SAFETY DATA SHEET

ExxonMobil

ISOPAR™ G

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

1.1 Product identifier

Product name : ISOPAR™ G

EC number : 923-037-2

UK (GB) REACH Registration number

Registration number
UK-01-9552752447-4-0002

REACH Registration number

Registration number
01-2119471991-29-0000

CAS number : -

Product description : Isoparaffinic Hydrocarbon

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

Intended Use : Solvent

Identified uses
Functional fluids - Professional
Road and construction applications
Water treatment chemicals - Professional
Use in laboratories - Professional
Polymer processing - Professional
Manufacture of substance
Water treatment chemicals - Consumer
Distribution of substance
Use as an intermediate
Formulation and (re)packing of substances and mixtures
Use in coatings - Industrial
Use in cleaning agents - Industrial
Lubricants - Industrial
Use in metal working fluids/rolling oils - Industrial
Use as a fuel - Industrial
Other consumer uses
Functional fluids - Industrial
Functional fluids - Consumer
Use in laboratories - Industrial
Use in rubber production and processing
Polymer processing - Industrial
Use as a fuel - Consumer
Use in agrochemicals - Consumer
Water treatment chemicals - Industrial
Use in coatings - Professional
Lubricants - Consumer (high release)
Use in cleaning agents - Professional
Lubricants - Professional (Low release)
Lubricants - Consumer (Low release)
Lubricants - Professional (high release)
Use in metal working fluids/rolling oils - Professional
Use in cleaning agents - Consumer
Use as binders and release agents - Professional
Use in agrochemicals - Professional
Use in coatings - Consumer

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

Use as a fuel - Professional

Uses advised against

Not applicable.

1.3 Details of the supplier of the safety data sheet

Supplier : ExxonMobil Petroleum & Chemical BV
POLDERDIJKWEG
Antwerpen B-2030 Belgium

Supplier General Contact : + 32 2 239 3111

e-mail address of person responsible for this SDS : SDS-CC@exxonmobil.com

SDS Internet Address : www.sds.exxonmobil.com

National contact

ExxonMobil Chemical Ltd.

MAILPOINT 14
MARSH LANE
FAWLEY, SOUTHAMPTON
SO45 1TX HAMPSHIRE
Great Britain

+44 (0)23-8089-3822

1.4 Emergency telephone number

National advisory body/ Poison Centre : (UK) 111

24 Hour Emergency Telephone : +44 20 3807 3798 / +1-703-527-3887 (CHEMTREC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : UVCB

Classification according to UK CLP/GHS

Flam. Liq. 3, H226
Asp. Tox. 1, H304
Aquatic Chronic 2, H411

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H226 - Flammable liquid and vapour.
H304 - May be fatal if swallowed and enters airways.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

SECTION 2: Hazards identification

Prevention : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground and bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating or lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.

Response : P301 + P331, P310 - IF SWALLOWED: Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.
P391 - Collect spillage.

Storage : P403 + P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Hydrocarbons, C10-C12, isoalkanes, <2% aromatics

Supplemental label elements : Repeated exposure may cause skin dryness or cracking.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : 3, 40

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

PBT	P	B	T	vPvB	vP	vB
No	N/A	N/A	No	N/A	N/A	N/A

Other hazards which do not result in classification : None known.

Nota : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3: Composition/information on ingredients

3.1 Substances : UVCB

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Type
alkanes, c9-12-iso-	REACH #: 01-2119471991-29 EC: 923-037-2 CAS: -	100	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066 **See Section 16 for the full text of the H statements declared above.**	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

Occupational exposure limits, if available, are listed in Section 8.

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.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

SECTION 4: First aid measures

Ingestion : Adverse symptoms may include the following:
nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

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

Specific treatments : No specific treatment.

See toxicological information (Section 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

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

5.3 Advice for firefighters

Special protective actions for fire-fighters : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Assure an extended cooling down period to prevent re-ignition. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

NOTIFICATION PROCEDURES

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

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

SECTION 6: Accidental release measures

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Eliminate all ignition sources. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. If the Flash Point exceeds the Ambient Temperature by 10 deg C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. Seek the advice of a specialist before using dispersants. Warn other shipping. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SECTION 7: Handling and storage

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.

Loading/Unloading Temperature : Ambient

Transport Temperature : Ambient

Transport Pressure : Ambient

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c E2	5000 tonnes 200 tonnes	50000 tonnes 500 tonnes

Storage Temperature : Ambient

Storage Pressure : Ambient

Suitable Containers/ Packing : Tankers, Railcars, Tank Trucks, Barges, Drums, Tank Cars

Suitable Materials and Coatings : Inorganic Zinc Coatings, Amine Epoxy, Polyamide Epoxy, Epoxy Phenolic, neoprene, Carbon Steel, Stainless Steel

Unsuitable Materials and Coatings : butyl rubber, Vinyl Coatings, Polystyrene, Natural Rubber, Ethylene-proplyene-diene monomer (EPDM)

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Hydrocarbons, C10-C12, isoalkanes, <2% aromatics	**ExxonMobil (COMPANY)** RCP - TWA: 196 ppm (Total Hydrocarbons). Form: Vapour.. RCP - TWA: 1200 mg/m³ (Total Hydrocarbons). Form: Vapour..

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Not available.

PNECs

Not available.

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Nitrile, minimum 0.38 mm thickness or comparable protective barrier material

CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

SECTION 8: Exposure controls/personal protection

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapour filter (Type A)

European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 9. Physical and chemical properties and safety characteristics

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.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid. [Clear]

Colour : Colourless

Odour : Faint

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point or initial boiling point and boiling range : 160 to 174°C (320 to 345.2°F) [ASTM D86]

Flash point : Closed cup: 47°C (116.6°F) [ASTM D-56]

Evaporation rate : 0.2 (butyl acetate = 1) [In-house method ,]

Flammability : Flammable liquids - Category 3

Lower and upper explosive (flammable) limits : Lower: 0.7% [Extrapolated]
Upper: 6%

Vapour pressure : 1.5 mm Hg [20 °C] [Calculated]

Relative vapour density : 5 [Air = 1] [In-house method ,]

Relative density : 0.75 [Calculated]

Density : 0.74 g/cm³ [15°C (59°F)] [ISO 12185]

Solubility in water : Negligible

Partition coefficient: n-octanol/water : >4 [Estimated]

Auto-ignition temperature : 236°C (456.8°F) [ASTM E659]

Decomposition temperature : Not available.

