identified Uses are specific to the customer for whom this Safety Data Sheet is intended and are uses for which the information in this Safety Data Sheet is applicable. Other uses for this product may be supported/registered. This product is not recommended for any industrial, professional or consumer use other than those which are supported/registered.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier:
ExxonMobil Petroleum & Chemical BV
Polderdijkweg
B-2030 Antwerpen
Belgium
Phone: +32 3 790 31 11

Local Contact:
ExxonMobil Chemical Ltd.
MAILPOINT 14
MARSH LANE
FAWLEY, SOUTHAMPTON
SO45 1TX HAMPSHIRE
Great Britain

Supplier General Contact: (UK) (+44) (0) 23 8089 3822
E-Mail: sds.uk@exxonmobil.com

1.4. EMERGENCY TELEPHONE NUMBER

24 Hour Emergency Telephone: +(44)-8708200418 (CHEMTREC)
National Poison Control Centre: (UK) 111 / (IE) (+353)1 809 2166

SECTION 2 HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008
Aspiration toxicant: Category 1.
H304: May be fatal if swallowed and enters airways.

2.2. LABEL ELEMENTS

Label elements according to Regulation (EC) No 1272/2008

Pictograms:



Signal Word: Danger

Hazard Statements:

H304: May be fatal if swallowed and enters airways.
EUH066: Repeated exposure may cause skin dryness or cracking.

Precautionary Statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280: Wear protective gloves and eye / face protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331: Do NOT induce vomiting. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish.
P403: Store in a well-ventilated place. P405: Store locked up.
P501: Dispose of contents and container in accordance with local regulations.

Contains: Hydrocarbons, C11-C13, isoalkanes, <2% aromatics

2.3. OTHER HAZARDS

Physical / Chemical Hazards:
Material can accumulate static charges which may cause an ignition. Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited. Combustible.

Health Hazards:
Repeated exposure may cause skin dryness or cracking. May be irritating to the eyes, nose, throat, and lungs.

Environmental Hazards:
No significant hazards. Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

This material is defined as a substance.

Reportable hazardous substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

Name	CAS#	EC#	Registration#	Concentration *	GHS/CLP classification
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics		920-901-0	01-2119456810-40	100 %	[Flam. Liq. 4 H227], Asp. Tox. 1 H304, EUH066

Note - any classification in brackets is a GHS building block that was not adopted by the EU in the CLP regulation (No 1272/2008) and therefore is not applicable in the EU or in non-EU countries which have implemented the CLP regulation and is shown for informational purposes only.

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Concentration values may vary.

Note: Any entry in the EC# column that begins with the number "9" is a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance. See Section 15 for additional CAS number information for the substance.

Note: See SDS Section 16 for full text of hazard statements.

3.2. MIXTURES Not Applicable. This product is regulated as a substance.

SECTION 4 FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No important symptoms or effects.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

SECTION 5 FIRE FIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Unsuitable Extinguishing Media: Straight streams of water

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon, Smoke, Fume

5.3. ADVICE FOR FIRE FIGHTERS

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Combustible.

FLAMMABILITY PROPERTIES

Flash Point [Method]: 68°C (154°F) [ASTM D-93]
Upper/Lower Flammable Limits (Approximate volume % in air): UEL: 6.0 LEL: 0.6 [Extrapolated]
Autoignition Temperature: 222°C (432°F) [ASTM E659]

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

6.2. ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Land Spill: Stop leak if you can do so without risk. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

6.4. REFERENCES TO OTHER SECTIONS

See Sections 8 and 13.

SECTION 7 HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Avoid contact with skin. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]
Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge.
Storage Temperature: [Ambient]
Storage Pressure: [Ambient]

Suitable Containers/Packing: Tank Trucks; Drums; Barges; Tank Cars; Railcars
Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Teflon; Polyethylene; Polypropylene
Unsuitable Materials and Coatings: Butyl Rubber; Natural Rubber; Ethylene-proplyene-diene monomer (EPDM); Polystyrene

7.3. SPECIFIC END USES

Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	Vapour.	RCP - TWA	1200 mg/m3	171 ppm	Total Hydrocarbons	ExxonMobil

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

UK Health and Safety Executive (HSE)

DERIVED NO EFFECT LEVEL (DNEL)/DERIVED MINIMAL EFFECT LEVEL (DMEL)

Worker

Substance Name	Dermal	Inhalation
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	NA	NA

Consumer

Substance Name	Dermal	Inhalation	Oral
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	NA	NA	NA

Note: The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the European REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH.

