

Safety Data Sheet

According to regulations in the United Kingdom of Great Britain & Northern Ireland



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

1.1. Product identifier

Substance name:

Renewable Diesel

Other means of identification:

Renewable hydrocarbons (diesel type fraction)

Code:

832025

UK REACH Registration Number:

UK-01-9638319484-0-XXXX

Issue date:

14-Jan-2022

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

Relevant identified uses:

Fuel; Blend stock

Uses advised against:

Uses other than those covered by the exposure scenarios appended to this Safety Data Sheet are not supported.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Phillips 66 Limited
7th Floor 200-202 Aldersgate Street
London
EC1A 4HD
UK

SDS Information:

URL: www.Phillips66.com/SDS

Email: SDS@P66.com

1.4. Emergency telephone number

CHEMTREC Global +1 703 527 3887

CHEMTREC UK +(44)-870-8200418

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

H304 -- Aspiration Hazard -- Category 1

2.2. Label elements



DANGER

H304 - May be fatal if swallowed and enters airways

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

P331 - Do NOT induce vomiting

P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other hazards

Combustible liquid

Does not meet the criteria for persistent, bioaccumulative and toxic (PBT) or very persistent, very bioaccumulative (vPvB) substances.

SECTION 3: Composition/information on ingredients

3.1. Substances

| Substance | CASRN | EINECS | REACH Reg. No | Concentration ¹ | Classification ² |
|-------------------------------------|-------------|-----------|--------------------|----------------------------|-----------------------------|
| Alkanes, C10-20-branched and linear | 928771-01-1 | 618-882-6 | UK-01-9638319484-0 | 100 | Asp. Tox. 1, H304 |

¹ All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. See Section 11 for more information.

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

Inhalation: First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

Ingestion: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

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

While significant vapour concentrations are not likely, high concentrations can cause minor respiratory irritation, headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Ingestion can cause irritation of the digestive tract, nausea, diarrhea, and vomiting. Prolonged or repeated contact may dry skin and cause irritation.

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

Notes to Physician: When using high-pressure equipment, injection of product under the skin can occur. In this case, the casualty should be sent immediately to the hospital. Do not wait for symptoms to develop. High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. These injuries often require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury. Early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

5.2. Special hazards arising from the substance or mixture

Unusual Fire & Explosion Hazards: Combustible. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Vapours may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapour/air explosion hazard if heated. This product will float and can be reignited on surface water. Vapours are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion.

5.3. Special protective actions for fire-fighters

For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapours and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Combustible. Keep all sources of ignition away from spill/release. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorised personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

6.2. Environmental precautions

Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorised drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.

6.3. Methods and material for containment and cleaning up

Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. See Section 13 for information on appropriate disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use non-sparking tools. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Open container slowly to relieve any pressure. Electrostatic charge may accumulate and create a hazardous condition when handling or processing this material. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes for specific bonding/grounding requirements). Do not enter confined spaces such as tanks or pits without following proper entry procedures. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

The use of hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of incomplete combustion products (e.g. carbon monoxide, oxides of sulphur and nitrogen, benzene and other hydrocarbons) and/or dangerously low oxygen levels.

7.2. Conditions for safe storage, including any incompatibilities

Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

7.3. Specific end use(s)

Refer to supplemental exposure scenarios if attached.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits: None

Biological Limit Values: None

Relevant DNEL and PNEC:

Worker Derived No-Effect Level (DNEL)

Inhalation: 147 mg/m³

Dermal: 42 mg/kg/day

Consumer Derived No-Effect Level (DNEL)

Inhalation: 94 mg/m³

Dermal: 18 mg/kg/day

Ingestion: Not applicable

Environmental Predicted No-Effect Concentration (PNEC): No information available

8.2. Exposure controls

Engineering controls: General ventilation should be adequate for normal conditions of intended use. Additional engineering controls may be necessary if working with the product in enclosed areas and/or at elevated temperatures.

Eye/Face Protection: The use of eye/face protection is not normally required; however, good industrial hygiene practise suggests the use of eye protection that meets or exceeds EN 166 whenever working with chemicals.

Skin/Hand Protection: The use of skin protection is not normally required; however, good industrial hygiene practise suggests the use of gloves or other appropriate skin protection meeting EN 374 whenever working with chemicals. Suggested protective materials: Nitrile rubber.

Respiratory Protection: Respiratory protection is not normally required under intended conditions of use. Emergencies or conditions that could result in significant airborne exposures may require the use of approved respiratory protection. An industrial hygienist or other appropriate health and safety professional should be consulted for specific guidance under these

situations. A respiratory protection programme that follows recommendations for the selection, use, care and maintenance of respiratory protective devices in EN 529:2005 should be followed whenever workplace conditions warrant a respirator's use.

Environmental Exposure Controls: Refer to Sections 6, 7, 12 and 13.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Data represent typical values and are not intended to be specifications. N/A = Not Applicable; N/D = Not Determined

| | |
|--|--|
| Appearance: | clear |
| Physical form of product: | Liquid |
| Odour: | Mild |
| Odour threshold: | N/D |
| pH: | N/A |
| Melting / freezing point: | N/D |
| Initial boiling point and boiling range: | N/D |
| Flash point: | > 141.8 °F / > 61 °C |
| Method: | Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010 |
| Evaporation Rate (nBuAc=1): | N/D |
| Flammability (solid, gas): | N/A |
| Upper Explosive Limits (vol % in air): | N/D |
| Lower Explosive Limits (vol % in air): | N/D |
| Vapour pressure: | 0.087 kPa @ 25°C |
| Vapour density: | >1 (air = 1) |
| Relative density: | 0.77-0.79 @ 60°F (15.6°C) (water = 1) |
| Solubility(ies): | Insoluble in water |
| Partition coefficient n-octanol /water (log Kow): | >6.5 |
| Viscosity: | 2.6 cSt @ 40°C |
| Explosive properties: | N/D |
| Oxidising properties: | N/D |