Viscosity : 0.9 cSt [40 °C] [Calculated]
1.2 cSt [20 °C] [ASTM D7042]

Molecular weight : 145

Particle characteristics

Median particle size : Not applicable.

Pour point : <-20°C [Calculated]

Hygroscopic : No

Coefficient of Thermal Expansion : 0.00104 per Deg C

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.

10.5 Incompatible materials : Reactive or incompatible with the following materials:,oxidising materials,

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result
Hydrocarbons, C10-C12, isoalkanes, <2% aromatics	**Rat - Oral - LD50** >5000 mg/kg **Rabbit - Dermal - LD50** >2200 mg/kg **Rat - Inhalation - LC50 Vapour** >4951 mg/m³ [4 hours]

Conclusion/Summary

Inhalation : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403

Dermal : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402

Oral : Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401

Acute toxicity estimates

N/A

Irritation/Corrosion

Conclusion/Summary

Skin : May dry the skin leading to discomfort and dermatitis. Mildly irritating to skin with prolonged exposure. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404

Eyes : May cause mild, short-lasting discomfort to eyes. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405

Respiratory : Negligible hazard at ambient/normal handling temperatures. No end point data for material.

Respiratory or skin sensitization

Conclusion/Summary

Skin : Not expected to be a skin sensitizer. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 406

Respiratory : Not expected to be a respiratory sensitizer. No end point data for material.

Mutagenicity

SECTION 11: Toxicological information

Conclusion/Summary : Not expected to be a germ cell mutagen. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 476 478 479

Carcinogenicity

Conclusion/Summary : Not expected to cause cancer. No end point data for material. Based on test data for structurally similar materials.

Reproductive toxicity

Conclusion/Summary : Not expected to be a reproductive toxicant. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414

Specific target organ toxicity (single exposure)

Conclusion/Summary : Not expected to cause organ damage from a single exposure. No end point data for material.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
Hydrocarbons, C10-C12, isoalkanes, <2% aromatics	Not applicable.	-

Conclusion/Summary : Not expected to cause organ damage from prolonged or repeated exposure. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 413

Aspiration hazard

Product/ingredient name	Result
Hydrocarbons, C10-C12, isoalkanes, <2% aromatics	Category 1

Conclusion/Summary : May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material. Data available.

Information on likely routes of exposure : Not available.

Other information

Product : Vapour/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anaesthesia, drowsiness, unconsciousness and other central nervous system effects including death. 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

Product/ingredient name	Result
Hydrocarbons, C10-C12, isoalkanes, <2% aromatics	**Acute - EL0** Algae - *Pseudokirchneriella subcapitata* 1000 mg/l - data for the material [72 hours] **Acute - EL0** daphnia - *Daphnia magna* 1000 mg/l - data for the material [48 hours] **Acute - LL0** Fish - *Oncorhynchus mykiss* 1000 mg/l - data for the material [96 hours] **Acute - NOEL**

Section 12. Ecological information

Algae - *Pseudokirchneriella subcapitata*
1000 mg/l - data for the material [72 hours]

Chronic - NOEL
daphnia - *Daphnia magna*
<1 mg/l - data for the material [21 days]

Conclusion/Summary

Acute toxicity : Not expected to be harmful to aquatic organisms.

Chronic toxicity : Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Product/ingredient name	Result
Hydrocarbons, C10-C12, isoalkanes, <2% aromatics	Ready Biodegradability 31.3% [28 days]

Biodegradability : 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

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

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Other adverse effects

Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 13: Disposal considerations

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.

Special precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN3295	UN3295	UN3295	UN3295
14.2 UN proper shipping name	HYDROCARBONS, LIQUID, N.O.S.	HYDROCARBONS, LIQUID, N.O.S.	HYDROCARBONS, LIQUID, N.O.S.	Hydrocarbons, liquid, n.o.s.
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

ADR/RID : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Hazard identification number 30
Limited quantity 5 L
Tunnel code (D/E)

ADN : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

F, N2

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-E, S-D
Special provisions 223

Flash point 40 °C C.C.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.
Special provisions A3, A324

SECTION 14: Transport information

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments

Proper shipping name : ISOPAR G (contains iso-and cycloalkanes (C10-C11))

Remarks : **Liquid bulk cargoes:**
Ship type: 3
Pollution category: Y

SECTION 15: Regulatory information

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : 3, 40

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c
E2

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Inventory list

Australia inventory (AIIC) : All components are listed or exempted.

Canada inventory (DSL-NDSL) : All components are listed or exempted.

China inventory (IECSC) : All components are listed or exempted.

SECTION 15: Regulatory information

Japan inventory (CSCL) : All components are listed or exempted.

Japan inventory (Industrial Safety and Health Act) : All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC) : All components are listed or exempted.

Philippines inventory (PICCS) : All components are listed or exempted.

Korea inventory (KECI) : All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI) : All components are listed or exempted.

United States inventory (TSCA 8b) : All components are active or exempted.

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

90622-57-4; 64742-48-9

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = GB CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Asp. Tox. 1, H304	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications

Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3

Date of issue/ Date of revision : 19 August 2025

Date of previous issue : 29 January 2025

Version : 2.05

Product code : 1165481

Notice to reader

SECTION 16: Other information

"The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, ""ExxonMobil"" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest."

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	:	UVCB
Code	:	1165481
Product name	:	PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario	:	Functional fluids - Professional
List of use descriptors	:	**Identified use name:** Functional fluids - Professional **Process Category:** PROC01, PROC02, PROC03, PROC08a, PROC09, PROC20 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC09a, ERC09b
Environmental contributing scenarios	:	**General exposures -** ERC09a, ERC09b
Health Contributing scenarios	:	**General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC08a, PROC09, PROC20
Processes and activities covered by the exposure scenario	:	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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics	:	Predominantly hydrophobic Substance is complex UVCB.
Amounts used	:	Annual site tonnage (tonnes/year): 0.01 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 1 Maximum daily site tonnage (kg/day): 0.027 kg/day Regional use tonnage (tonnes/year): 20 tonnes/year
Frequency and duration of use	:	Continuous release Emission days (days per year): 365 days per year
Environment factors not influenced by risk management	:	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	:	Release fraction to air from process (initial release prior to RMM): 0.05 Release fraction to soil from process (initial release prior to RMM): 0.025 Release fraction to wastewater from process (initial release prior to RMM): 0.025
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 % No secondary wastewater treatment required. Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: Not applicable. Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %
Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 2.4 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 9.13b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.0004 Maximum Risk Characterisation Ratios for waste water emissions 0.0048 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Road and construction applications