PREDICTED NO EFFECT CONCENTRATION (PNEC)

Substance Name	Aqua (fresh water)	Aqua (marine water)	Aqua (intermittent release)	Sewage treatment plant	Sediment	Soil	Oral (secondary poisoning)

Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	NA	NA	NA	NA	NA	NA	NA

For hydrocarbon UVCBs, no single PNEC value is identified for the overall substance or used in risk assessment calculations. Therefore, no PNEC values are disclosed in the above table. For further information, please contact ExxonMobil.

8.2. EXPOSURE CONTROLS

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator Type A filter material, European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

If prolonged or repeated contact is likely, chemical-resistant gloves are recommended. If contact with forearms is likely, wear gauntlet-style gloves. Nitrile, minimum 0.38 mm thickness or comparable protective barrier material with a high performance level for continuous contact use conditions, permeation breakthrough minimum 480 minutes in accordance with CEN standards EN 420 and EN 374.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

For Summary of Risk Management Measures across all identified uses, see Annex.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Form: Clear
Colour: Colourless
Odour: Faint
Odour Threshold: No data available
pH: Not technically feasible
Melting Point: Not technically feasible
Freezing Point: No data available
Initial Boiling Point / and Boiling Range: 188°C (370°F) - 210°C (410°F) [ASTM D86]
Flash Point [Method]: 68°C (154°F) [ASTM D-93]
Evaporation Rate (n-butyl acetate = 1): 0.04 [Calculated]
Flammability (Solid, Gas): Not technically feasible
Upper/Lower Flammable Limits (Approximate volume % in air): UEL: 6.0 LEL: 0.6 [Extrapolated]
Vapour Pressure: 0.04 kPa (0.3 mm Hg) at 20 °C [Calculated]
Vapour Density (Air = 1): 5.7 at 101 kPa [Calculated]
Relative Density (at 15 °C): 0.76 [With respect to water] [Calculated]
Solubility(ies): water Negligible
Partition coefficient (n-Octanol/Water Partition Coefficient): > 4 [Estimated]
Autoignition Temperature: 222°C (432°F) [ASTM E659]
Decomposition Temperature: No data available
Viscosity: 1.3 cSt (1.3 mm2/sec) at 40ºC | 1.74 cSt (1.74 mm2/sec) at 20°C [Calculated]
Explosive Properties: None
Oxidizing Properties: None

9.2. OTHER INFORMATION

Density (at 15 ºC): 760 kg/m3 (6.34 lbs/gal, 0.76 kg/dm3) [ISO 12185]
Pour Point: < -114°C (-173°F) [ASTM D5950]

Molecular Weight: 165 g/mol [Calculated]
Hygroscopic: No
Coefficient of Thermal Expansion: 0.00098 per Deg C [Calculated]

SECTION 10 STABILITY AND REACTIVITY

10.1. REACTIVITY: See sub-sections below.

10.2. CHEMICAL STABILITY: Material is stable under normal conditions.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

10.4. CONDITIONS TO AVOID: Open flames and high energy ignition sources.

10.5. INCOMPATIBLE MATERIALS: Strong oxidisers

10.6. HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 8 hour(s) LC50 > 5000 mg/m3 (Vapour) Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity (Rat): LD50 > 5000 mg/kg Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 > 5000 mg/kg Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation: Data available. Test scores or other study results do not meet criteria for classification.	May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: Data available. Test scores or other study results do not meet criteria for classification.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406

Aspiration: Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476 478 479
Carcinogenicity: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 453
Reproductive Toxicity: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 413 414 415
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 413

OTHER INFORMATION

For the product itself:

Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

12.1. TOXICITY

Material -- Not expected to be harmful to aquatic organisms.
Material -- Not expected to demonstrate chronic toxicity to aquatic organisms

12.2. PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Hydrolysis:

Material -- Transformation due to hydrolysis not expected to be significant.