9.2. Other information

| | |
|--------------------------|--------------------|
| Other information | |
| Pour point: | < -4 °F / < -20 °C |
| Bulk Density: | N/D |

SECTION 10: Stability and reactivity

| | |
|---|---|
| 10.1. Reactivity | Not chemically reactive. |
| 10.2. Chemical stability | Stable under normal ambient and anticipated conditions of use. |
| 10.3. Possibility of hazardous reactions | Hazardous reactions not anticipated. |
| 10.4. Conditions to avoid | Avoid high temperatures and all sources of ignition. Prevent vapour accumulation. |
| 10.5. Incompatible materials | Avoid contact with strong oxidizing agents and strong reducing agents. |
| 10.6. Hazardous decomposition products | Not anticipated under normal conditions of use. |

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance / Mixture

| Acute Toxicity | Hazard | Additional Information | LC50/LD50 Data |
|----------------|-----------------------------|------------------------|-----------------------------|
| Inhalation | Unlikely to be harmful | | 20 mg/L (vapour, estimated) |
| Dermal | Unlikely to be harmful | | > 2 g/kg (estimated) |
| Oral | May be harmful if swallowed | | 2 g/kg; (rat) |

Likely Routes of Exposure: Inhalation, eye contact, skin contact

Aspiration Hazard: May be fatal if swallowed and enters airways.

Skin Corrosion/Irritation: Not expected to be irritating. Repeated exposure may cause skin dryness or cracking.

Serious Eye Damage/Irritation: Not expected to be irritating.

Skin Sensitisation: Not expected to be a skin sensitizer.

Respiratory Sensitisation: No information available.

Specific target organ toxicity - Single exposure: No information available

Specific target organ toxicity - Repeated exposure: Not expected to cause organ effects from repeated exposure.

Carcinogenicity: Not expected to cause cancer.

Germ Cell Mutagenicity: Not expected to cause heritable genetic effects.

Reproductive Toxicity: Not expected to cause reproductive toxicity.

SECTION 12: Ecological information

12.1. Toxicity

Not expected to be harmful to aquatic life

12.2. Persistence and degradability

Not expected to persist in the environment if spilled or released.

12.3. Bioaccumulative potential

Substance is expected to possess low bioaccumulation potential.

12.4. Mobility in soil

Volatilisation to air is not expected to be a significant fate process due to the low vapour pressure of this material. In water, this material will float and spread over the surface at a rate dependent upon viscosity. The main fate process is expected to be biodegradation in water, soil, and sediment.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance.

12.6. Other adverse effects

None anticipated.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

European Waste Code: 13 07 01* fuel oil and diesel

This material, if discarded as produced, would be considered as hazardous waste pursuant to Directive 2008/98/EC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

This code has been assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste generators/producers are responsible for assessing the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code.

Disposal must be in accordance with Directive 2008/98/EC and other applicable national or regional provisions, and based upon material characteristics at time of disposal. For incineration of waste, follow Directive 2000/76/EC. For landfill of waste, follow Directive 1999/31/EC. Product is suitable for burning in an enclosed controlled burner for fuel value if >5000 BTU, or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Follow Directive 2000/76/EC.

Empty Containers: Container contents should be completely used and containers emptied prior to discard. Empty drums should be properly sealed and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with applicable regulations.

SECTION 14: Transport information

14.1. UN number

UN1202

14.2. UN proper shipping name

Diesel fuel

14.3. Transport hazard class(es)

3; F (floaters)

14.4. Packing group

III

14.5. Environmental hazards

This product does not meet the DOT/UN/IMDG/IMO criteria of a marine pollutant

14.6. Special precautions for user

None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

EC 1272/2008 - Classification, labelling and packaging of substances and mixtures
EN166:2002 Eye Protection
EN 529:2005 Respiratory Protective devices
BS EN 374-1:2016 Protective gloves against chemicals and micro-organisms
Workplace Exposure Limits, EH40/2005, Control of Substances Hazardous to Health
Federal Water Act on the Classification of Substances Hazardous to Waters
Directive 2008/98/EC (Waste Framework Directive)
Directive 2000/76/EC on incineration of waste
Directive 1999/31/EC on landfill of waste
Export Rating: NLR (No Licence Required)

15.2. Chemical safety assessment

A chemical safety assessment has been carried out for the substance/mixture.

SECTION 16: Other information

Issue date 14-Jan-2022
Status: FINAL
Previous Issue Date: 13-Jan-2022
Revised Sections or Basis for Revision: Manufacturer (Section 1)
SDS Number: 832025
Language: BE
List of Relevant Hazard Statements:
H304 - May be fatal if swallowed and enters airways

Regulatory Basis of Classification

| | |
|---|-----------------------|
| Classification | Regulatory Basis |
| H304 -- Aspiration Hazard -- Category 1 | On basis of test data |

Key literature references and sources for data:

Information used includes one or more of the following: results from internal company data, supplier toxicology studies, CONCAWE Product Dossiers and other publicly available resources.

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; ADR = Agreement on Dangerous Goods by Road; BMGV = Biological Monitoring Guidance Value; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA = [US] Environmental Protection Agency; Germany-TRGS = Technical Rules for Dangerous Substances; IARC = International Agency for Research on Cancer; ICAO/IATA = International Civil Aviation Organisation / International Air Transport Association; INSHT = National Institute for Health and Safety at Work; IMDG = International Maritime Dangerous Goods; Ireland-HSA = Ireland's National Health and Safety Authority; LEL = Lower Explosive Limit; MARPOL = Marine Pollution; N/A = Not Applicable; N/D = Not Determined; NTP = [US] National Toxicology Programme; PBT = Persistent, Bioaccumulative and Toxic; RID = Regulations Concerning the International Transport of Dangerous Goods by Rail; STEL = Short Term Exposure Limit; TLV = Threshold Limit Value; TRGS 903 = Technical rules for hazardous substances; TWA = Time Weighted Average; UEL = Upper Explosive Limit; UK-EH40 = United Kingdom EH40/2005 OEL; vPvB = very Persistent, very Bioaccumulative

Disclaimer of Expressed and implied Warranties:

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of

their use. In addition, no authorisation is given nor implied to practice any patented invention without a licence.