List of use descriptors : **Identified use name:** Road and construction applications
Process Category: PROC01, PROC02, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08d, ERC08f

Environmental contributing scenarios : **General exposures -** ERC08d, ERC08f

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13

Processes and activities covered by the exposure scenario : Bulk loading (including marine vessel/barge, rail/road car and IBC loading)

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.051 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 0.14 kg/day
Regional use tonnage (tonnes/year): 100 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.95
Release fraction to soil from process (initial release prior to RMM): 0.04
Release fraction to wastewater from process (initial release prior to RMM): 0.01

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from onsite wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 12 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.15.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.00081 Maximum Risk Characterisation Ratios for waste water emissions 0.0052 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	:	UVCB
Code	:	1165481
Product name	:	PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario	:	Water treatment chemicals - Professional
List of use descriptors	:	**Identified use name:** Water treatment chemicals - Professional **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC13 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08f
Environmental contributing scenarios	:	**General exposures -** ERC08f
Health Contributing scenarios	:	**General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC13
Processes and activities covered by the exposure scenario	:	Covers the use of the substance for the treatment of water in open and closed systems.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics	:	Predominantly hydrophobic Substance is complex UVCB.
Amounts used	:	Annual site tonnage (tonnes/year): 1.5 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 1 Maximum daily site tonnage (kg/day): 4 kg/day Regional use tonnage (tonnes/year): 15 tonnes/year
Frequency and duration of use	:	Continuous release Emission days (days per year): 365 days per year
Environment factors not influenced by risk management	:	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	:	Release fraction to air from process (initial release prior to RMM): 0.01 Release fraction to soil from process (initial release prior to RMM): 0 Release fraction to wastewater from process (initial release prior to RMM): 0.99
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	If discharging to municipal sewage treatment plant, no on-site wastewater treatment required. If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : >= 59.9 % Risk from environmental exposure is driven by freshwater sediment. Treat air emission to provide a typical removal efficiency of: Not applicable. Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: >= 98.5 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 4 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 98.5 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.22b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.84 Maximum Risk Characterisation Ratios for waste water emissions 0.91 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	:	UVCB
Code	:	1165481
Product name	:	PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario	:	Use in laboratories - Professional
List of use descriptors	:	**Identified use name:** Use in laboratories - Professional **Process Category:** PROC10, PROC15 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a
Environmental contributing scenarios	:	**General exposures -** ERC08a
Health Contributing scenarios	:	**General measures applicable to all activities -** PROC10, PROC15
Processes and activities covered by the exposure scenario	:	Use of small quantities within laboratory settings, including material transfers and equipment cleaning

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics	:	Predominantly hydrophobic Substance is complex UVCB.
Amounts used	:	Annual site tonnage (tonnes/year): 0.00025 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 1 Maximum daily site tonnage (kg/day): 0.00068 kg/day Regional use tonnage (tonnes/year): 0.5 tonnes/year
Frequency and duration of use	:	Continuous release Emission days (days per year): 365 days per year
Environment factors not influenced by risk management	:	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	:	Release fraction to air from process (initial release prior to RMM): 0.5 Release fraction to soil from process (initial release prior to RMM): 0 Release fraction to wastewater from process (initial release prior to RMM): 0.5
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 % No secondary wastewater treatment required. Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: 0 % Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %
Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 0.061 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.17.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.0002 Maximum Risk Characterisation Ratios for waste water emissions 0.0046 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Polymer processing - Professional

List of use descriptors : **Identified use name:** Polymer processing - Professional
Process Category: PROC01, PROC02, PROC06, PROC08a, PROC08b, PROC14, PROC21
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d

Environmental contributing scenarios : **General exposures -** ERC08a, ERC08d

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC06, PROC08a, PROC08b, PROC14, PROC21

Processes and activities covered by the exposure scenario : Processing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.021 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 0.057 kg/day
Regional use tonnage (tonnes/year): 42 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.98
Release fraction to soil from process (initial release prior to RMM): 0.01
Release fraction to wastewater from process (initial release prior to RMM): 0.01

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of: 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from onsite wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 5 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.21b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions: 0.00033 Maximum Risk Characterisation Ratios for waste water emissions: 0.0048 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Manufacture of substance

List of use descriptors : **Identified use name:** Manufacture of substance
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15
Sector of end use: SU03, SU08, SU09, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC04

Environmental contributing scenarios : **General exposures -** ERC01, ERC04

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 900 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 45 000 kg/day
Regional use tonnage (tonnes/year): 900 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.01
Release fraction to soil from process (initial release prior to RMM): 0.0001
Release fraction to wastewater from process (initial release prior to RMM): 0.00001

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, no on-site wastewater treatment required.
If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
Risk from environmental exposure is driven by freshwater sediment.
Treat air emission to provide a typical removal efficiency of: 90 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: >= 32.3 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 10 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 800 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	During manufacturing, no waste of the substance is generated.
Conditions and measures related to external recovery of waste	:	During manufacturing, no waste of the substance is generated.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 1.1.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.00005 Maximum Risk Characterisation Ratios for waste water emissions 0.056 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Scaled local assessments for EU refineries have been performed using site-specific data and are attached in PETRORISK file - "Site-Specific Production" worksheet.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Distribution of substance

List of use descriptors : **Identified use name:** Distribution of substance
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15
Sector of end use: SU03, SU08, SU09
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC02, ERC03, ERC04, ERC05, ERC06a, ERC06b, ERC06c, ERC06d, ERC07

Environmental contributing scenarios : **General exposures -** ERC01, ERC02, ERC03, ERC04, ERC05, ERC06a, ERC06b, ERC06c, ERC06d, ERC07

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.28 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.002
Maximum daily site tonnage (kg/day): 14 kg/day
Regional use tonnage (tonnes/year): 140 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.01
Release fraction to soil from process (initial release prior to RMM): 0.00001
Release fraction to wastewater from process (initial release prior to RMM): 0.0000001