Photolysis:

Material -- Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation:

Material -- Expected to degrade rapidly in air

12.3. BIOACCUMULATIVE POTENTIAL Not determined.

12.4. MOBILITY IN SOIL

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

12.5. PERSISTENCE, BIOACCUMULATION AND TOXICITY FOR SUBSTANCE(S)

Material does not meet the Reach Annex XIII criteria for PBT or vPvB.

12.6. OTHER ADVERSE EFFECTS

No adverse effects are expected.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	48 hour(s)	Daphnia magna	EL0 1000 mg/l: data for similar materials
Aquatic - Acute Toxicity	96 hour(s)	Oncorhynchus mykiss	LL0 1000 mg/l: data for similar materials
Aquatic - Acute Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	NOELR 1000 mg/l: data for similar materials
Aquatic - Acute Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	EL0 1000 mg/l: data for similar materials
Aquatic - Chronic Toxicity	21 day(s)	Daphnia magna	NOELR 1 mg/l: data for the material

Persistence, Degradability and Bioaccumulation Potential

Media	Test Type	Duration	Test Results: Basis
Water	Ready Biodegradability	28 day(s)	Percent Degraded 31.3 : similar material

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

13.1. WASTE TREATMENT METHODS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

The European Waste Catalogue (EWC) code is specific to the waste generating process and waste constituents. Determine the EWC according to the criteria provided in the European Waste Catalogue and the hazardous waste list established by Commission Decision 2000/532/EC, as amended.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADR/RID): **14.1-14.6** Not Regulated for Land Transport

INLAND WATERWAYS (ADN)

14.1. UN (or ID) Number: 9003
14.2. UN Proper Shipping Name (Technical Name): SUBSTANCES WITH 60°C < f.p.<= 100 °C (Isoundecanes)
14.3. Transport Hazard Class(es): 9
14.4. Packing Group: (N/A)
14.5. Environmental Hazards: None
14.6. Special Precautions for users:
Label(s) / Mark(s): 9 (F)

SEA (IMDG): **14.1-14.6** Not Regulated for Sea Transport according to IMDG-Code

SEA (MARPOL 73/78 Convention - Annex II):

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Substance Name: NOXIOUS LIQUID, N.F.,(7) N.O.S., (ISOPAR L, contains iso-and cycloalkanes (C12+))
Ship type required: **3**
Pollution category: Y

AIR (IATA): **14.1-14.6** Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA): AIIC, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

The national inventory listings are based on the CAS number or numbers listed below.

CAS
90622-58-5
64742-48-9

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Applicable EU Directives and Regulations:

1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ...

and amendments thereto]

2004/42/CE [on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC.]

98/24/EC [... on the protection of workers from the risk related to chemical agents at work ...]. Refer to Directive for details of requirements.

1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII):

The following entries of Annex XVII may be considered for this product: 03

15.2. CHEMICAL SAFETY ASSESSMENT

REACH Information: A Chemical Safety Assessment has been carried out for one or more substances present in the material.

SECTION 16 OTHER INFORMATION

IDENTIFIED USES:
Manufacture of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU10, SU3, SU8, SU9)
Distribution of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU3, SU8, SU9)
Formulation and (re)packing of substances and mixtures (PROC1, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, SU10, SU3)
Use in Coatings - Industrial (PROC1, PROC10, PROC13, PROC15, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, SU3)
Use in Cleaning Agents - Industrial (PROC1, PROC10, PROC13, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8bSU3,)
Lubricants - Industrial (PROC1, PROC10, PROC13, PROC17, PROC18, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, SU3)
Metal working fluids / rolling oils - Industrial (PROC1, PROC10, PROC13, PROC17, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, SU3)
Use as a fuel - Industrial (PROC1, PROC16, PROC2, PROC3, PROC8a, PROC8b, SU3)
Functional Fluids - Industrial (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU3)
Use in laboratories - Industrial (PROC15, SU3)
Rubber production and processing (PROC1, PROC13, PROC14, PROC15, PROC2, PROC21, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, SU10)
Polymer processing - Industrial (PROC1, PROC13, PROC14, PROC2, PROC21, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, SU10, SU3)
Water treatment chemicals - Industrial (PROC1, PROC13, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU3)
Use in Coatings - Professional (PROC1, PROC10, PROC11, PROC13, PROC15, PROC19, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, SU22)
Use in Cleaning Agents - Professional (PROC1, PROC10, PROC11, PROC13, PROC19, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU22)
Lubricants - Professional (Low Release) (PROC1, PROC10, PROC11, PROC13, PROC17, PROC18, PROC2, PROC20, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU22)
Lubricants - Professional (High Release) (PROC1, PROC10, PROC11, PROC13, PROC17, PROC18, PROC2,