1. Manufacture of substance - Industrial

| Section 1 Exposure Scenario | |
|--|---|
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Manufacture of substance |
| Use Descriptor | |
| Sector(s) of use | 3, 8, 9 |
| Process category(ies) | 1, 2, 3, 4, 8a, 8b, 15 |
| Environmental release category(ies) | 1, 4 |
| Specific Environmental Release Category | ESVOC SpERC 1.1.v1 |
| Processes, tasks, activities covered | |
| Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities. | |
| Section 2 Operational conditions and risk management measures | |
| 2.1 Control of worker exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure < 0.5 kPa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless stated differently). |
| Frequency and duration of use | Covers daily exposures up to 8 hours (unless stated differently) |
| Other operational conditions affecting exposure | Operation is carried out at elevated temperature (>20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented. |
| Contributing Scenarios / Product Category | Specific Risk Management Measures & Operating Conditions |
| General measures applicable to all activities | Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. |
| General measures (skin irritants) | Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. |
| General exposures (closed systems) | Handle substance within a closed system |
| General exposures (open systems) | Wear suitable gloves tested to EN374. |
| Process sampling | No other specific measures identified |
| bulk closed loading and unloading | Handle substance within a closed system Wear suitable gloves tested to EN374. |
| bulk open loading and unloading | Wear suitable gloves tested to EN374. |
| Equipment cleaning and maintenance | Drain down system prior to equipment break-in or |

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|---|---|
| | maintenance Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Laboratory activities | No other specific measures identified |
| Bulk product storage | Store substance within a closed system |
| <p>Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.</p> | |
| 2.2 Control of environmental exposure | |
| Product characteristics | |
| Substance is complex UVCB. Predominantly hydrophobic. | |
| Amounts used | |
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 2.8e7 |
| Fraction of regional tonnage used locally | 0.021 |
| Frequency and duration of use | |
| Continuous release. | |
| Emission days (days/year) | 300 |
| Environmental 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) | 1.0e-2 |
| Release fraction to wastewater from process (initial release prior to RMM) | 3.0e-5 |
| Release fraction to soil from process (initial release prior to RMM) | 0.0001 |
| Technical conditions and measures at process level (source) to prevent release | |
| Common practices vary across sites thus conservative process release estimates used. | |
| Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | |
| Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| Treat air emission to provide a typical removal efficiency of (%): | 90 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): | 90.3 |
| If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): | 0 |
| Organisation measures to prevent/limit release from site | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. | |
| Conditions and measures related to municipal sewage treatment plant | |
| Estimated substance removal from wastewater via domestic sewage treatment (%): | 94.1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): | 94.1 |
| Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d): | 3.3e6 |
| Assumed domestic sewage treatment plant flow (m ³ /d): | 10000 |
| 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. | |
| Section 3 Exposure Estimation | |

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| 3.1 Health |
| The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. |
| 3.2 Environment |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. |
| Section 4 Guidance to check compliance with the Exposure Scenario |
| 4.1 Health |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data does not enable the derivation of a DNEL for dermal irritant effects. Available hazard data does not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterization. |
| 4.2 Environment |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). Scaled local assessments for EU refineries have been performed using site-specific data and are attached in PETRORISK file – “Site-Specific Production” worksheet. |

2. Use of substance as an intermediate - Industrial

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|---|--|
| Section 1 Exposure Scenario | |
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Use as an intermediate |
| Use Descriptor | |
| Sector(s) of use | 3, 8, 9 |
| Process category(ies) | 1, 2, 3, 4, 8a, 8b, 15 |
| Environmental release category(ies) | 6a |
| Specific Environmental Release Category | ESVOC SpERC 6.1a.v1 |
| Processes, tasks, activities covered | |
| 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 Operational conditions and risk management measures | |
| 2.1 Control of worker exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure < 0.5 kPa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless stated differently). |
| Frequency and duration of use | Covers daily exposures up to 8 hours (unless stated differently) |
| Other operational conditions affecting exposure | Operation is carried out at elevated temperature (>20°C above ambient temperature). Assumes a good basic standard of occupational hygiene is implemented. |
| Contributing Scenarios / Product Category | |
| General measures applicable to all activities | Specific Risk Management Measures & Operating Conditions Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. |

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| General measures (skin irritants) | Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up any contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. |
| General exposures (closed systems) | Handle substance within a closed system |
| General exposures (open systems) | Wear suitable gloves tested to EN374. |
| Process sampling | No other specific measures identified |
| bulk closed loading and unloading | Handle substance within a closed system Wear suitable gloves tested to EN374. |
| bulk open loading and unloading | Wear suitable gloves tested to EN374. |
| Equipment cleaning and maintenance | No other specific measures identified |
| Laboratory activities | No other specific measures identified |
| Bulk product storage | Store substance within a closed system |
| <p>Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.</p> | |
| 2.2 Control of environmental exposure | |
| Product characteristics | |
| Substance is complex UVCB. Predominantly hydrophobic. | |
| Amounts used | |
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 3.5e5 |
| Fraction of regional tonnage used locally | 0.043 |
| Frequency and duration of use | |
| Continuous release. | |
| Emission days (days/year) | 300 |
| Environmental 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) | 1.0e-3 |
| Release fraction to wastewater from process (initial release prior to RMM) | 3.0e-5 |
| Release fraction to soil from process (initial release prior to RMM) | 0.001 |
| Technical conditions and measures at process level (source) to prevent release | |
| Common practices vary across sites thus conservative process release estimates used. | |
| Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | |
| Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| Treat air emission to provide a typical removal efficiency of (%): | 80 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): | 51.7 |
| If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): | 0 |
| Organisation measures to prevent/limit release from site | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. | |
| Conditions and measures related to municipal sewage treatment plant | |