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: 90 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 1 300 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 1.1b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.0000094 Maximum Risk Characterisation Ratios for waste water emissions 0.0044 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	:	UVCB
Code	:	1165481
Product name	:	PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario	:	Use as an intermediate
List of use descriptors	:	**Identified use name:** Use as an intermediate **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15 **Sector of end use:** SU03, SU08, SU09 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC06a
Environmental contributing scenarios	:	**General exposures -** ERC06a
Health Contributing scenarios	:	**General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15
Processes and activities covered by the exposure scenario	:	Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics	:	Predominantly hydrophobic Substance is complex UVCB.
Amounts used	:	Annual site tonnage (tonnes/year): 1 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 1 Maximum daily site tonnage (kg/day): 50 kg/day Regional use tonnage (tonnes/year): 1 tonnes/year
Frequency and duration of use	:	Continuous release Emission days (days per year): 20 days per year
Environment factors not influenced by risk management	:	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	:	Release fraction to air from process (initial release prior to RMM): 0.001 Release fraction to soil from process (initial release prior to RMM): 0.001 Release fraction to wastewater from process (initial release prior to RMM): 0.00001
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 % No secondary wastewater treatment required. Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: 80 % Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %
Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 4 400 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	During manufacturing, no waste of the substance is generated.
Conditions and measures related to external recovery of waste	:	During manufacturing, no waste of the substance is generated.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 6.1a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	:	UVCB
Code	:	1165481
Product name	:	PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario	:	Formulation and (re)packing of substances and mixtures
List of use descriptors	:	**Identified use name:** Formulation and (re)packing of substances and mixtures **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15 **Sector of end use:** SU03, SU10 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC02
Environmental contributing scenarios	:	**General exposures -** ERC02
Health Contributing scenarios	:	**General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15
Processes and activities covered by the exposure scenario	:	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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics	:	Predominantly hydrophobic Substance is complex UVCB.
Amounts used	:	Annual site tonnage (tonnes/year): 17 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 1 Maximum daily site tonnage (kg/day): 1 700 kg/day Regional use tonnage (tonnes/year): 17 tonnes/year
Frequency and duration of use	:	Continuous release Emission days (days per year): 10 days per year
Environment factors not influenced by risk management	:	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	:	Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): 0.001 Release fraction to soil from process (initial release prior to RMM): 0.0001 Release fraction to wastewater from process (initial release prior to RMM): 0.000005
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 % No secondary wastewater treatment required. Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: 0 % Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 110 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 2.2.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.000017 Maximum Risk Characterisation Ratios for waste water emissions 0.0052 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use in coatings - Industrial

List of use descriptors : **Identified use name:** Use in coatings - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC14, PROC15
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Environmental contributing scenarios : **General exposures -** ERC04

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC14, PROC15

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 60 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 3 000 kg/day
Regional use tonnage (tonnes/year): 60 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.98
Release fraction to soil from process (initial release prior to RMM): 0
Release fraction to wastewater from process (initial release prior to RMM): 0.00002

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater sediment.
Treat air emission to provide a typical removal efficiency of: 90 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 80 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 4.3a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.00026 Maximum Risk Characterisation Ratios for waste water emissions 0.037 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use in cleaning agents - Industrial

List of use descriptors : **Identified use name:** Use in cleaning agents - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC10, PROC13
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Environmental contributing scenarios : **General exposures -** ERC04

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC10, PROC13

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 7.5 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 380 kg/day
Regional use tonnage (tonnes/year): 7.5 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 1
Release fraction to soil from process (initial release prior to RMM): 0
Release fraction to wastewater from process (initial release prior to RMM): 0.0000001

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: 70 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 34 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 4.4a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.00011 Maximum Risk Characterisation Ratios for waste water emissions 0.0045 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Lubricants - Industrial

List of use descriptors : **Identified use name:** Lubricants - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC17, PROC18
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04, ERC07

Environmental contributing scenarios : **General exposures -** ERC04, ERC07

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC17, PROC18

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

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

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.005
Release fraction to soil from process (initial release prior to RMM): 0.001
Release fraction to wastewater from process (initial release prior to RMM): 0.000001

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: 70 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 32 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 4.6a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.0000099 Maximum Risk Characterisation Ratios for waste water emissions 0.0046 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use in metal working fluids/rolling oils - Industrial

List of use descriptors : **Identified use name:** Use in metal working fluids/rolling oils - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC17
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Environmental contributing scenarios : **General exposures -** ERC04

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC17

Processes and activities covered by the exposure scenario : Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 15 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 770 kg/day
Regional use tonnage (tonnes/year): 15 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.02
Release fraction to soil from process (initial release prior to RMM): 0
Release fraction to wastewater from process (initial release prior to RMM): 0.000001

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: 70 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 66 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 4.7a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.000014 Maximum Risk Characterisation Ratios for waste water emissions 0.0049 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use as a fuel - Industrial

List of use descriptors : **Identified use name:** Use as a fuel - Industrial
Process Category: PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC07

Environmental contributing scenarios : **General exposures -** ERC07

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 100 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 5 000 kg/day
Regional use tonnage (tonnes/year): 100 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.005
Release fraction to soil from process (initial release prior to RMM): 0
Release fraction to wastewater from process (initial release prior to RMM): 0.00001

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater sediment.
Treat air emission to provide a typical removal efficiency of: 95 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from onsite wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 160 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	Combustion emissions considered in regional exposure assessment. Combustion emissions limited by required exhaust emission controls.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 7.12a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.000011 Maximum Risk Characterisation Ratios for waste water emissions 0.031 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Functional fluids - Industrial

List of use descriptors : **Identified use name:** Functional fluids - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC07

Environmental contributing scenarios : **General exposures -** ERC07

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 10 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 500 kg/day
Regional use tonnage (tonnes/year): 20 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.005
Release fraction to soil from process (initial release prior to RMM): 0.001
Release fraction to wastewater from process (initial release prior to RMM): 0.000001

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: 0 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from onsite wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 44 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 7.13a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.000012 Maximum Risk Characterisation Ratios for waste water emissions 0.0047 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use in laboratories - Industrial

List of use descriptors : **Identified use name:** Use in laboratories - Industrial
Process Category: PROC10, PROC15
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC04

Environmental contributing scenarios : **General exposures -** ERC02, ERC04

Health Contributing scenarios : **General measures applicable to all activities -** PROC10, PROC15

Processes and activities covered by the exposure scenario : Use of the substance within laboratory settings, including material transfers and equipment cleaning

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.5 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 25 kg/day
Regional use tonnage (tonnes/year): 0.5 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.025
Release fraction to soil from process (initial release prior to RMM): 0.0001
Release fraction to wastewater from process (initial release prior to RMM): 0.02

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, no on-site wastewater treatment required.
If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
Risk from environmental exposure is driven by freshwater sediment.
Treat air emission to provide a typical removal efficiency of: 0 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: >=87.8 %

Organisational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from onsite wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 80 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	Not available.

