SAFETY DATA SHEET

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

1.1 Product identifier

Product name **Gazole Pêche / Gazole Marine**

SDS no. SFR2122

Product type Liquid.

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

Identified uses
Distribution of substance
Explosives manufacture and use
Formulation and (re)packing of substances and mixtures
Manufacture of substance
Metal working fluids/rolling oils
Road and construction applications
Rubber production and processing
Use as a fuel - Consumer
Use as a fuel - Industrial
Use as a fuel - Professional
Use as an intermediate
Use as binders and release agents - Industrial
Use as binders and release agents - Professional
Use of substance as functional fluids
Use in Oil and Gas field drilling and production operations - Industrial
Use in Oil and Gas field drilling and production operations - Professional
Use of substance in lubricants - High environmental release
Use of substance in lubricants - Industrial
Use of substance in lubricants - Low environmental release
Uses in Coatings - Industrial
Uses in Coatings - Professional

Use of the substance/ mixture Gazole Pêche is a fuel for the diesel engines of fishing boats.
Gazole Marine. This product is supplied exclusively to the nation's navy.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

1.3 Details of the supplier of the safety data sheet

Supplier

BP France
Immeuble Le Cervier
12 Avenue des Béguines
Cergy Saint-Christophe
95866 CERGY PONTOISE Cedex

Tel. 01 34 22 40 00

E-mail address MSDSadvice@bp.com

1.4 Emergency telephone number

EMERGENCY TELEPHONE NUMBER

Tél 01 45 42 59 59 : ORFILA
Tél 01 40 05 48 48 - Centre Anti-Poisons de Paris, Hôpital Fernand Widal - 200, Rue de Faubourg Saint-Denis - 75475 Paris Cedex 10
Tél 04 72 11 69 11 - Centre Anti-Poisons de Lyon, Hôpital Edouard Herriot, Bâtiment A - 162, Avenue de la Cassagne - 69424 Lyon Cedex 3
Tél 04 91 75 25 25 - Centre Anti-Poisons de Marseille, Hôpital Salvator, 249, Boulevard Sainte-Marguerite - 13274 Marseille Cedex 9

Tél: 01 30 30 49 99 - Permanence BP France 24/24

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Acute Tox. 4, H332
Skin Irrit. 2, H315
Carc. 2, H351
STOT RE 2, H373
Asp. Tox. 1, H304
Aquatic Chronic 2, H411

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification
Carc. Cat. 3; R40
Xn; R20, R65
Xi; R38
N; R51/53

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

See sections 11 and 12 for more detailed information on health effects and symptoms and environmental hazards.

2.2 Label elements

Hazard pictograms

Signal word Danger

Hazard statements
H332 - Harmful if inhaled.
H315 - Causes skin irritation.
H351 - Suspected of causing cancer.
H304 - May be fatal if swallowed and enters airways.
H373 - May cause damage to organs through prolonged or repeated exposure.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention
P201 - Obtain special instructions before use.
P280 - Wear protective gloves.
P273 - Avoid release to the environment.
P260 - Do not breathe vapour.

Response
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Storage
P405 - Store locked up.

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

Hazard symbol or symbols

Indication of danger

Hazardous ingredients Fuels, diesel

Supplemental label elements Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings Yes, applicable.

Tactile warning of danger Yes, applicable.

2.3 Other hazards

Other hazards which do not result in classification
This material may contain significant quantities of polycyclic aromatic hydrocarbons (PCAs), some of which have been shown by experimental studies to induce skin cancer.
Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.
See 'Notes to physician' under First-Aid Measures, Section 4 of this Safety Data Sheet.

SECTION 3: Composition/information on ingredients

Substance/mixture Mixture

Complex mixture of middle distillate hydrocarbons, with carbon numbers in C10 to C28 range.

Product/ingredient name	Identifiers	%	Classification 67/548/EEC	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
Fuels, diesel	REACH #: 01-2119484664-27 EC: 269-822-7 CAS: 68334-30-5 Index: 649-224-00-6	>=90	Carc. Cat. 3; R40 Xn; R20, R65 Xi; R38 N; R51/53	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1] [2]

See Section 16 for the full text of the R-phrases declared above.

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

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.

Inhalation If inhaled, remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

Ingestion Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.

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

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.
Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment.
Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided.
Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.
Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media

Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture

In a fire or if heated, a pressure increase will occur and the container may burst. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Vapours can form explosive mixtures with air. Vapours are heavier than air and can spread along the ground or float on water surfaces to remote ignition sources. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Hazardous combustion products

None expected.
other hazardous substances.

5.3 Advice for firefighters

Special precautions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Floors may be slippery; use care to avoid falling. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment.

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Small spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Dike spill area and do not allow product to reach sewage system and surface or ground water. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 5 for firefighting measures.
See Section 8 for information on appropriate personal protective equipment.
See Section 12 for environmental precautions.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

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

7.1 Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not swallow. Aspiration hazard Can enter lungs and cause damage. Never siphon by mouth. Avoid contact of spilt material and runoff with soil and surface waterways. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Take precautionary measures against electrostatic discharges. Do not reuse container. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Keep away from heat and direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store and use only in equipment/containers designed for use with this product. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Light hydrocarbon vapours can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapour in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). Explosive air/vapour mixtures may form at ambient temperature. If product comes into contact with hot surfaces, or leaks occur from pressurised fuel pipes, the vapour or mists generated will create a flammability or explosion hazard. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

7.3 Specific end use(s)

Recommendations

See section 1.2 and Exposure scenarios in annex, if applicable.

SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Fuels, diesel	**ACGIH TLV (United States). Absorbed through skin.** TWA: 100 mg/m³, (measured as total hydrocarbons) 8 hours. Issued/ Revised: 1/2007 Form: Inhalable fraction and vapor

Whilst specific OELs for certain components may be shown in this section, other components may be present in any mist, vapour or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482

SECTION 8: Exposure controls/personal protection

(Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived No Effect Level

Product/ingredient name	Type	Exposure		Value	Population	Effects
Fuels, diesel	DNEL	Short term Inhalation	15 minutes	4300 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	8 hours TWA	2.9 mg/kg bw/ day	Workers	Systemic
	DNEL	Long term Inhalation	8 hours TWA	68 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	15 minutes	2600 mg/m³	Consumers	Systemic
	DNEL	Long term Dermal	TWA	1.3 mg/kg bw/ day	Consumers	Systemic
	DNEL	Long term Inhalation	24 hours TWA	20 mg/m³	Consumers	Systemic

Predicted No Effect Concentration

No PNECs available

8.2 Exposure controls

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

If local exhaust ventilation or other methods of ventilation are not possible or are insufficient, wear suitable respiratory protective devices. Wear suitable respiratory protective devices if there is a risk of exposure limits being exceeded. The choice of suitable respiratory device will depend upon a risk assessment of the workplace environment and the task being carried out. If required, the respiratory device must be certified as safe in defined explosive atmospheres (EX Label). Respiratory protective devices must be checked to ensure they fit correctly each time they are worn. Please consult European standard EN 529 for further guidance on the selection, use, care and maintenance of respiratory protective devices.