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| Estimated substance removal from wastewater via domestic sewage treatment (%): | 94.1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): | 94.1 |
| Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d): | 4.1e5 |
| Assumed domestic sewage treatment plant flow (m ³ /d): | 2000 |
| Conditions and measures related to external treatment of waste for disposal | |
| This substance is consumed during use and no waste of the substance is generated. | |
| Conditions and measures related to external recovery of waste | |
| This substance is consumed during use and no waste of the substance is generated. | |
| Section 3 Exposure Estimation | |
| 3.1 Health | |
| The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. | |
| 3.2 Environment | |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. | |
| Section 4 Guidance to check compliance with the Exposure Scenario | |
| 4.1 Health | |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data does not enable the derivation of a DNEL for dermal irritant effects. Available hazard data does not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterization. | |
| 4.2 Environment | |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). | |

3. Distribution of substance - Industrial

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| Section 1 Exposure Scenario | |
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Distribution of substance |
| Use Descriptor | |
| Sector(s) of use | 3 |
| Process category(ies) | 1, 2, 3, 4, 8a, 8b, 9, 15 |
| Environmental release category(ies) | 1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7 |
| Specific Environmental Release Category | ESVOC SpERC 1.1b.v1 |
| Processes, tasks, activities covered | |
| Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities. | |
| Section 2 Operational conditions and risk management measures | |
| 2.1 Control of worker exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure < 0.5 kPa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless stated differently). |
| Frequency and duration of use | Covers daily exposures up to 8 hours (unless stated differently) |
| Other operational conditions affecting exposure | Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented. |
| Contributing Scenarios / Product Category | |
| General measures applicable to all activities | Specific Risk Management Measures & Operating Conditions Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to |

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| | breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. |
| General measures (skin irritants) | Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. |
| General exposures (closed systems) | Handle substance within a closed system |
| General exposures (open systems) | Wear suitable gloves tested to EN374. |
| Process sampling | No other specific measures identified |
| Laboratory activities | No other specific measures identified |
| bulk closed loading and unloading | Handle substance within a closed system Wear suitable gloves tested to EN374. |
| bulk open loading and unloading | Wear suitable gloves tested to EN374. |
| Drum and small package filling | Wear suitable gloves tested to EN374. |
| Equipment cleaning and maintenance | Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Storage | Store substance within a closed system |
| <p>Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.</p> | |
| 2.2 Control of environmental exposure | |
| Product characteristics | |
| Substance is complex UVCB. Predominantly hydrophobic. | |
| Amounts used | |
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 2.8e7 |
| Fraction of regional tonnage used locally | 0.002 |
| Frequency and duration of use | |
| Continuous release. | |
| Emission days (days/year) | 300 |
| Environmental 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) | 1.0e-3 |
| Release fraction to wastewater from process (initial release prior to RMM) | 1.0e-6 |
| Release fraction to soil 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 onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | |

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| Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| Treat air emission to provide a typical removal efficiency of (%): | 90 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): | 9.6 |
| If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): | 0 |
| Organisation measures to prevent/limit release from site | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. | |
| Conditions and measures related to municipal sewage treatment plant | |
| Estimated substance removal from wastewater via domestic sewage treatment (%): | 94.1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): | 94.1 |
| Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d): | 4.1e5 |
| Assumed domestic sewage treatment plant flow (m ³ /d): | 2000 |
| Conditions and measures related to external treatment of waste for disposal | |
| This substance is consumed during use and no waste of the substance is generated. | |
| Conditions and measures related to external recovery of waste | |
| This substance is consumed during use and no waste of the substance is generated. | |
| Section 3 Exposure Estimation | |
| 3.1 Health | |
| The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. | |
| 3.2 Environment | |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. | |
| Section 4 Guidance to check compliance with the Exposure Scenario | |
| 4.1 Health | |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data does not enable the derivation of a DNEL for dermal irritant effects. Available hazard data does not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterization. | |
| 4.2 Environment | |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). | |

4. Formulation & (Re)packing of substance - Industrial

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| Section 1 Exposure Scenario | |
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Formulation & (re)packing of substances and mixtures |
| Use Descriptor | |
| Sector(s) of use | 3, 10 |
| Process category(ies) | 1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15 |
| Environmental release category(ies) | 2 |
| Specific Environmental Release Category | ESVOC SpERC 2.2.v1 |
| Processes, tasks, activities covered | |
| Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities. | |
| Section 2 Operational conditions and risk management measures | |
| 2.1 Control of worker exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure < 0.5 kPa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless |

| | stated differently). |
|---|---|
| Frequency and duration of use | Covers daily exposures up to 8 hours (unless stated differently) |
| Other operational conditions affecting exposure | Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented. |
| Contributing Scenarios / Product Category | |
| Specific Risk Management Measures & Operating Conditions | |
| General measures applicable to all activities | Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. |
| General measures (skin irritants) | Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. |
| General exposures (closed systems) | Handle substance within a closed system |
| General exposures (open systems) | Wear suitable gloves tested to EN374. |
| Process sampling | No other specific measures identified |
| Drum/batch transfers | Use drum pumps or carefully pour from container. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Bulk transfers | Handle substance within a closed system. Wear suitable gloves tested to EN374. |
| Mixing operations (open systems) | Provide extract ventilation to points where emissions occur. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Production or preparation of articles by tableting, compression, extrusion or pelletisation | Wear suitable gloves tested to EN374. |
| Drum/batch transfers | Wear suitable gloves tested to EN374. |
| Laboratory activities | No other specific measures identified |
| Equipment cleaning and maintenance | Drain down system prior to equipment break-in or maintenance. Wear suitable gloves tested to EN374. |
| Storage | Store substance within a closed system |
| <p>Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.</p> | |
| 2.2 Control of environmental exposure | |