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.00001 Maximum Risk Characterisation Ratios for waste water emissions 0.31 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use in rubber production and processing

List of use descriptors : **Identified use name:** Use in rubber production and processing
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09, PROC13, PROC14, PROC15, PROC21
Sector of end use: SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC04, ERC06d

Environmental contributing scenarios : **General exposures -** ERC01, ERC04, ERC06d

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09, PROC13, PROC14, PROC15, PROC21

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 5 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 250 kg/day
Regional use tonnage (tonnes/year): 5 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.01
Release fraction to soil from process (initial release prior to RMM): 0.0001
Release fraction to wastewater from process (initial release prior to RMM): 0.00001

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: 0 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: >=0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 20 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 4.19.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.000012 Maximum Risk Characterisation Ratios for waste water emissions 0.0058 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Polymer processing - Industrial

List of use descriptors : **Identified use name:** Polymer processing - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC08a, PROC08b, PROC09, PROC13, PROC14, PROC21
Sector of end use: SU03, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC04

Environmental contributing scenarios : **General exposures -** ERC04

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC05, PROC06, PROC08a, PROC08b, PROC09, PROC13, PROC14, PROC21

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

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

Frequency and duration of use : Continuous release
Emission days (days per year): 20 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.25
Release fraction to soil from process (initial release prior to RMM): 0.00001
Release fraction to wastewater from process (initial release prior to RMM): 0

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: 80 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 33 000 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 4.21a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.000026 Maximum Risk Characterisation Ratios for waste water emissions 0.0044 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Water treatment chemicals - Industrial

List of use descriptors : **Identified use name:** Water treatment chemicals - Industrial
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC13
Sector of end use: SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC03, ERC04

Environmental contributing scenarios : **General exposures -** ERC03, ERC04

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC13

Processes and activities covered by the exposure scenario : Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 15 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 49 kg/day
Regional use tonnage (tonnes/year): 15 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 300 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.05
Release fraction to soil from process (initial release prior to RMM): 0
Release fraction to wastewater from process (initial release prior to RMM): 0.95

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, no on-site wastewater treatment required.
If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
Risk from environmental exposure is driven by freshwater sediment.
Treat air emission to provide a typical removal efficiency of: 0 %
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 99.9 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 49 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 99.9 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 3.22a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.000059 Maximum Risk Characterisation Ratios for waste water emissions 0.91 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use in coatings - Professional

List of use descriptors : **Identified use name:** Use in coatings - Professional
Process Category: PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC15, PROC19
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d

Environmental contributing scenarios : **General exposures -** ERC08a, ERC08d

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC15, PROC19

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.12 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 0.33 kg/day
Regional use tonnage (tonnes/year): 240 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.98
Release fraction to air from wide dispersive use (regional only): 0.98
Release fraction to soil from process (initial release prior to RMM): 0.01
Release fraction to soil from wide dispersive use (regional only): 0.01
Release fraction to wastewater from process (initial release prior to RMM): 0.01

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 % No secondary wastewater treatment required. Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: Not applicable. Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %
Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 25 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.3b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use in cleaning agents - Professional

List of use descriptors : **Identified use name:** Use in cleaning agents - Professional
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC19
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d

Environmental contributing scenarios : **General exposures -** ERC08a, ERC08d

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC19

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.0035 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 0.0096 kg/day
Regional use tonnage (tonnes/year): 7 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.02
Release fraction to air from wide dispersive use (regional only): 0.02
Release fraction to soil from process (initial release prior to RMM): 0
Release fraction to soil from wide dispersive use (regional only): 0
Release fraction to wastewater from process (initial release prior to RMM): 0.000001

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 0.86 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.4b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Lubricants - Professional (Low release)

List of use descriptors : **Identified use name:** Lubricants - Professional (Low release)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC17, PROC18, PROC20
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a, ERC09b

Environmental contributing scenarios : **General exposures -** ERC09a, ERC09b

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC17, PROC18, PROC20

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.0018 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 365 kg/day
Regional use tonnage (tonnes/year): 3.7 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.01
Release fraction to soil from process (initial release prior to RMM): 0.01
Release fraction to wastewater from process (initial release prior to RMM): 0.01

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: >=0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 0.45 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 9.6b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions: 0.000039 Maximum Risk Characterisation Ratios for waste water emissions: 0.0045 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Lubricants - Professional (high release)

List of use descriptors : **Identified use name:** Lubricants - Professional (high release)
Process Category: PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC17, PROC18, PROC20
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d

Environmental contributing scenarios : **General exposures -** ERC08a, ERC08d

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC17, PROC18, PROC20

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.0018 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 0.005 kg/day
Regional use tonnage (tonnes/year): 3.7 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.15
Release fraction to soil from process (initial release prior to RMM): 0.05
Release fraction to wastewater from process (initial release prior to RMM): 0.05

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: >=0 %

Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 0.45 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.6c.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions: 0.00015 Maximum Risk Characterisation Ratios for waste water emissions: 0.0046 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	:	UVCB
Code	:	1165481
Product name	:	PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario	:	Use in metal working fluids/rolling oils - Professional
List of use descriptors	:	**Identified use name:** Use in metal working fluids/rolling oils - Professional **Process Category:** PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC17 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a, ERC08d
Environmental contributing scenarios	:	**General exposures -** ERC08a, ERC08d
Health Contributing scenarios	:	**General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC17
Processes and activities covered by the exposure scenario	:	Covers the use in formulated MWFs including transfer operations, open and contained cutting/machining activities, automated and manual application of corrosion protections, draining and working on contaminated/reject articles, and disposal of waste oils.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics	:	Predominantly hydrophobic Substance is complex UVCB.
Amounts used	:	Annual site tonnage (tonnes/year): 0.0019 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 1 Maximum daily site tonnage (kg/day): 0.0053 kg/day Regional use tonnage (tonnes/year): 3.8 tonnes/year
Frequency and duration of use	:	Continuous release Emission days (days per year): 365 days per year
Environment factors not influenced by risk management	:	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	:	Release fraction to air from process (initial release prior to RMM): 0.15 Release fraction to soil from process (initial release prior to RMM): 0.05 Release fraction to wastewater from process (initial release prior to RMM): 0.05
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 % No secondary wastewater treatment required. Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: Not applicable. Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %
Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 0.47 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.7c.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.00015 Maximum Risk Characterisation Ratios for waste water emissions 0.0046 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use as binders and release agents - Professional

List of use descriptors : **Identified use name:** Use as binders and release agents - Professional
Process Category: PROC01, PROC02, PROC03, PROC04, PROC06, PROC08a, PROC08b, PROC10, PROC11, PROC14
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d