Suitable breathing apparatus (independent of ambient atmosphere) must be worn if any of the following situations apply.
- When the workplace atmosphere is considered to be immediately dangerous to life and health.
- When there is a risk of the workplace atmosphere being oxygen deficient.
- When the workplace atmosphere is uncontrolled.
- When the workplace atmosphere is unknown.
- When there is a risk of loss of consciousness or asphyxiation
- When entry into a confined space is required.
- When there is a risk of gases being released that could be a fire or explosion hazard.
- When the concentration of contaminants in the atmosphere exceeds the level of protection (maximum allowed concentration) given by a filtering device
- When the contaminants have a low odour that would not be tasted or smelt by the wearer of a filtering device if the filter became exhausted or saturated.
- When there is a risk of hydrogen sulphide exposure limits being exceeded.

If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn.
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/ aerosol/particulates) that may arise when handling the product.

Recommended: Gas filter suitable for gases and vapours. Filter type: A
Combined filter suitable for gases, vapours and particles (dust, smoke, mist, aerosol). Filter type: AP

SECTION 8: Exposure controls/personal protection

Eye/face protection

Chemical splash goggles.

Skin protection

Hand protection

General Information:

Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures).

Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions.

Wear chemical resistant gloves.
Recommended: Nitrile gloves.
Do not re-use gloves.
Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis.
Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture).
The frequency of replacement will depend upon the circumstances of use.

Breakthrough time:

Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account. Always consult with your glove supplier for up-to-date technical information on breakthrough times for the recommended glove type.
Our recommendations on the selection of gloves are as follows:

Continuous contact:

Gloves with a minimum breakthrough time of 240 minutes, or >480 minutes if suitable gloves can be obtained.
If suitable gloves are not available to offer that level of protection, gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to.

Short-term / splash protection:

Recommended breakthrough times as above.
It is recognised that for short-term, transient exposures, gloves with shorter breakthrough times may commonly be used. Therefore, appropriate maintenance and replacement regimes must be determined and rigorously followed.

Glove Thickness:

For general applications, we recommend gloves with a thickness typically greater than 0.35 mm.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.
Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

SECTION 8: Exposure controls/personal protection

Skin and body

Wear suitable protective clothing.
Footwear highly resistant to chemicals.
When there is a risk of ignition wear inherently fire resistant protective clothes and gloves.
Refer to standard: ISO 11612
When there is a risk of ignition from static electricity, wear anti-static protective clothing. For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static.
Refer to standard: EN 1149
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination.
When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be required.
Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes.

Environmental exposure controls

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Colour	Blue.
Odour	Diesel fuel
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	-25 to -10°C (-13 to 14°F)
Initial boiling point and boiling range	120 to 360°C (248 to 680°F)
Pour point	-18 to -5 °C
Flash point	Closed cup: >60°C (>140°F) [Pensky-Martens.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Lower: 0.6% Upper: 6.5%
Vapour pressure	<1 kPa (<7.52 mm Hg) at 37.778°C
Vapour density	Not available.
Relative density	Not available.
Density	820 to 860 kg/m³ (0.82 to 0.86 g/cm³) at 15°C
Solubility(ies)	Very slightly soluble in water
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 2 to 4.5 mm^2/s (2 to 4.5 cSt) at 40°C
Explosive properties	Not available.
Oxidising properties	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerisation will not occur.

10.4 Conditions to avoid

Avoid excessive heat.

10.5 Incompatible materials

Reactive or incompatible with the following materials: oxidising materials.

10.6 Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result / Route	Test authority / Number	Species	Dose	Exposure	Remarks
Fuels, diesel	LC50 Inhalation Dusts and mists	Equivalent to OECD 403	Rat	4.1 mg/l	4 hours	Based on Diesel fuel
	LD50 Dermal	Equivalent to OECD 434	Rabbit	>4300 mg/kg	-	Based on No. 2 Heating Oil.
	LD50 Dermal	Equivalent to OECD 434	Rabbit	>4300 mg/kg	-	Based on Diesel fuel
	LD50 Oral	Equivalent to OECD 401	Rat	17900 mg/kg	-	Based on No. 2 Heating Oil.
	LD50 Oral	Equivalent to OECD 420	Rat	7600 mg/kg	-	Based on Diesel fuel

Acute toxicity estimates

Route	ATE value
Inhalation (vapours)	11 mg/l

Irritation/Corrosion

Product/ingredient name	Test authority / Test number	Species	Route / Result	Test concentration	Remarks
Fuels, diesel	Equivalent to OECD 404	Rabbit	Skin - Irritation	-	Based on No. 2 Heating Oil.
	Equivalent to OECD 404	Rabbit	Skin - Irritation	-	Based on Diesel fuel
	Equivalent to OECD 405	Rabbit	Eyes - Non-irritating to the eyes.	-	Based on No. 2 Heating Oil.
	Equivalent to OECD 405	Rabbit	Eyes - Non-irritating to the eyes.	-	Based on Diesel fuel

Sensitiser

Product/ingredient name	Route	Test authority / Test number	Species	Result	Remarks
Fuels, diesel	skin	Equivalent to OECD 406	Guinea pig	Not sensitising	Based on No. 2 Heating Oil.
	skin	Equivalent to OECD 406	Guinea pig	Not sensitising	Based on Diesel fuel

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SECTION 11: Toxicological information

Product/ingredient name	Test authority / Test number	Cell	Type	Result	Remarks
Fuels, diesel	OECD 471	-	Experiment: In vitro Subject: Non-mammalian species	Positive	Based on Diesel fuel
	Equivalent to OECD 476	Cell: Germ	Experiment: In vitro Subject: Mammalian-Animal	Negative	Based on Heating Oil.
	not guideline	Cell: Somatic	Experiment: In vivo Subject: Unspecified	Negative	Based on Heating Oil.