PROC20, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU22)
Metal working fluids / rolling oils - Professional (PROC1, PROC10, PROC11, PROC13, PROC17, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9, SU22)
Agrochemical uses - Professional (PROC1, PROC11, PROC13, PROC2, PROC4, PROC8a, PROC8b, SU22)
Use as a fuel - Professional (PROC1, PROC16, PROC2, PROC3, PROC8a, PROC8b, SU22)
Functional Fluids - Professional (PROC1, PROC2, PROC20, PROC3, PROC8a, PROC9, SU22)
Road and construction applications (PROC1, PROC10, PROC11, PROC13, PROC2, PROC8a, PROC8b, PROC9, SU22)
Use in laboratories - Professional (PROC15, SU22)
Polymer processing - Professional (PROC1, PROC14, PROC2, PROC21, PROC6, PROC8a, PROC8b, SU22)
Water treatment chemicals - Professional (PROC1, PROC13, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU22)
Use in Coatings - Consumer (PC01,PC04,PC08,PC09A,PC09B,PC09C,PC15,PC18,PC23,PC24,PC31,PC34, SU21)
Use in Cleaning Agents - Consumer (PC03,PC04,PC08,PC09A,PC09B,PC09C,PC24,PC35,PC38, SU21)
Agrochemical uses - Consumer (PC12,PC27, SU21)
Use as a fuel - Consumer (PC13, SU21)
Functional Fluids - Consumer (PC16,PC17, SU21)
Uses in cosmetics/personal care products, perfumes and fragrances – Consumer (PC28,PC39, SU21)

REFERENCES: Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

Acronym	Full text
N/A	Not applicable
N/D	Not determined
NE	Not established
VOC	Volatile Organic Compound
AIIC	Australian Inventory of Industrial Chemicals
AIHA WEEL	American Industrial Hygiene Association Workplace Environmental Exposure Limits
ASTM	ASTM International, originally known as the American Society for Testing and Materials (ASTM)
DSL	Domestic Substance List (Canada)
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of Notified Chemical Substances
ENCS	Existing and new Chemical Substances (Japanese inventory)
IECSC	Inventory of Existing Chemical Substances in China
KECI	Korean Existing Chemicals Inventory
NDSL	Non-Domestic Substances List (Canada)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
TLV	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	Toxic Substances Control Act (U.S. inventory)
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
LC	Lethal Concentration
LD	Lethal Dose
LL	Lethal Loading
EC	Effective Concentration
EL	Effective Loading
NOEC	No Observable Effect Concentration
NOELR	No Observable Effect Loading Rate

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
[Flam. Liq. 4 H227]: Combustible liquid; Flammable Liquid, Cat 4
Asp. Tox. 1 H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
EUH066: Repeated exposure may cause skin dryness or cracking.

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
GHS Health Symbol information was modified.
Section 01: Company Mailing Address information was modified.
Section 09: Flammable Limits - LEL information was modified.
Section 09: Flammable Limits - UEL information was modified.
Section 12: Environmental tox table in section 12 information was modified.
Section 15: National Chemical Inventory Listing information was modified.
Section 15: REACH Annex XVII data information was added.