Environmental contributing scenarios : **General exposures -** ERC08a, ERC08d

Health Contributing scenarios : **General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC04, PROC06, PROC08a, PROC08b, PROC10, PROC11, PROC14

Processes and activities covered by the exposure scenario : Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.059 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage (kg/day): 0.16 kg/day
Regional use tonnage (tonnes/year): 120 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.95
Release fraction to soil from process (initial release prior to RMM): 0.025
Release fraction to wastewater from process (initial release prior to RMM): 0.025

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 %
No secondary wastewater treatment required.
Risk from environmental exposure is driven by freshwater.
Treat air emission to provide a typical removal efficiency of: Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %

Organisational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils.
Prevent discharge of undissolved substance to or recover from onsite wastewater.
Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 12 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.10b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.0023 Maximum Risk Characterisation Ratios for waste water emissions 0.0067 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	:	UVCB
Code	:	1165481
Product name	:	PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario	:	Use in agrochemicals - Professional
List of use descriptors	:	**Identified use name:** Use in agrochemicals - Professional **Process Category:** PROC01, PROC02, PROC04, PROC08a, PROC08b, PROC11, PROC13 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a, ERC08d
Environmental contributing scenarios	:	**General exposures -** ERC08a, ERC08d
Health Contributing scenarios	:	**General measures applicable to all activities -** PROC01, PROC02, PROC04, PROC08a, PROC08b, PROC11, PROC13
Processes and activities covered by the exposure scenario	:	Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics	:	Predominantly hydrophobic Substance is complex UVCB.
Amounts used	:	Annual site tonnage (tonnes/year): 0.1 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 1 Maximum daily site tonnage (kg/day): 0.27 kg/day Regional use tonnage (tonnes/year): 50 tonnes/year
Frequency and duration of use	:	Continuous release Emission days (days per year): 365 days per year
Environment factors not influenced by risk management	:	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	:	Release fraction to air from process (initial release prior to RMM): 0.9 Release fraction to soil from process (initial release prior to RMM): 0.09 Release fraction to wastewater from process (initial release prior to RMM): 0.01
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 % No secondary wastewater treatment required. Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: Not applicable. Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %
Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 22 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.11a.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.0016 Maximum Risk Characterisation Ratios for waste water emissions 0.0059 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	:	UVCB
Code	:	1165481
Product name	:	PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario	:	Use as a fuel - Professional
List of use descriptors	:	**Identified use name:** Use as a fuel - Professional **Process Category:** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC09a, ERC09b
Environmental contributing scenarios	:	**General exposures -** ERC09a, ERC09b
Health Contributing scenarios	:	**General measures applicable to all activities -** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16
Processes and activities covered by the exposure scenario	:	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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics	:	Predominantly hydrophobic Substance is complex UVCB.
Amounts used	:	Annual site tonnage (tonnes/year): 0.05 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 1 Maximum daily site tonnage (kg/day): 0.14 kg/day Regional use tonnage (tonnes/year): 100 tonnes/year
Frequency and duration of use	:	Continuous release Emission days (days per year): 365 days per year
Environment factors not influenced by risk management	:	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	:	Release fraction to air from process (initial release prior to RMM): 0.0001 Release fraction to soil from process (initial release prior to RMM): 0.00001 Release fraction to wastewater from process (initial release prior to RMM): 0.00001
Technical conditions and measures at process level (source) to prevent release	:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil	:	If discharging to municipal sewage treatment plant, provide the required on-site wastewater removal efficiency of : 0 % No secondary wastewater treatment required. Risk from environmental exposure is driven by freshwater. Treat air emission to provide a typical removal efficiency of: Not applicable. Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of: 0 %
Organisational measures to prevent/limit release from site	:	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 12 kg/day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96.2 %
Conditions and measures related to external treatment of waste for disposal	:	Combustion emissions considered in regional exposure assessment. Combustion emissions limited by required exhaust emission controls.
Conditions and measures related to external recovery of waste	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. Do not induce vomiting.

General measures (flammability)

Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the Dangerous Substances and Explosion Atmospheres Regulations (DSEAR) and The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations (EPS). Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.

Use in contained systems. Avoid all possible sources of ignition (spark or flame). - No smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/ bond container and receiving equipment. Use non-sparking tools. Refer to relevant technical standards / EU regulations / national regulations. Review SDS for additional advice..

Product characteristics	:	Liquid
Concentration of substance in mixture or article	:	Covers percentage substance in the product up to 100 %.
Frequency and duration of use/exposure	:	Covers daily exposures up to 8 hours (unless stated differently)
Other operational conditions affecting worker exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene	:	Assumes a good basic standard of occupational hygiene is implemented

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 9.12b.v1

Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Further details on scaling and control technologies are provided in SPERC factsheet. Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Maximum Risk Characterization Ratios for air emissions 0.00001 Maximum Risk Characterisation Ratios for waste water emissions 0.0044 Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Health	:	Available hazard data do not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterisation.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Water treatment chemicals - Consumer

List of use descriptors : **Identified use name:** Water treatment chemicals - Consumer
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08f
Market sector by type of chemical product: PC36, PC37

Environmental contributing scenarios : **General exposures -** ERC08f

Health Contributing scenarios : **General measures applicable to all activities -** PC36, PC37

Processes and activities covered by the exposure scenario : Covers the use of the substance for the treatment of water in open and closed systems.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 1.5 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.0005
Maximum daily site tonnage (kg/day): 4 kg/day
Regional use tonnage (tonnes/year): 10 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.01
Release fraction to soil from process (initial release prior to RMM): 0
Release fraction to wastewater from process (initial release prior to RMM): 0.99

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow: 2 000 m^3/day
Estimated substance removal from wastewater via municipal sewage treatment: 96.2 %
Not applicable as there is no release to wastewater.
Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 4 kg/day

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

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

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. 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.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice.

Product characteristics	:	Liquid
Amounts used	:	Not applicable.
Frequency and duration of use/exposure	:	Not applicable.
Other given operational conditions affecting consumers exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Not applicable.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.22c.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Maximum Risk Characterization Ratios for air emissions 0.84 Maximum Risk Characterisation Ratios for waste water emissions 0.91 Not applicable for wide dispersive uses
Health	:	Not applicable.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Other consumer uses

List of use descriptors : **Identified use name:** Other consumer uses
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d
Market sector by type of chemical product: PC28, PC39

Environmental contributing scenarios : **General exposures -** ERC08a, ERC08d

Health Contributing scenarios : **General measures applicable to all activities -** PC28, PC39

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.0025 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.0005
Maximum daily site tonnage (kg/day): 0.0068 kg/day
Regional use tonnage (tonnes/year): 5 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.95
Release fraction to soil from process (initial release prior to RMM): 0.025
Release fraction to wastewater from process (initial release prior to RMM): 0.025

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow: 2 000 m^3/day
Estimated substance removal from wastewater via municipal sewage treatment: 96.2 %
Not applicable as there is no release to wastewater.
Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 0.61 kg/day

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

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

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. 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.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice.