Conclusion/Summary Not classified. Based on available data, the classification criteria are not met.

Carcinogenicity

Product/ingredient name	Test authority / Test number	Species	Route	Exposure	Result	Remarks
Fuels, diesel	Equivalent to OECD 451	Mouse	Dermal	2 years	Positive	Based on Heating Oil.

Conclusion/Summary Suspected of causing cancer.

Reproductive toxicity

Product/ingredient name	Test authority / Test number	Species	Route	Exposure	Developmental	Maternal toxicity	Fertility	Remarks
Fuels, diesel	Equivalent to OECD 414	Rat	Dermal	20 days	Negative	-	-	Effects observed at maternally toxic doses. (Based on Condensates (petroleum), vacuum tower)
	Equivalent to OECD 414	Rat	Dermal	10 days	Negative	-	-	Effects observed at maternally toxic doses. (Based on Diesel fuel)
	Equivalent to OECD 414	Rat	Dermal	10 days	Negative	-	-	Effects observed at maternally toxic doses. (Based on No. 2 Heating Oil.)

Conclusion/Summary Development: Not classified. Based on available data, the classification criteria are not met.
Fertility: Not classified. Based on available data, the classification criteria are not met.
Effects on or via lactation: Not classified. Based on available data, the classification criteria are not met.

Specific target organ toxicity

Product / Ingredient Name	Hazard	Test authority / Test number	Species	Route	Type	Dose	Exposure	Target organs	Remarks
Fuels, diesel	STOT - RE	Equivalent to OECD 411	Rat	Dermal	LOAEL	20 to 200 mg/kg bw/day	90 days	blood	Based on Condensates (petroleum), vacuum tower
	STOT - SE	Equivalent to OECD 434	Rabbit	Dermal	LOAEL	>2000 mg/kg	-	-	Based on Heating Oil.
	STOT - SE	Equivalent to OECD 401	Rat	Oral	LOAEL	>2000 mg/kg	-	-	Based on Heating Oil.
	STOT - RE	Equivalent to OECD 413	Rat	Inhalation	NOAEC	>0.2 mg/l /6 hours	90 days	-	Based on Diesel fuel
	STOT - SE	Equivalent to	403	Rat	Inhalation	LOAEL	>5 mg/l	4 hours	-	Based on Diesel fuel

SECTION 11: Toxicological information

OECD

Conclusion/Summary STOT - RE: May cause damage to organs through prolonged or repeated exposure.
STOT - SE: Not classified. Based on available data, the classification criteria are not met.

Information on the likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Inhalation Harmful if inhaled.

Ingestion Irritating to mouth, throat and stomach. Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

Skin contact Causes skin irritation.

Eye contact No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Ingestion Adverse symptoms may include the following:
nausea or vomiting

Skin contact Adverse symptoms may include the following:
irritation
redness

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

Delayed and immediate effects and also chronic effects from short and long term exposure

Inhalation Vapour, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs. Vapour, mist or fume may irritate the nose, mouth and respiratory tract.

Ingestion If swallowed, may irritate the mouth, throat and digestive system. If swallowed, may cause abdominal pain, stomach cramps, nausea, vomiting, diarrhoea, dizziness and drowsiness.

Skin contact As with all such products containing potentially harmful levels of PCAs, prolonged or repeated skin contact may eventually result in dermatitis or more serious irreversible skin disorders including cancer.

Eye contact Vapour, mist or fume may cause eye irritation. Exposure to vapour, mist or fume may cause stinging, redness and watering of the eyes.

Potential chronic health effects

General May cause damage to organs through prolonged or repeated exposure. Vapour, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer.

Carcinogenicity Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Test authority / Test number	Species	Type / Result	Exposure	Effects	Remarks
Fuels, diesel	Modelled data -	Micro-organism	EL50 >1000 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	Modelled data -	Micro-organism	NOELR 3.217 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Vacuum gas oil / Hydrocracked gas oil /

SECTION 12: Ecological information

							Distillate Fuel
	OECD	201	Algae	Acute EL50 22 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	OECD	202	Daphnia	Acute EL50 210 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	OECD	202	Daphnia	Acute EL50 68 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	OECD	201	Algae	Acute ErL50 78 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	OECD	203	Fish	Acute LL50 65 mg/l Nominal Fresh water	96 hours	Mortality	Based on Diesel fuel
	OECD	203	Fish	Acute LL50 21 mg/l Nominal Fresh water	96 hours	Mortality	Based on Diesel fuel
	OECD	201	Algae	Acute NOELR 10 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	OECD	201	Algae	Acute NOELR 1 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	OECD	202	Daphnia	Acute NOELR 46 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	Modelled data	-	Fish	Chronic NOEL 0.083 mg/l Nominal Fresh water	14 days	Mortality	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	Modelled data	-	Daphnia	Chronic NOELR 0.2 mg/l Nominal Fresh water	21 days	Immobilisation	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel

Environmental hazards Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Partially biodegradable.

Product/ingredient name	Test authority / Test number	Result - Exposure	Remarks
Fuels, diesel	OECD 301 F	60 % - Readily - 28 days	Based on Diesel fuel
	OECD 301 F	57.5 % - Not readily - 28 days	Based on Diesel fuel
	Equivalent to EPA OTS 796. 3100	35 % - Not readily - 28 days	Based on Gas Oils (petroleum), solvent refined

12.3 Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination. This material may accumulate in sediments.

12.5 Results of PBT and vPvB assessment

PBT Not applicable.

vPvB Not applicable.

12.6 Other adverse effects

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

SECTION 13: Disposal considerations

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

13.1 Waste treatment methods

Product

Methods of disposal

Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Hazardous waste

Yes.

European waste catalogue (EWC)

Waste code	Waste designation
13 07 01*	fuel oil and diesel

However, deviation from the intended use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user.

Packaging

Methods of disposal

Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Special precautions

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty containers. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1202	UN1202	UN1202	UN1202
14.2 UN proper shipping name	GAS OIL	GAS OIL	GAS OIL. Marine pollutant (Fuels, diesel)	GAS OIL
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	No.
Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Hazard identification number** 30 **Special provisions** 640 (E) **Tunnel code** D/E	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Remarks** Table C Danger: 3+ (N2, CMR, F)	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-E, S-E	The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user

Not available.

SECTION 14: Transport information

ADR/RID Classification code: F1

ADN Classification code: F1

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not applicable.