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|---|--------|
| Product characteristics | |
| Substance is complex UVCB. Predominantly hydrophobic. | |
| Amounts used | |
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 2.8e7 |
| Fraction of regional tonnage used locally | 0.0011 |
| Frequency and duration of use | |
| Continuous release. | |
| Emission days (days/year) | 300 |
| Environmental 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) | 1.0e-2 |
| Release fraction to wastewater from process (initial release prior to RMM) | 2.0e-5 |
| Release fraction to soil from process (initial release prior to RMM) | 0.0001 |
| Technical conditions and measures at process level (source) to prevent release | |
| Common practices vary across sites thus conservative process release estimates used. | |
| Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | |
| Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| Treat air emission to provide a typical removal efficiency of (%): | 0 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): | 60.0 |
| If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): | 0 |
| Organisation measures to prevent/limit release from site | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. | |
| Conditions and measures related to municipal sewage treatment plant | |
| Estimated substance removal from wastewater via domestic sewage treatment (%): | 91.1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): | 94.1 |
| Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d): | 6.8e5 |
| Assumed domestic sewage treatment plant flow (m ³ /d): | 2000 |
| 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. | |
| Section 3 Exposure Estimation | |
| 3.1 Health | |
| The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. | |
| 3.2 Environment | |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. | |
| Section 4 Guidance to check compliance with the Exposure Scenario | |
| 4.1 Health | |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data does not enable the derivation of a DNEL for dermal irritant effects. Available hazard data does not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterization. | |
| 4.2 Environment | |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). | |

5. Use of substance in Metal working fluids / rolling oils - Industrial

| Section 1 Exposure Scenario | |
|---|---|
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Metal working fluids / rolling oils |
| Use Descriptor | |
| Sector(s) of use | 3 |
| Process category(ies) | 1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 17 |
| Environmental release category(ies) | 4 |
| Specific Environmental Release Category | ESVOC SpERC 4.7a.v1 |
| Processes, tasks, activities covered | |
| 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 Operational conditions and risk management measures | |
| 2.1 Control of worker exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure < 0.5 kPa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless stated differently). |
| Frequency and duration of use | Covers daily exposures up to 8 hours (unless stated differently) |
| Other operational conditions affecting exposure | Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented. |
| Contributing Scenarios / Product Category | |
| Specific Risk Management Measures & Operating Conditions | |
| General measures applicable to all activities | Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. |
| General measures (skin irritants) | Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. |
| General exposures (closed systems) | Handle substance within a closed system |
| General exposures (open systems) | Provide extract ventilation to points where emissions occur |
| Bulk transfers | Handle substance within a closed system Wear suitable gloves tested to EN374. |
| Filling / preparation of equipment from drums or containers | Wear suitable gloves tested to EN374. |
| Process sampling | No other specific measures identified |
| Metal machining operations | Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. |
| Treatment by dipping and pouring | Wear suitable gloves tested to EN374. |
| Spraying | Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Wear suitable gloves |

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| | (tested to EN374), coverall and eye protection. |
| Manual Roller, spreader, flow application | Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. |
| Automated metal rolling/forming | Handle substance within a predominantly closed system provided with extract ventilation |
| Semi-automated metal rolling/forming | Provide extract ventilation to points where emissions occur |
| Equipment cleaning and maintenance | Drain down and flush system prior to equipment break-in or maintenance Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Storage | Store substance within a closed system |
| <p>Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.</p> | |
| 2.2 Control of environmental exposure | |
| Product characteristics | |
| Substance is complex UVCB. Predominantly hydrophobic. | |
| Amounts used | |
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 1.0e4 |
| Fraction of regional tonnage used locally | 0.01 |
| Frequency and duration of use | |
| Continuous release. | |
| Emission days (days/year) | 20 |
| Environmental 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 wastewater from process (initial release prior to RMM) | 3.0e-6 |
| Release fraction to soil 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 onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | |
| Risk from environmental exposure is driven by freshwater sediment. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. | |
| Treat air emission to provide a typical removal efficiency of (%): | 70 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): | 8.3 |
| If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): | 0 |
| Organisation measures to prevent/limit release from site | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. | |
| Conditions and measures related to municipal sewage treatment plant | |
| Estimated substance removal from wastewater via domestic sewage treatment (%): | 94.1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): | 94.1 |
| Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d): | 7.8e4 |

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| Assumed domestic sewage treatment plant flow (m ³ /d): | 2000 |
| 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. | |
| Section 3 Exposure Estimation | |
| 3.1 Health | |
| The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. | |
| 3.2 Environment | |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. | |
| Section 4 Guidance to check compliance with the Exposure Scenario | |
| 4.1 Health | |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data does not enable the derivation of a DNEL for dermal irritant effects. Available hazard data does not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterization. | |
| 4.2 Environment | |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). | |

6. Use of substance as Release agents or binders - Industrial

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| Section 1 Exposure Scenario | |
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Use as binders and release agents |
| Use Descriptor | |
| Sector(s) of use | 3 |
| Process category(ies) | 1, 2, 3, 4, 6, 7, 8b, 10, 13, 14 |
| Environmental release category(ies) | 4 |
| Specific Environmental Release Category | ESVOC SpERC 4.10a.v1 |
| Processes, tasks, activities covered | |
| Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing), mold forming and casting, and handling of waste. | |
| Section 2 Operational conditions and risk management measures | |
| 2.1 Control of worker exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure < 0.5 kPa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless stated differently). |
| Frequency and duration of use | Covers daily exposures up to 8 hours (unless stated differently) |
| Other operational conditions affecting exposure | Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented. |
| Contributing Scenarios / Product Category | |
| General measures applicable to all activities | Specific Risk Management Measures & Operating Conditions Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor |

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| | effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. |
| General measures (skin irritants) | Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying |
| Bulk transfers | Handle substance within a closed system |
| Drum/batch transfers | Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Mixing operations (closed systems) | No other specific measures identified |
| Mixing operations (open systems) | Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Mould forming | Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Casting operations (open systems) | Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Wear suitable gloves tested to EN374. |
| Machine Spraying | Minimise exposure by extracted full enclosure for the operation or equipment. Wear suitable gloves tested to EN374. |
| Manual Spraying | Wear a full face respirator conforming to EN140 with Type A/P2 filter or better. Wear suitable gloves (tested to EN374), coverall and eye protection. Ensure operatives are trained to minimise exposures. |
| Manual Roller, spreader, flow application | Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. |
| Equipment cleaning and maintenance | Drain down system prior to equipment break-in or maintenance. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Storage | Store substance within a closed system |
| <p>Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.</p> | |
| 2.2 Control of environmental exposure | |
| Product characteristics | |
| Substance is complex UVCB. Predominantly hydrophobic. | |
| Amounts used | |
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 1.4e4 |
| Fraction of regional tonnage used locally | 0.18 |
| Frequency and duration of use | |
| Continuous release. | |
| Emission days (days/year) | 100 |
| Environmental factors not influenced by risk management | |

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| 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) | 1.0 |
| Release fraction to wastewater from process (initial release prior to RMM) | 3.0e-7 |
| Release fraction to soil 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 onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | |
| Risk from environmental exposure is driven by freshwater sediment. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. | |
| Treat air emission to provide a typical removal efficiency of (%): | 80 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): | 59.2 |
| If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): | 0 |
| Organisation measures to prevent/limit release from site | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. | |
| Conditions and measures related to municipal sewage treatment plant | |
| Estimated substance removal from wastewater via domestic sewage treatment (%): | 94.1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): | 94.1 |
| Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d): | 1.7e5 |
| Assumed domestic sewage treatment plant flow (m ³ /d): | 2000 |
| 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. | |
| Section 3 Exposure Estimation | |
| 3.1 Health | |
| The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. | |
| 3.2 Environment | |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. | |
| Section 4 Guidance to check compliance with the Exposure Scenario | |
| 4.1 Health | |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data does not enable the derivation of a DNEL for dermal irritant effects. Available hazard data does not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterization. | |
| 4.2 Environment | |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). | |

7. Use of substance as Release agents or binders - Professional

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| Section 1 Exposure Scenario | |
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Use as binders and release agents |
| Use Descriptor | |
| Sector(s) of use | 22 |
| Process category(ies) | 1, 2, 3, 4, 6, 8a, 8b, 10, 11, 14 |
| Environmental release category(ies) | 8a, 8d |
| Specific Environmental Release Category | ESVOC SpERC 8.10b.v1 |

| Processes, tasks, activities covered | |
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| Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste. | |
| Section 2 Operational conditions and risk management measures | |
| 2.1 Control of worker exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure < 0.5 kPa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless stated differently). |
| Frequency and duration of use | Covers daily exposures up to 8 hours (unless stated differently) |
| Other operational conditions affecting exposure | Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented. |
| Contributing Scenarios / Product Category | |
| Specific Risk Management Measures & Operating Conditions | |
| General measures applicable to all activities | Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. |
| General measures (skin irritants) | Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying |
| Material transfers (closed systems) | No other specific measures identified |
| Drum/batch transfers | Wear suitable gloves tested to EN374. |
| Mixing operations (closed systems) | No other specific measures identified |
| Mixing operations (open systems) | Wear suitable gloves tested to EN374. |
| Mould forming | Provide extract ventilation to points where emissions occur Wear suitable gloves tested to EN374. |
| Casting operations with local exhaust ventilation | Provide extract ventilation to points where emissions occur Wear suitable gloves tested to EN374. |
| Casting operations without local exhaust ventilation | Wear a respirator conforming to EN140 with Type A/P2 filter or better. Wear suitable gloves (tested to EN374), coverall and eye protection. |
| Spraying Manual without local exhaust ventilation | Carry out in a vented booth or extracted enclosure Wear suitable gloves (tested to EN374), coverall and eye protection. Ensure operatives are trained to minimise exposures. |
| Spraying Manual without local exhaust ventilation | Wear a full face respirator conforming to EN140 with Type A/P2 filter or better. Wear suitable gloves (tested to EN374), coverall and eye protection. Ensure operatives are trained to minimise exposures. |
| Manual Roller, spreader, flow application | Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. |
| Equipment cleaning and maintenance | Drain down system prior to equipment break-in or |

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| | maintenance Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Storage | Store substance within a closed system |
| <p>Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.</p> | |
| 2.2 Control of environmental exposure | |
| Product characteristics | |
| Substance is complex UVCB. Predominantly hydrophobic. | |
| Amounts used | |
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 2.9e3 |
| Fraction of regional tonnage used locally | 0.0005 |
| Frequency and duration of use | |
| Continuous release. | |
| Emission days (days/year) | 365 |
| Environmental 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 wastewater from process (initial release prior to RMM) | 0.025 |
| Release fraction to soil 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 onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | |
| Risk from environmental exposure is driven by freshwater sediment. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. | |
| Treat air emission to provide a typical removal efficiency of (%): | N/A |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): | 8.3 |
| If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): | 0 |
| Organisation measures to prevent/limit release from site | |
| Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. | |
| Conditions and measures related to municipal sewage treatment plant | |
| Estimated substance removal from wastewater via domestic sewage treatment (%): | 94.1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): | 94.1 |
| Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d): | 6.2e1 |
| Assumed domestic sewage treatment plant flow (m ³ /d): | 2000 |
| 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. | |
| Section 3 Exposure Estimation | |
| 3.1 Health | |
| The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. | |