Product characteristics	:	Liquid
Amounts used	:	Not applicable.
Frequency and duration of use/exposure	:	Not applicable.
Other given operational conditions affecting consumers exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Not applicable.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.16.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Maximum Risk Characterization Ratios for air emissions 0.000099 Maximum Risk Characterisation Ratios for waste water emissions 0.0045 Not applicable for wide dispersive uses
Health	:	Not applicable.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Functional fluids - Consumer

List of use descriptors : **Identified use name:** Functional fluids - Consumer
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a, ERC09b
Market sector by type of chemical product: PC16, PC17

Environmental contributing scenarios : **General exposures -** ERC09a, ERC09b

Health Contributing scenarios : **General measures applicable to all activities -** PC16, PC17

Processes and activities covered by the exposure scenario : Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

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

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.05
Release fraction to soil from process (initial release prior to RMM): 0.025
Release fraction to wastewater from process (initial release prior to RMM): 0.025

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow: 2 000 m^3/day
Estimated substance removal from wastewater via municipal sewage treatment: 96.2 %
Not applicable as there is no release to wastewater.
Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 2.4 kg/day

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

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

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. 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.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice.

Product characteristics	:	Liquid
Amounts used	:	Not applicable.
Frequency and duration of use/exposure	:	Not applicable.
Other given operational conditions affecting consumers exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Not applicable.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 9.13c.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Maximum Risk Characterization Ratios for air emissions: 0.0004 Maximum Risk Characterisation Ratios for waste water emissions: 0.0048
Health	:	Not applicable.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use as a fuel - Consumer

List of use descriptors : **Identified use name:** Use as a fuel - Consumer
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a, ERC09b
Market sector by type of chemical product: PC13

Environmental contributing scenarios : **General exposures -** ERC09a, ERC09b

Health Contributing scenarios : **General measures applicable to all activities -** PC13

Processes and activities covered by the exposure scenario : Covers consumer uses in liquid fuels.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.05 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.0005
Maximum daily site tonnage (kg/day): 0.14 kg/day
Regional use tonnage (tonnes/year): 100 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.0001
Release fraction to soil from process (initial release prior to RMM): 0.00001
Release fraction to wastewater from process (initial release prior to RMM): 0.00001

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow: 2 000 m³/day
Estimated substance removal from wastewater via municipal sewage treatment: 96.2 %
Not applicable as there is no release to wastewater.
Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 12 kg/day

Conditions and measures related to external treatment of waste for disposal : Combustion emissions considered in regional exposure assessment.
Combustion emissions limited by required exhaust emission controls.

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

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. 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.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice.

Product characteristics	:	Liquid
Amounts used	:	Not applicable.
Frequency and duration of use/exposure	:	Not applicable.
Other given operational conditions affecting consumers exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Not applicable.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 9.12c.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Maximum Risk Characterization Ratios for air emissions: 0.00001 Maximum Risk Characterisation Ratios for waste water emissions: 0.0044 Not applicable for wide dispersive uses
Health	:	Not applicable.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use in agrochemicals - Consumer

List of use descriptors : **Identified use name:** Use in agrochemicals - Consumer
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d
Market sector by type of chemical product: PC12, PC27

Environmental contributing scenarios : **General exposures -** ERC08a, ERC08d

Health Contributing scenarios : **General measures applicable to all activities -** PC12, PC27

Processes and activities covered by the exposure scenario : Covers the consumer use in agrochemicals in liquid and solid forms.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.1 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.0005
Maximum daily site tonnage (kg/day): 0.27 kg/day
Regional use tonnage (tonnes/year): 50 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.9
Release fraction to soil from process (initial release prior to RMM): 0.09
Release fraction to wastewater from process (initial release prior to RMM): 0.01

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow: 2 000 m^3/day
Estimated substance removal from wastewater via municipal sewage treatment: 96.2 %
Not applicable as there is no release to wastewater.
Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 22 kg/day

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

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

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. 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.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice.

Product characteristics	:	Liquid
Amounts used	:	Not applicable.
Frequency and duration of use/exposure	:	Not applicable.
Other given operational conditions affecting consumers exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Not applicable.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.11b.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Maximum Risk Characterization Ratios for air emissions: 0.0016 Maximum Risk Characterisation Ratios for waste water emissions: 0.0059 Not applicable for wide dispersive uses
Health	:	Not applicable.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Lubricants - Consumer (high release)

List of use descriptors : **Identified use name:** Lubricants - Consumer (high release)
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08d
Market sector by type of chemical product: PC01, PC24, PC31

Environmental contributing scenarios : **General exposures -** ERC08a, ERC08d

Health Contributing scenarios : **General measures applicable to all activities -** PC01, PC24, PC31

Processes and activities covered by the exposure scenario : Covers the consumer use of formulated lubricants in closed and open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.0013 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.0005
Maximum daily site tonnage (kg/day): 0.0034 kg/day
Regional use tonnage (tonnes/year): 2.5 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.15
Release fraction to soil from process (initial release prior to RMM): 0.05
Release fraction to wastewater from process (initial release prior to RMM): 0.05

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow: 2 000 m^3/day
Estimated substance removal from wastewater via municipal sewage treatment: 96.2 %
Not applicable as there is no release to wastewater.
Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 0.31 kg/day

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

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

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. 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.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice.

Product characteristics	:	Liquid
Amounts used	:	Not applicable.
Frequency and duration of use/exposure	:	Not applicable.
Other given operational conditions affecting consumers exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Not applicable.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.6e.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Maximum Risk Characterization Ratios for air emissions 0.000099 Maximum Risk Characterisation Ratios for waste water emissions 0.0045 Not applicable for wide dispersive uses
Health	:	Not applicable.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Lubricants - Consumer (Low release)

List of use descriptors : **Identified use name:** Lubricants - Consumer (Low release)
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09a, ERC09b
Market sector by type of chemical product: PC01, PC24, PC31

Environmental contributing scenarios : **General exposures -** ERC09a, ERC09b

Health Contributing scenarios : **General measures applicable to all activities -** PC01, PC24, PC31

Processes and activities covered by the exposure scenario : Covers the consumer use of formulated lubricants in closed and open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.0013 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.0005
Maximum daily site tonnage (kg/day): 0.0034 kg/day
Regional use tonnage (tonnes/year): 2.5 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.01
Release fraction to soil from process (initial release prior to RMM): 0.01
Release fraction to wastewater from process (initial release prior to RMM): 0.01

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow: 2 000 m^3/day
Estimated substance removal from wastewater via municipal sewage treatment: 96.2 %
Not applicable as there is no release to wastewater.
Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 0.31 kg/day

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

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

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. 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.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice.