Other regulations

REACH Status The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

United States inventory (TSCA 8b) At least one component is not listed.

Australia inventory (AICS) At least one component is not listed.

Canada inventory At least one component is not listed.

China inventory (IECSC) At least one component is not listed.

Japan inventory (ENCS) At least one component is not listed.

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

Philippines inventory (PICCS) At least one component is not listed.

National regulations

Social Security Code, Articles L 461-1 to L 461-7 Sécurité sociale: tableau 36 bis

Reinforced medical surveillance Not classified.

15.2 Chemical Safety Assessment

Not applicable.

SECTION 16: Other information

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DPD = Dangerous Preparations Directive [1999/45/EC]
DSD = Dangerous Substances Directive [67/548/EEC]
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient

SECTION 16: Other information

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SADT = Self-Accelerating Decomposition Temperature
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVCB = Complex hydrocarbon substance
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H332 (inhalation)	Harmful if inhaled.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
Aquatic Chronic 2, H411	LONG-TERM AQUATIC HAZARD - Category 2
Asp. Tox. 1, H304	ASPIRATION HAZARD - Category 1
Carc. 2, H351	CARCINOGENICITY - Category 2
Flam. Liq. 3, H226	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Full text of abbreviated R phrases

R40- Limited evidence of a carcinogenic effect.
R20- Harmful by inhalation.
R65- Harmful: may cause lung damage if swallowed.
R38- Irritating to skin.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications [DSD/DPD]

Carc. Cat. 3 - Carcinogen category 3
Xn - Harmful
Xi - Irritant
N - Dangerous for the environment

History

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Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.

Annex to the extended Safety Data Sheet (eSDS)

Consumer

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use as a fuel - Consumer
List of use descriptors	**Identified use name:** Use as a fuel - Consumer **Sector of end use:** SU21 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC09a, ERC09b **Market sector by type of chemical product:** PC13 **Specific Environmental Release Category:** ESVOC SpERC 9.12c.v1
Processes and activities covered by the exposure scenario	Covers consumer uses in liquid fuels.
Assessment Method	See Section 3

Section 2:: Operational conditions and risk management measures

Section 2.1:: Control of consumer exposure

Concentration of substance in mixture or article	Covers concentrations up to 100%
Physical state:	Liquid, vapour pressure > 10 kPa

Contributing scenarios: Operational conditions and risk management measures

Product Category(ies) 13: Fuels Liquid: Automotive Refuelling
Operations Conditions (consumer): Covers concentrations up to 100% Covers use up to 52 days per year Covers use up to 1 time/on day of use Covers skin contact area up to 210.00 cm2 For each use event, covers use amounts up to 37500 g Covers outdoor use. Covers use in room size of 100 m³ Covers exposure up to 0.05 hours per event
Risk Management Measures (consumer): No specific risk management measure identified beyond those operational conditions stated.

Product Category(ies) 13: Fuels Liquid Garden Equipment - Use
Operations Conditions (consumer): Covers concentrations up to 100% Covers use up to 26 days per year Covers use up to 1 time/on day of use For each use event, covers use amounts up to 750 g Covers outdoor use. Covers use in room size of 100 m³ Covers exposure up to 2.00 hours per event
Risk Management Measures (consumer): No specific risk management measure identified beyond those operational conditions stated.

Product Category(ies) 13 Liquid: Garden Equipment - Refuelling
Operations Conditions (consumer): Covers concentrations up to 100% Covers use up to 26 days per year Covers use up to 1 time/on day of use Covers skin contact area up to420.00 cm2 For each use event, covers use amounts up to750 g Covers use in a one car garage (34 m³) under typical ventilation. Covers use in room size of 34 m³ Covers exposure up to 0.03 hours per event
Risk Management Measures (consumer): No specific risk management measure identified beyond those operational conditions stated.

Section 2.2:: Control of environmental exposure

Product characteristics:	Substance is complex UVCB Predominantly hydrophobic
Fraction of EU tonnage used in region:	0.1
Regional use tonnage (tonnes/year):	1.6E7
Fraction of Regional tonnage used locally:	0.0005
Maximum daily site tonnage (kg/day):	2.3E4
Frequency and duration of use:	Continuous release.
Other given operational conditions affecting environmental exposure:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion).
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.
RCR - Air Compartment Driven:	1.11E-02
RCR - Water Compartment Driven:	5.99E-02

Section 3: Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment: 1:	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
Exposure estimation	Not available.

Exposure estimation and reference to its source - Consumers: 0:	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.
Exposure estimation	Not available.

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

Environment	Further details on scaling and control technologies are provided in SpERC factsheet.
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.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Distribution of Substance - Industrial
List of use descriptors	**Identified use name:** Distribution of substance **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15, PROC09 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC06a, ERC01, ERC02, ERC03, ERC04, ERC05, ERC06b, ERC06c, ERC06d, ERC07 **Specific Environmental Release Category:** ESVOC SpERC 1.1b.v1
Processes and activities covered by the exposure scenario	Bulk 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, maintenance and associated laboratory activities.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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: Drain down system prior to equipment break-in or maintenance. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Handle substance within a closed system.

Section 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
Annual site tonnage (tonnes/year):	5.6E4
Maximum daily site tonnage (kg/day):	1.9E5
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	1.0E-3
Release fraction to soil from process (initial release prior to RMM):	0.00001
Release fraction to wastewater from process (initial release prior to RMM):	1.0E-6
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion). Prevent discharge of undissolved substance to or recover from onsite wastewater. No wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	90
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	2.9E6
Assumed on-site 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.
RCR - Air Compartment Driven:	5.29E-03

RCR - Water Compartment Driven:	5.99E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Explosives manufacture and use - Professional
List of use descriptors	**Identified use name:** Explosives manufacture and use **Process Category:** PROC01, PROC03, PROC05, PROC08a, PROC08b **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08e **Specific Environmental Release Category:** Not applicable
Processes and activities covered by the exposure scenario	Covers exposures arising from the manufacture and use of slurry explosives (including materials transfer, mixing and charging) and equipment cleaning.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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 chemical-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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Production of preparation or articles by tabletting, compression, extrusion or pelletisation: Wear suitable gloves tested to EN374.

Drum and small package filling: 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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Store substance within a closed system.