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| 3.2 Environment |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. |
| Section 4 Guidance to check compliance with the Exposure Scenario |
| 4.1 Health |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data does not enable the derivation of a DNEL for dermal irritant effects. Available hazard data does not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterization. |
| 4.2 Environment |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). |

8. Use of substance as a Fuel - Industrial

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| Section 1 Exposure Scenario | |
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Use as a fuel |
| Use Descriptor | |
| Sector(s) of use | 3 |
| Process category(ies) | 1, 2, 3, 8a, 8b, 16 |
| Environmental release category(ies) | 7 |
| Specific Environmental Release Category | ESVOC SpERC 7.12a.v1 |
| Processes, tasks, activities covered | |
| Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste. | |
| Section 2 Operational conditions and risk management measures | |
| 2.1 Control of worker exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure < 0.5 kPa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless stated differently). |
| Frequency and duration of use | Covers daily exposures up to 8 hours (unless stated differently) |
| Other operational conditions affecting exposure | Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented. |
| Contributing Scenarios / Product Category | |
| General measures applicable to all activities | Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. |
| General measures (skin irritants) | Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee |

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| | training to prevent / minimise exposures and to report any skin problems that may develop. |
| Bulk transfers | Wear suitable gloves tested to EN374. |
| Drum/batch transfers | Wear suitable gloves tested to EN374. |
| Use as a fuel (closed systems) | No other specific measures identified |
| Equipment cleaning and maintenance | Drain down system prior to equipment break-in or maintenance Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Storage | Store substance within a closed system |
| <p>Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.</p> | |
| 2.2 Control of environmental exposure | |
| Product characteristics | |
| Substance is complex UVCB. Predominantly hydrophobic. | |
| Amounts used | |
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 4.5e6 |
| Fraction of regional tonnage used locally | 0.34 |
| Frequency and duration of use | |
| Continuous release. | |
| Emission days (days/year) | 300 |
| Environmental 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) | 5.0e-3 |
| Release fraction to wastewater from process (initial release prior to RMM) | 0.00001 |
| Release fraction to soil 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 release estimates used. | |
| Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | |
| Risk from environmental exposure is driven by freshwater sediment. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. | |
| Treat air emission to provide a typical removal efficiency of (%): | 95 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): | 97.7 |
| If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): | 60.4 |
| Organisation measures to prevent/limit release from site | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. | |
| Conditions and measures related to municipal sewage treatment plant | |
| Estimated substance removal from wastewater via domestic sewage treatment (%): | 94.1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): | 97.7 |
| Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d): | 5.5e6 |
| Assumed domestic sewage treatment plant flow (m ³ /d): | 2000 |

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| Conditions and measures related to external treatment of waste for disposal |
| Combustion emissions considered in regional exposure assessment. |
| Conditions and measures related to external recovery of waste |
| External recovery and recycling of waste should comply with applicable local and/or national regulations. |
| Section 3 Exposure Estimation |
| 3.1 Health |
| The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. |
| 3.2 Environment |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. |
| Section 4 Guidance to check compliance with the Exposure Scenario |
| 4.1 Health |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data does not enable the derivation of a DNEL for dermal irritant effects. Available hazard data does not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterization. |
| 4.2 Environment |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). |

9. Use of substance as a Fuel - Professional

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| Section 1 Exposure Scenario | |
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Use as a fuel |
| Use Descriptor | |
| Sector(s) of use | 22 |
| Process category(ies) | 1, 2, 3, 8a, 8b, 16 |
| Environmental release category(ies) | 9a, 9b |
| Specific Environmental Release Category | ESVOC SpERC 9.12b.v1 |
| Processes, tasks, activities covered | |
| Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste. | |
| Section 2 Operational conditions and risk management measures | |
| 2.1 Control of worker exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure < 0.5 kPa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless stated differently). |
| Frequency and duration of use | Covers daily exposures up to 8 hours (unless stated differently) |
| Other operational conditions affecting exposure | Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented. |
| Contributing Scenarios / Product Category | |
| General measures applicable to all activities | Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for |

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| | health surveillance; identify and implement corrective actions. |
| General measures (skin irritants) | Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. |
| Bulk transfers | Wear suitable gloves tested to EN374. |
| Drum/batch transfers | Use drum pumps or carefully pour from container Wear suitable gloves tested to EN374. |
| Refuelling | Wear suitable gloves tested to EN374. |
| Use as a fuel (closed systems) | Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) or Ensure operation is undertaken outdoors |
| Equipment cleaning and maintenance | Drain down system prior to equipment break-in or maintenance Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. |
| Storage | Store substance within a closed system |
| <p>Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.</p> | |
| 2.2 Control of environmental exposure | |
| Product characteristics | |
| Substance is complex UVCB. Predominantly hydrophobic. | |
| Amounts used | |
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 6.7e6 |
| Fraction of regional tonnage used locally | 0.0005 |
| Frequency and duration of use | |
| Continuous release. | |
| Emission days (days/year) | 365 |
| Environmental 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) | 1.0e-4 |
| Release fraction to wastewater from process (initial release prior to RMM) | 0.00001 |
| Release fraction to soil 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 onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | |
| Risk from environmental exposure is driven by freshwater sediment. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. | |
| Treat air emission to provide a typical removal efficiency of (%): | N/A |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency >= (%): | 8.3 |
| If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): | 0 |
| Organisation measures to prevent/limit release from site | |

| | |
|---|-------|
| Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. | |
| Conditions and measures related to municipal sewage treatment plant | |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%): | 94.1 |
| Maximum allowable site tonnage (Msafe) based on release following total wastewater treatment removal (kg/d): | 1.4e5 |
| Assumed domestic sewage treatment plant flow (m ³ /d): | 2000 |
| Conditions and measures related to external treatment of waste for disposal | |
| Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. | |
| Conditions and measures related to external recovery of waste | |
| External recovery and recycling of waste should comply with applicable local and/or national regulations. | |
| Section 3 Exposure Estimation | |
| 3.1 Health | |
| The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. | |
| 3.2 Environment | |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. | |
| Section 4 Guidance to check compliance with the Exposure Scenario | |
| 4.1 Health | |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Available hazard data does not enable the derivation of a DNEL for dermal irritant effects. Available hazard data does not support the need for a DNEL to be established for other health effects. Risk management measures are based on qualitative risk characterization. | |
| 4.2 Environment | |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). | |