Product characteristics	:	Liquid
Amounts used	:	Not applicable.
Frequency and duration of use/exposure	:	Not applicable.
Other given operational conditions affecting consumers exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Not applicable.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 9.6d.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Maximum Risk Characterization Ratios for air emissions 0.000029 Maximum Risk Characterisation Ratios for waste water emissions 0.0045 Not applicable for wide dispersive uses
Health	:	Not applicable.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition : UVCB

Code : 1165481

Product name : PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario : Use in cleaning agents - Consumer

List of use descriptors : **Identified use name:** Use in cleaning agents - Consumer
Sector of end use: SU21
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC08a, ERC08b
Market sector by type of chemical product: PC03, PC04, PC08, PC09a, PC09b, PC09c, PC24, PC35, PC38

Environmental contributing scenarios : **General exposures -** ERC08a, ERC08b

Health Contributing scenarios : **General measures applicable to all activities -** PC03, PC04, PC08, PC09a, PC09b, PC09c, PC24, PC35, PC38

Processes and activities covered by the exposure scenario : 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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Predominantly hydrophobic
Substance is complex UVCB.

Amounts used : Annual site tonnage (tonnes/year): 0.00025 tonnes/year
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 0.0005
Maximum daily site tonnage (kg/day): 0.00068 kg/day
Regional use tonnage (tonnes/year): 0.5 tonnes/year

Frequency and duration of use : Continuous release
Emission days (days per year): 365 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.95
Release fraction to soil from process (initial release prior to RMM): 0.025
Release fraction to wastewater from process (initial release prior to RMM): 0.025

Conditions and measures related to municipal sewage treatment plant : Assumed domestic sewage treatment plant flow: 2 000 m³/day
Estimated substance removal from wastewater via municipal sewage treatment: 96.2 %
Not applicable as there is no release to wastewater.
Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 0.062 kg/day

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

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

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. 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.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice.

Product characteristics	:	Liquid
Amounts used	:	Not applicable.
Frequency and duration of use/exposure	:	Not applicable.
Other given operational conditions affecting consumers exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Not applicable.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.4c.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Maximum Risk Characterization Ratios for air emissions 0.000019 Maximum Risk Characterisation Ratios for waste water emissions 0.0044 Not applicable for wide dispersive uses
Health	:	Not applicable.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition	:	UVCB
Code	:	1165481
Product name	:	PC FLUIDS ISOPAR G (EU)

Section 1 - Title

Short title of the exposure scenario	:	Use in coatings - Consumer
List of use descriptors	:	**Identified use name:** Use in coatings - Consumer **Sector of end use:** SU21 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a, ERC08d **Market sector by type of chemical product:** PC01, PC04, PC08, PC09a, PC09b, PC09c, PC15, PC18, PC23, PC24, PC31, PC34
Environmental contributing scenarios	:	**General exposures -** ERC08a, ERC08d
Health Contributing scenarios	:	**General measures applicable to all activities -** PC01, PC04, PC08, PC09a, PC09b, PC09c, PC15, PC18, PC23, PC24, PC31, PC34
Processes and activities covered by the exposure scenario	:	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 - Exposure controls

Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics	:	Predominantly hydrophobic Substance is complex UVCB.
Amounts used	:	Annual site tonnage (tonnes/year): 0.005 tonnes/year Fraction of EU tonnage used in region: 0.1 Fraction of Regional tonnage used locally: 0.0005 Maximum daily site tonnage (kg/day): 0.014 kg/day Regional use tonnage (tonnes/year): 10 tonnes/year
Frequency and duration of use	:	Continuous release Emission days (days per year): 365 days per year
Environment factors not influenced by risk management	:	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
Other operational conditions of use affecting environmental exposure	:	Release fraction to air from process (initial release prior to RMM): 0.985 Release fraction to soil from process (initial release prior to RMM): 0.005 Release fraction to wastewater from process (initial release prior to RMM): 0.01
Conditions and measures related to municipal sewage treatment plant	:	Assumed domestic sewage treatment plant flow: 2 000 m³/day Estimated substance removal from wastewater via municipal sewage treatment: 96.2 % Not applicable as there is no release to wastewater. Maximum allowable site tonnage (MSafe) (kg/d): [Assumed domestic sewage treatment plant flow]: 1.2 kg/day
Conditions and measures related to external treatment of waste for disposal	:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste	:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Contributing scenario controlling consumer exposure for 2: General measures applicable to all activities

General measures (aspiration)

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.

Product safety-related measures: Do not ingest. If swallowed then seek immediate medical assistance. 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.

General measures (flammability)

Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For flammable substances a selection of the following measures need to be implemented to control unintended ignition of flammable substances. These measures are expected to be suitable to prevent minor accidents which might occur during consumer use. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, it is anticipated that there is no immediate concern as the risk should be controlled to an acceptable level. Use only with adequate ventilation. Keep away from sources of ignition - No smoking. Review SDS for additional advice.

Product characteristics	:	Liquid
Amounts used	:	Not applicable.
Frequency and duration of use/exposure	:	Not applicable.
Other given operational conditions affecting consumers exposure	:	No exposure assessment presented for human health.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Not applicable.

Section 3 - Exposure estimation and reference to its source

Website:	:	Not applicable.

Exposure estimation and reference to its source - Environment: 1: General exposures

Exposure assessment (environment):	:	Hydrocarbon Block Method (Petrorisk)
Exposure estimation and reference to its source	:	ESVOC SPERC 8.3c.v1

Exposure estimation and reference to its source - Consumers: 2: General measures applicable to all activities

Exposure assessment (human):	:	Not applicable.
Exposure estimation and reference to its source	:	Not applicable.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment	:	Maximum Risk Characterization Ratios for air emissions: 0.000079 Maximum Risk Characterisation Ratios for waste water emissions: 0.0045 Not applicable for wide dispersive uses
Health	:	Not applicable.

Additional good practice advice beyond the REACH CSA

Environment	:	Not available.
Health	:	Not available.