Section 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):	1.3E4
Fraction of Regional tonnage used locally:	0.0005
Annual site tonnage (tonnes/year):	6.7
Maximum daily site tonnage (kg/day):	1.8E1
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	365
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	0.001
Release fraction to soil from process (initial release prior to RMM):	0.01
Release fraction to wastewater from process (initial release prior to RMM):	0.02
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	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 (%):	Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	8.8
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	2.9E2
Assumed on-site 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.
RCR - Air Compartment Driven:	1.71E-02
RCR - Water Compartment Driven:	6.44E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Formulation and (re)packing of substances and mixtures - Industrial
List of use descriptors	**Identified use name:** Formulation and (re)packing of substances and mixtures **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC15, PROC05, PROC14 **Sector of end use:** SU03, SU10 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC02 **Specific Environmental Release Category:** ESVOC SpERC 2.2.v1
Processes and activities covered by the exposure scenario	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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 chemical-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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Production or preparation of articles by tabletting, compression, extrusion or pelletisation: Wear suitable gloves tested to EN374.

Drum and small package filling: 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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Handle substance within a closed system.

Section 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:	0.0011
Annual site tonnage (tonnes/year):	3.0E4
Maximum daily site tonnage (kg/day):	1.0E5
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	1.0E-2
Release fraction to soil from process (initial release prior to RMM):	0.0001
Release fraction to wastewater from process (initial release prior to RMM):	2.0E-5
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite wastewater. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	0
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	59.9
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	6.8E5

Assumed on-site 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.
RCR - Air Compartment Driven:	5.03E-02
RCR - Water Compartment Driven:	1.47E-01

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Manufacture of Substance - Industrial
List of use descriptors	**Identified use name:** Manufacture of substance **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15 **Sector of end use:** SU03, SU08, SU09 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC01, ERC04 **Specific Environmental Release Category:** ESVOC SpERC 1.1.v1
Processes and activities covered by the exposure scenario	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.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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 maintenance. Wear

chemical-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.

Section 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
Annual site tonnage (tonnes/year):	6.0E5
Maximum daily site tonnage (kg/day):	2.0E6
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	1.0E-2
Release fraction to soil from process (initial release prior to RMM):	0.0001
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-5
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite wastewater. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	90
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	90.3
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	3.3E6
Assumed on-site 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.
RCR - Air Compartment Driven:	1.01E-01
RCR - Water Compartment Driven:	6.06E-01

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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. Scaled local assessments for EU refineries have been performed using site-specific data and are attached in PETRORISK file - "Site-Specific Production" worksheet. If scaling reveals a condition of unsafe use (i. e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Metal working fluids/rolling oils - Industrial
List of use descriptors	**Identified use name:** Metal working fluids/rolling oils **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC05, PROC07, PROC10, PROC13, PROC17 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC04 **Specific Environmental Release Category:** ESVOC SpERC 4.7a.v1
Processes and activities covered by the exposure scenario	Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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.

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 (tested to EN374), coverall and eye protection.

Manual applications e.g. brushing, rolling: Wear chemical-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 system prior to equipment break-in or maintenance. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Store substance within a closed system.

Section 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:	0.0097
Annual site tonnage (tonnes/year):	1.0E2
Maximum daily site tonnage (kg/day):	5.0E3
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	20
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	0.02
Release fraction to soil from process (initial release prior to RMM):	0
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-6
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion). Prevent discharge of undissolved substance to or recover from onsite wastewater. No wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	70
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1

Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	7.8E4
Assumed on-site 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.
RCR - Air Compartment Driven:	4.45E-03
RCR - Water Compartment Driven:	5.98E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Road and construction applications - Professional
List of use descriptors	**Identified use name:** Road and construction applications **Process Category:** PROC08a, PROC08b, PROC10, PROC11, PROC09, PROC13 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08d, ERC08f **Specific Environmental Release Category:** ESVOC SpERC 8.15.v1
Processes and activities covered by the exposure scenario	Application of surface coatings and binders in road and construction activities, including paving uses, manual mastic and in the application of roofing and water-proofing membranes.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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.

Drum/batch transfers Non-dedicated facility: Wear suitable gloves tested to EN374.

Drum/batch transfers Dedicated facility: Wear suitable gloves tested to EN374.

Spraying/fogging by machine application: Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings (professional use) Ensure operation is undertaken outdoors. Wear suitable gloves tested to EN374.

Manual applications e.g. brushing, rolling: Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Dipping, immersion and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Equipment cleaning and maintenance: Drain down system prior to equipment break-in or maintenance. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Store substance within a closed system.

Section 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):	3.1E4
Fraction of Regional tonnage used locally:	0.0005
Annual site tonnage (tonnes/year):	1.5E1
Maximum daily site tonnage (kg/day):	4.2E1
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	365
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	0.95
Release fraction to soil from process (initial release prior to RMM):	0.04
Release fraction to wastewater from process (initial release prior to RMM):	0.01
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	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 (%):	Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	12.2
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	6.2E2
Assumed on-site 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.
RCR - Air Compartment Driven:	1.92E-02
RCR - Water Compartment Driven:	6.69E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Rubber production and processing - Industrial
List of use descriptors	**Identified use name:** Rubber production and processing **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC05, PROC06, PROC07, PROC13, PROC14, PROC15, PROC21 **Sector of end use:** SU03, SU10, SU11 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC01, ERC04, ERC06d **Specific Environmental Release Category:** ESVOC SpERC 4.19.v1
Processes and activities covered by the exposure scenario	Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:	
Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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 (closed systems): No other specific measures identified.

Bulk transfers (open systems): Wear suitable gloves tested to EN374.

Material transfers: Wear suitable gloves tested to EN374.

Bulk weighing: Wear suitable gloves tested to EN374. No other specific measures identified.

Small scale weighing: Wear suitable gloves tested to EN374.

Additive premixing: Wear suitable gloves tested to EN374.

Calendering (including Banburys): Handle substance within a predominantly closed system provided with extract ventilation. Wear suitable gloves tested to EN374.

Pressing uncured rubber blanks: Wear suitable gloves tested to EN374.

Tyre build-up: Minimise exposure by extracted full enclosure for the operation or equipment. Wear suitable gloves (tested to EN374), coverall and eye protection.

Vulcanisation: Provide extract ventilation to material transfer points and other openings.

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

Production of articles by dipping and pouring: Wear suitable gloves tested to EN374.

Finishing operations: Wear suitable gloves tested to EN374.

Laboratory activities: No other specific measures identified.

Equipment cleaning and maintenance: Drain or remove substance from equipment prior to break-in or maintenance. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Store substance within a closed system.