10. Use of substance as a Fuel - Consumer

| | |
|--|---|
| Section 1 Exposure Scenario | |
| Vacuum or Hydrocracked Gas Oils and Distillate Fuels | |
| Title | Use as a fuel |
| Use Descriptor | |
| Sector(s) of use | 21 |
| Product category(ies) | 13 |
| Environmental release category(ies) | 9a, 9b |
| Specific Environmental Release Category | ESVOC SpERC 9.12c.v1 |
| Processes, tasks, activities covered | |
| Covers consumer uses in liquid fuels. | |
| Section 2 Operational conditions and risk management measures | |
| 2.1 Control of consumer exposure | |
| Product characteristics | |
| Physical form of product | Liquid, vapour pressure > 10 Pa at STP |
| Concentration of substance in product | Covers percentage substance in the product up to 100 % (unless stated differently). |
| Frequency and duration of use | For each use event, covers use amounts up to (g): 37500 Covers skin contact area up to (cm ²): 420 |
| Other operational conditions affecting exposure | Covers use up to (times/day of use): 0.143. Covers exposure up to (hours/event): 2 hours per event. |
| Contributing Scenarios / Product Category | |
| Liquid: Automotive Refuelling | Specific Risk Management Measures & Operating Conditions Covers concentrations up to (%): 100%. Covers use up to (days/year): 52. Covers use up to (times/day of use): 1. |

| | |
|---------------------------------------|--|
| | Covers skin contact area up to (cm ²): 210.00. For each use event, covers use amounts up to (g): 37500. Covers use in room size of (m ³): 100. Covers exposure up to (hours/event): 0.05. Covers outdoor use No specific risk management measure identified beyond those operational conditions stated |
| Liquid Garden Equipment - Use | Covers concentrations up to (%): 100%. Covers use up to (days/year): 26. Covers use up to (times/day of use): 1. For each use event, covers use amounts up to (g): 750. Covers outdoor use Covers use in room size of (m ³): 100. Covers exposure up to (hours/event): 2.00. No specific risk management measure identified beyond those operational conditions stated |
| Liquid: garden equipment - refuelling | Covers concentrations up to (%): 100%. Covers use up to (days/year): 26. Covers use up to (times/day of use): 1. Covers skin contact area up to (cm ²): 420.00. For each use event, covers use amounts up to (g): 750. Covers use in a one car garage (34 m ³) under typical ventilation. Covers use in room size of (m ³): 34. Covers exposure up to (hours/event): 0.03. No specific risk management measure identified beyond those operational conditions stated |

Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits acute inhalation toxicity and is classified R20 (Harmful by inhalation) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary / additional RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels exhibits irritation to the skin and is classified R38 (Irritating to skin) accordingly. The available data for this adverse effect do not provide quantitative dose-response information, but there exists toxicity data appropriate to allow a qualitative risk characterisation; please see section 2 of the SDS for the necessary RMMs. Vacuum or Hydrocracked Gas Oils and Distillate Fuels is classified R65 (Harmful: may cause lung damage if swallowed). The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aims to define the appropriate RMMs necessary to protect from this adverse effect. There is limited evidence of carcinogenic effects in Vacuum or Hydrocracked Gas Oils and Distillate Fuels and it is classified R40 (May cause cancer) accordingly. The available data for this adverse effect do not provide quantitative dose-response information for a D(M)NEL to be derived. Instead, the toxicity data triggers a qualitative risk characterisation and the RMMs in section 2 of the SDS aim to define the appropriate RMMs necessary to protect from these adverse effects.

2.2 Control of environmental exposure

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

| | |
|---|--------|
| Fraction of EU tonnage used in region | 0.1 |
| Regional use tonnage (tonnes/year) | 1.6e7 |
| Fraction of regional tonnage used locally | 0.0005 |

Frequency and duration of use

Continuous release.

| | |
|---------------------------|-----|
| Emission days (days/year) | 365 |
|---------------------------|-----|

Environmental 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

Conditions and measures related to municipal sewage treatment plant

| | |
|---|-------|
| Estimated substance removal from wastewater via domestic sewage treatment (%): | 94.1 |
| Maximum allowable site tonnage (M _{safe}) based on release following total wastewater treatment removal (kg/d): | 3.5e5 |
| Assumed domestic sewage treatment plant flow (m ³ /d): | 2000 |

Conditions and measures related to external treatment of waste for disposal

Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment.

Conditions and measures related to external recovery of waste

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

Section 3 Exposure Estimation

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|--|
| 3.1 Health |
| The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC report #107 and the Chapter R15 of the IR&CSA TGD. Where exposure determinants differ to these sources, then they are indicated. |
| 3.2 Environment |
| The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model. |
| Section 4 Guidance to check compliance with the Exposure Scenario |
| 4.1 Health |
| Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. |
| 4.2 Environment |
| Further details on scaling and control technologies are provided in SpERC factsheet (https://cefic.org/app/uploads/2019/01/SPERCs-Specific-Environmental-Release-Classes-REACHImpl-ES-CSA-CSR.pdf). |