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ANNEX

Section 1 Exposure Scenario Title	
Title:	
Manufacture of substance	
Use Descriptor	
Sector(s) of Use	SU10, SU3, SU8, SU9
Process Categories	PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b
Environmental Release Categories	ERC1, ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Manufacture of the substance or use as an intermediate, process chemical or extracting agent. Includes recycling/	

recovery, material transfers, storage, maintenance and loading (ncluding marine vessel/barge, road/rail car and bulk container).
Section 2 Operational conditions and risk management measures
Section 2.1 Control of worker exposure
Product Characteristic
Liquid
Duration, frequency and amount
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]
Other given operational conditions affecting workers exposure
Assumes a good basic standard of occupational hygiene is implemented [G1]
Contributing Scenarios/ **Specific Risk Management Measures and Operating Conditions** (only required controls to demonstrate safe use listed)
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.
Section 2.2 Control of environmental exposure
Product characteristics
Not applicable
Duration, frequency and amount
Not applicable
Environmental factors not influenced by risk management
Not applicable
Other given operational conditions affecting environmental exposure
Not applicable
Technical conditions and measures at process level (source) to prevent release
Not applicable
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil
Not applicable
Organisation measures to prevent/limit release from site
Not applicable
Conditions and measures related to municipal sewage treatment plant
Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health

Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Distribution of substance	
Use Descriptor	
Sector(s) of Use	SU3, SU8, SU9
Process Categories	PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC1, ERC2, ERC3, ERC4, ERC5, ERC6A, ERC6B, ERC6C, ERC6D, ERC7
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Formulation and (re)packing of substances and mixtures	
Use Descriptor	
Sector(s) of Use	SU10, SU3
Process Categories	PROC1, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC2
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in Coatings - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC1, PROC10, PROC13, PROC15, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b
Environmental Release Categories	ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in Cleaning Agents - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC1, PROC10, PROC13, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b
Environmental Release Categories	ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. 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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Lubricants - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC1, PROC10, PROC13, PROC17, PROC18, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC4, ERC7
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	

Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Metal working fluids / rolling oils - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC1, PROC10, PROC13, PROC17, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use in formulated MWFs (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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use as a fuel - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC1, PROC16, PROC2, PROC3, PROC8a, PROC8b
Environmental Release Categories	ERC7
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a fuel (or fuel additive), and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	

Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Functional Fluids - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC7
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	

Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in laboratories - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC15
Environmental Release Categories	ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of the substance within laboratory settings, including material transfers and equipment cleaning.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	

Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Rubber production and processing	
Use Descriptor	
Sector(s) of Use	SU10
Process Categories	PROC1, PROC13, PROC14, PROC15, PROC2, PROC21, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC1, ERC4, ERC6D
Specific Environmental Release Category	
Processes, tasks, activities covered	
Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Polymer processing - Industrial	
Use Descriptor	
Sector(s) of Use	SU10, SU3
Process Categories	PROC1, PROC13, PROC14, PROC2, PROC21, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Processing of formulated polymers including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	

Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Water treatment chemicals - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC1, PROC13, PROC2, PROC3, PROC4, PROC8a, PROC8b
Environmental Release Categories	ERC3, ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	

Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in Coatings - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC10, PROC11, PROC13, PROC15, PROC19, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	

Conditions and measures related to municipal sewage treatment plant
Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in Cleaning Agents - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC10, PROC11, PROC13, PROC19, PROC2, PROC3, PROC4, PROC8a, PROC8b
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
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).	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Lubricants - Professional (Low Release)	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC10, PROC11, PROC13, PROC17, PROC18, PROC2, PROC20, PROC3, PROC4, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC9A, ERC9B
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ **Specific Risk Management Measures and Operating Conditions** (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Lubricants - Professional (High Release)	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC10, PROC11, PROC13, PROC17, PROC18, PROC2, PROC20, PROC3, PROC4, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Metal working fluids / rolling oils - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC10, PROC11, PROC13, PROC17, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use in formulated MWFs (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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	

Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Agrochemical uses - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC11, PROC13, PROC2, PROC4, PROC8a, PROC8b
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	

Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use as a fuel - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC16, PROC2, PROC3, PROC8a, PROC8b
Environmental Release Categories	ERC9A, ERC9B
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use as a fuel (or fuel additive), and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	

Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Functional Fluids - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC2, PROC20, PROC3, PROC8a, PROC9
Environmental Release Categories	ERC9A, ERC9B
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	

Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Road and construction applications	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC10, PROC11, PROC13, PROC2, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC8D, ERC8F
Specific Environmental Release Category	
Processes, tasks, activities covered	
Bulk loading (including marine vessel/barge, rail/road car and IBC loading)	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	

Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in laboratories - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of small quantities within laboratory settings, including material transfers and equipment cleaning.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	

Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Polymer processing - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC14, PROC2, PROC21, PROC6, PROC8a, PROC8b
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
Processing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	

Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Water treatment chemicals - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC1, PROC13, PROC2, PROC3, PROC4, PROC8a, PROC8b
Environmental Release Categories	ERC8F
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the use of the substance for the treatment of water in open and closed systems.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	

Not applicable
Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in Coatings - Consumer	
Use Descriptor	
Sector(s) of Use	SU21
Product Categories	PC01, PC04, PC08, PC09A, PC09B, PC09C, PC15, PC18, PC23, PC24, PC31, PC34
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Not applicable	
Other given operational conditions affecting consumer exposure	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting. Just a sip of lamp oil - or even sucking the wick of lamps may lead to life threatening lung damage. Keep lamps filled with this liquid out of the reach of children.	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	
Not applicable	
Section 3 Exposure Estimation	

3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use in Cleaning Agents - Consumer	
Use Descriptor	
Sector(s) of Use	SU21
Product Categories	PC03, PC04, PC08, PC09A, PC09B, PC09C, PC24, PC35, PC38
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Not applicable	
Other given operational conditions affecting consumer exposure	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting. Just a sip of lamp oil - or even sucking the wick of lamps may lead to life threatening lung damage. Keep lamps filled with this liquid out of the reach of children.	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	
Not applicable	
Section 3 Exposure Estimation	
3.1. Health	

Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Agrochemical uses - Consumer	
Use Descriptor	
Sector(s) of Use	SU21
Product Categories	PC12, PC27
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers the consumer use of agrochemicals in liquid and solid forms.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Not applicable	
Other given operational conditions affecting consumer exposure	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting. Just a sip of lamp oil - or even sucking the wick of lamps may lead to life threatening lung damage. Keep lamps filled with this liquid out of the reach of children.	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	
Not applicable	
Section 3 Exposure Estimation	
3.1. Health	
Not applicable	
3.2. Environment	

Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Use as a fuel - Consumer	
Use Descriptor	
Sector(s) of Use	SU21
Product Categories	PC13
Environmental Release Categories	ERC9A, ERC9B
Specific Environmental Release Category	
Processes, tasks, activities covered	
Covers consumer uses in liquid fuels.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Not applicable	
Other given operational conditions affecting consumer exposure	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting. Just a sip of lamp oil - or even sucking the wick of lamps may lead to life threatening lung damage. Keep lamps filled with this liquid out of the reach of children.	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	
Not applicable	
Section 3 Exposure Estimation	
3.1. Health	
Not applicable	
3.2. Environment	

Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Functional Fluids - Consumer	
Use Descriptor	
Sector(s) of Use	SU21
Product Categories	PC16, PC17
Environmental Release Categories	ERC9A, ERC9B
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Not applicable	
Other given operational conditions affecting consumer exposure	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting. Just a sip of lamp oil - or even sucking the wick of lamps may lead to life threatening lung damage. Keep lamps filled with this liquid out of the reach of children.	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	
Not applicable	
Section 3 Exposure Estimation	
3.1. Health	
Not applicable	
3.2. Environment	

Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable

Section 1 Exposure Scenario Title	
Title:	
Uses in cosmetics/personal care products, perfumes and fragrances – Consumer	
Use Descriptor	
Sector(s) of Use	SU21
Product Categories	PC28, PC39
Environmental Release Categories	ERC8A, ERC8D
Specific Environmental Release Category	
Processes, tasks, activities covered	
Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of consumer exposure	
Product Characteristic	
Liquid	
Duration, frequency and amount	
Not applicable	
Other given operational conditions affecting consumer exposure	
General measures (Aspiration Hazard) The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting. Just a sip of lamp oil - or even sucking the wick of lamps may lead to life threatening lung damage. Keep lamps filled with this liquid out of the reach of children.	
Contributing Scenarios/ Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	
Not applicable	
Section 3 Exposure Estimation	
3.1. Health	

Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] Risk Management Measures are based on qualitative risk characterisation. [G37]
4.2. Environment
Not applicable