Section 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):	1.6E4
Fraction of Regional tonnage used locally:	1
Annual site tonnage (tonnes/year):	1.6E4
Maximum daily site tonnage (kg/day):	5.2E4
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	0.01
Release fraction to soil from process (initial release prior to RMM):	0.001
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-5
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	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 (%):	0
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	52.8
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	4.2E5
Assumed on-site 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.
RCR - Air Compartment Driven:	2.62E-02
RCR - Water Compartment Driven:	1.25E-01

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use as a fuel - Industrial
List of use descriptors	**Identified use name:** Use as a fuel - Industrial **Process Category:** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC07 **Specific Environmental Release Category:** ESVOC SpERC 7.12a.v1
Processes and activities covered by the exposure scenario	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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: 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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Handle substance within a closed system.

Section 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
Annual site tonnage (tonnes/year):	1.5E6
Maximum daily site tonnage (kg/day):	5.0E6
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	5.0E-3
Release fraction to soil from process (initial release prior to RMM):	0
Release fraction to wastewater from process (initial release prior to RMM):	0.00001
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	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 on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	97.7
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	60.4
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	97.7
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	5.0E6
Assumed on-site 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.
RCR - Air Compartment Driven:	6.32E-02
RCR - Water Compartment Driven:	9.09E-01

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use as a fuel - Professional
List of use descriptors	**Identified use name:** Use as a fuel - Professional **Process Category:** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC09a, ERC09b **Specific Environmental Release Category:** ESVOC SpERC 9.12b.v1
Processes and activities covered by the exposure scenario	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Store substance within a closed system.

Section 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
Annual site tonnage (tonnes/year):	3.3E3
Maximum daily site tonnage (kg/day):	9.2E3
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	365
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	1.0E-4
Release fraction to soil from process (initial release prior to RMM):	0.00001
Release fraction to wastewater from process (initial release prior to RMM):	0.00001
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion). No wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	1.4E5
Assumed on-site 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.
RCR - Air Compartment Driven:	5.45E-03
RCR - Water Compartment Driven:	5.99E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use as an intermediate - Industrial
List of use descriptors	**Identified use name:** Use as an intermediate **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15 **Sector of end use:** SU03, SU08, SU09 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC06a **Specific Environmental Release Category:** ESVOC SpERC 6.1a.v1
Processes and activities covered by the exposure scenario	Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/ rail car and bulk container).
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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 maintenance. Wear chemical-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.

Section 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
Annual site tonnage (tonnes/year):	1.5E4
Maximum daily site tonnage (kg/day):	5.0E4
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	1.0E-3
Release fraction to soil from process (initial release prior to RMM):	0.001
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-5
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite wastewater. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	80
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	51.6
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	4.1E5
Assumed on-site 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 from the substance is generated.
Conditions and measures related to external recovery of waste:	This substance is consumed during use and no waste from the substance is generated.
RCR - Air Compartment Driven:	4.88E-03
RCR - Water Compartment Driven:	1.22E-01

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use as binders and release agents - Industrial
List of use descriptors	**Identified use name:** Use as binders and release agents - Industrial **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC06, PROC07, PROC08b, PROC10, PROC13, PROC14 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC04 **Specific Environmental Release Category:** ESVOC SpERC 4.10a.v1
Processes and activities covered by the exposure scenario	Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing), mould forming and casting, and handling of waste.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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 chemical-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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Mould forming: Wear chemical-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.

Spraying Machine: Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Wear suitable gloves tested to EN374.

Spraying Manual: Wear a full-face respirator conforming to EN136 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 applications e.g. brushing, rolling: Wear chemical-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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Handle substance within a closed system.

Section 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
Annual site tonnage (tonnes/year):	2.5E3
Maximum daily site tonnage (kg/day):	2.5E4
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	100
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	1.0
Release fraction to soil from process (initial release prior to RMM):	0
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-7
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation). No wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	80
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	1.7E5

Assumed on-site 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.
RCR - Air Compartment Driven:	8.37E-02
RCR - Water Compartment Driven:	6.07E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use as binders and release agents - Professional
List of use descriptors	**Identified use name:** Use as binders and release agents - Professional **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC06, PROC08a, PROC08b, PROC10, PROC11, PROC14 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a, ERC08d **Specific Environmental Release Category:** ESVOC SpERC 8.10b.v1
Processes and activities covered by the exposure scenario	Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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 (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 with local exhaust ventilation: Apply ventilation or undertake in ventilated 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 EN136 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 applications e.g. brushing, rolling: Wear chemical-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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Store substance within a closed system.

Section 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
Annual site tonnage (tonnes/year):	1.5
Maximum daily site tonnage (kg/day):	4.0
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	365
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	0.95
Release fraction to soil from process (initial release prior to RMM):	0.025
Release fraction to wastewater from process (initial release prior to RMM):	0.025
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion). No wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1

Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	6.2E1
Assumed on-site 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.
RCR - Air Compartment Driven:	5.79E-03
RCR - Water Compartment Driven:	5.99E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use as Functional Fluids - Industrial
List of use descriptors	**Identified use name:** Use of substance as functional fluids **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC07 **Specific Environmental Release Category:** ESVOC SpERC 7.13a.v1
Processes and activities covered by the exposure scenario	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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: No other specific measures identified.

Drum/batch transfers: Wear suitable gloves tested to EN374.

Filling of articles/equipment (closed systems): Transfer via enclosed lines.

Filling/preparation of equipment from drums or containers: Wear suitable gloves tested to EN374.

Equipment operation (closed systems): No other specific measures identified.

Equipment operation (open systems): Restrict area of openings to equipment. Provide extract ventilation to points where emissions occur.

Rework and remanufacture of articles: Wear suitable gloves tested to EN374.

Equipment cleaning and maintenance: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Handle substance within a closed system.

Section 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):	6.4E3
Fraction of Regional tonnage used locally:	0.0016
Annual site tonnage (tonnes/year):	1.0E1
Maximum daily site tonnage (kg/day):	5.0E2
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	20
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	5.0E-3
Release fraction to soil from process (initial release prior to RMM):	0.001
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-6
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion). No wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	0
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	7.8E3
Assumed on-site 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.
RCR - Air Compartment Driven:	4.36E-03
RCR - Water Compartment Driven:	5.98E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use in Oil and Gas field drilling and production operations - Industrial
List of use descriptors	**Identified use name:** Use in Oil and Gas field drilling and production operations - Industrial **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC04 **Specific Environmental Release Category:** Qualitative assessment
Processes and activities covered by the exposure scenario	Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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: Transfer via enclosed lines.

Filling/preparation of equipment from drums or containers.: Wear suitable gloves tested to EN374.

Drilling mud (re-)formulation: No other specific measures identified.

Drill floor operations: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Operation of solids filtering equipment elevated temperature: Provide the operation with a properly sited receiving hood.

Cleaning of solids filtering equipment: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic'

employee training.

Cuttings treatment and disposal: Provide extract ventilation to points where emissions occur.

Process sampling: No other specific measures identified.

General exposures (closed systems): Handle substance within a closed system.

General exposures (open systems): Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Pouring from small containers: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Equipment cleaning and maintenance: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Bulk product storage: Store substance within a closed system.

Section 2.2:: Control of environmental exposure

Product characteristics:	Substance is complex UVCB Predominantly hydrophobic
Amounts used:	
Fraction of EU tonnage used in region:	1
Regional use tonnage (tonnes/year):	7.75E+03
Fraction of Regional tonnage used locally:	Not applicable.
Annual site tonnage (tonnes/year):	Not applicable.
Maximum daily site tonnage (kg/day):	Not applicable.
Frequency and duration of use:	
Emission Days (days/year):	Not applicable.
Local marine water dilution factor:	Not applicable.
Release fraction to air from process (initial release prior to RMM):	Not applicable.
Release fraction to wastewater from process (initial release prior to RMM):	Not applicable.
Technical conditions and measures at process level (source) to prevent release:	Discharge to aquatic environment is restricted (see Section 4.2).
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Not applicable.
Treat air emission to provide a typical removal efficiency of (%):	Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	Not applicable.
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	Not applicable.
Organisational measures to prevent/limit release from site:	Prevent environmental discharge consistent with regulatory requirements.
Conditions and measures related to municipal sewage treatment plant:	
Estimated substance removal from wastewater via on-site sewage treatment (%):	Not applicable.
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	Not applicable.
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	Not applicable.
Assumed on-site sewage treatment plant flow (m^3/d):	Not applicable.
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

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	Quantitative exposure and risk assessment not possible due to lack of emissions to aquatic environment. Qualitative approach used to conclude safe use.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

Environment	Discharge to aquatic environment is restricted by law and industry prohibits release.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use in Oil and Gas field drilling and production operations - Professional
List of use descriptors	**Identified use name:** Use in Oil and Gas field drilling and production operations - Professional **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08d **Specific Environmental Release Category:** Qualitative assessment
Processes and activities covered by the exposure scenario	Oil field well drilling operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:	
Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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.

Filling/preparation of equipment from drums or containers: Wear suitable gloves tested to EN374.

Drilling mud (re-)formulation: No other specific measures identified.

Drill floor operations: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Operation of solids filtering equipment elevated temperature: Provide the operation with a properly sited receiving hood.

Cleaning of solids filtering equipment: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic'

employee training.

Cuttings treatment and disposal: Provide extract ventilation to points where emissions occur.

Process sampling: No other specific measures identified.

General exposures (closed systems): Handle substance within a closed system.

General exposures (open systems): Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Pouring from small containers: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Equipment cleaning and maintenance: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Store substance within a closed system.

Section 2.2:: Control of environmental exposure

Product characteristics:	Substance is complex UVCB Predominantly hydrophobic
Amounts used:	
Fraction of EU tonnage used in region:	1
Regional use tonnage (tonnes/year):	7.75E+03
Fraction of Regional tonnage used locally:	Not applicable.
Annual site tonnage (tonnes/year):	Not applicable.
Maximum daily site tonnage (kg/day):	Not applicable.
Frequency and duration of use:	
Emission Days (days/year):	Not applicable.
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	Not applicable.
Release fraction to air from process (initial release prior to RMM):	Not applicable.
Release fraction to wastewater from process (initial release prior to RMM):	Not applicable.
Technical conditions and measures at process level (source) to prevent release:	Discharge to aquatic environment is restricted (see Section 4.2).
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Not applicable.
Treat air emission to provide a typical removal efficiency of (%):	Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	Not applicable.
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	Not applicable.
Organisational measures to prevent/limit release from site:	Prevent environmental discharge consistent with regulatory requirements.
Conditions and measures related to municipal sewage treatment plant:	
Estimated substance removal from wastewater via on-site sewage treatment (%):	Not applicable.
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	Not applicable.
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	Not applicable.
Assumed on-site sewage treatment plant flow (m^3/d):	Not applicable.

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

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

Environment	Discharge to aquatic environment is restricted by law and industry prohibits release.
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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use of substance in lubricants - High environmental release - Professional
List of use descriptors	**Identified use name:** Use of substance in lubricants - High environmental release **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC09, PROC13, PROC17, PROC20 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a, ERC08d **Specific Environmental Release Category:** ESVOC SpERC 9.6b.v1
Processes and activities covered by the exposure scenario	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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.

General exposures (closed systems): Handle substance within a closed system.

Operation of equipment containing engine oils and similar: No other specific measures identified.

General exposures (open systems): Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Wear suitable gloves tested to EN374.

Bulk transfers: Wear suitable gloves tested to EN374. Avoid carrying out activities involving exposure for more than 4 hours.

Filling/preparation of equipment from drums or containers Dedicated facility: Use drum pumps or carefully pour from container. Wear suitable gloves tested to EN374.

Filling/preparation of equipment from drums or containers Non-dedicated facility: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Operation and lubrication of high energy open equipment Indoor.: Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings (professional use) Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Operation and lubrication of high energy open equipment Outdoor.: Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 4 hours. Limit the substance content in the product to 25%. Wear suitable gloves tested to EN374. Ensure operatives are trained to minimise exposures.

Maintenance (of larger plant items) and machine set-up.: Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to emission points when contact with warm (>50°C) lubricant is likely. Wear suitable gloves tested to EN374.

Maintenance of small items: Drain or remove substance from equipment prior to break-in or maintenance. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Engine lubricant service: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Manual applications e.g. brushing, rolling: Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Spraying : Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings (professional use) Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Ensure operatives are trained to minimise exposures.
If technical measures not practical: Wear a full-face respirator conforming to EN136 with Type A/P2 filter or better. Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Limit the substance content in the product to 25%. Avoid carrying out activities involving exposure for more than 4 hours.

Treatment by dipping and pouring: Wear suitable gloves tested to EN374.

Storage: Store substance within a closed system.

Section 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):	3.2E3
Fraction of Regional tonnage used locally:	0.0005
Annual site tonnage (tonnes/year):	1.6
Maximum daily site tonnage (kg/day):	4.4
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	365
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	1.5E-1
Release fraction to soil from process (initial release prior to RMM):	0..05
Release fraction to wastewater from process (initial release prior to RMM):	0.05
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion). No wastewater treatment required.

Treat air emission to provide a typical removal efficiency of (%):	Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	6.8E1
Assumed on-site 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.
RCR - Air Compartment Driven:	1.08E-02
RCR - Water Compartment Driven:	5.99E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use of substance in lubricants - Industrial
List of use descriptors	**Identified use name:** Use of substance in lubricants - Industrial **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC17, PROC18 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC04, ERC07 **Specific Environmental Release Category:** ESVOC SpERC 4.6a.v1
Processes and activities covered by the exposure scenario	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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.

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.

Initial factory fill of equipment: Wear suitable gloves tested to EN374.

Operation and lubrication of high energy open equipment: Provide extract ventilation to points where emissions occur. Restrict area of openings to equipment.

Manual applications e.g. brushing, rolling: Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

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. Wear suitable gloves (tested to EN374), coverall and eye protection.

Maintenance (of larger plant items) and machine set-up.: Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to emission points when contact with warm (>50°C) lubricant is likely. Wear suitable gloves tested to EN374.

Maintenance of small items: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Remanufacture of reject articles: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Store substance within a closed system.

Section 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):	2.7E4
Fraction of Regional tonnage used locally:	0.0036
Annual site tonnage (tonnes/year):	1.0E2
Maximum daily site tonnage (kg/day):	5.0E3
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	20
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	5.0E-3
Release fraction to soil from process (initial release prior to RMM):	0.001
Release fraction to wastewater from process (initial release prior to RMM):	3.0E-6
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion). No wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	70
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1

Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	7.8E4
Assumed on-site 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.
RCR - Air Compartment Driven:	4.37E-03
RCR - Water Compartment Driven:	5.98E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Use of substance in lubricants - Low environmental release - Professional
List of use descriptors	**Identified use name:** Use of substance in lubricants - Low environmental release **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC13, PROC09, PROC17, PROC20 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC09a, ERC09b **Specific Environmental Release Category:** ESVOC SpERC 9.6b.v1
Processes and activities covered by the exposure scenario	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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.

General exposures (closed systems): Handle substance within a closed system.

Operation of equipment containing engine oils and similar: No other specific measures identified.

General exposures (open systems): Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Wear suitable gloves tested to EN374.

Bulk transfers: Wear suitable gloves tested to EN374. Avoid carrying out activities involving exposure for more than 4 hours.

Filling/preparation of equipment from drums or containers Dedicated facility: Use drum pumps or carefully pour from container. Wear suitable gloves tested to EN374.

Filling/preparation of equipment from drums or containers Non-dedicated facility: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Operation and lubrication of high energy open equipment Indoor.: Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings (professional use) Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Operation and lubrication of high energy open equipment Outdoor.: Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 4 hours. Limit the substance content in the product to 25%. Wear suitable gloves tested to EN374. Ensure operatives are trained to minimise exposures.

Maintenance (of larger plant items) and machine set-up.: Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to emission points when contact with warm (>50°C) lubricant is likely. Wear suitable gloves tested to EN374.

Maintenance of small items: Drain or remove substance from equipment prior to break-in or maintenance. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Engine lubricant service: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Manual applications e.g. brushing, rolling: Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Spraying with local exhaust ventilation: Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings (professional use) Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Ensure operatives are trained to minimise exposures.

Spraying without local exhaust ventilation: Wear a full-face respirator conforming to EN136 with Type A/P2 filter or better. Wear chemical-resistant gloves (tested to EN374) in combination with intensive management supervision controls. Limit the substance content in the product to 25%. Avoid carrying out activities involving exposure for more than 4 hours.

Treatment by dipping and pouring: Wear suitable gloves tested to EN374.

Storage: Store substance within a closed system.

Section 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):	3.2E3
Fraction of Regional tonnage used locally:	0.0005
Annual site tonnage (tonnes/year):	1.6
Maximum daily site tonnage (kg/day):	4.4
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	365
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	0.01
Release fraction to soil from process (initial release prior to RMM):	0.01
Release fraction to wastewater from process (initial release prior to RMM):	0.01
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion). No wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	6.8E1
Assumed on-site 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.
RCR - Air Compartment Driven:	4.35E-03
RCR - Water Compartment Driven:	5.98E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk

Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Uses in Coatings - Industrial
List of use descriptors	**Identified use name:** Uses in Coatings - Industrial **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC15 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC04 **Specific Environmental Release Category:** ESVOC SpERC 4.3a.v1
Processes and activities covered by the exposure scenario	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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.

General exposures (closed systems): Handle substance within a closed system.

Bulk transfers: Handle substance within a closed system. Wear suitable gloves tested to EN374.

Material transfers Drum/batch transfers Transfer from/pouring from containers: Wear suitable gloves tested to EN374.

Preparation of material for application Mixing operations (open systems): Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Film formation - force drying, stoving and other technologies: Handle substance within a closed system. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Film formation - air drying: Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear suitable gloves tested to EN374.

Spraying (automatic/robotic): Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Wear suitable gloves tested to EN374. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Manual spraying: Wear a respirator conforming to EN140 with Type A/P2 filter or better. Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Ensure operatives are trained to minimise exposures. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Roller, spreader, flow application: Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training.

Dipping, immersion and pouring: Wear suitable gloves tested to EN374.

Production or preparation of articles by tabletting, compression, extrusion or pelletisation: No other specific measures identified.

Laboratory activities: No other specific measures identified.

Equipment cleaning and maintenance: Drain down system prior to equipment break-in or maintenance. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Handle substance within a closed system.

Section 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):	8.1E3
Fraction of Regional tonnage used locally:	1
Annual site tonnage (tonnes/year):	8.1E3
Maximum daily site tonnage (kg/day):	2.7E4
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	0.98
Release fraction to soil from process (initial release prior to RMM):	0
Release fraction to wastewater from process (initial release prior to RMM):	7.0E-5
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation). Prevent discharge of undissolved substance to or recover from onsite wastewater. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	90
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	58.2
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0

Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	1.4E5
Assumed on-site 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.
RCR - Air Compartment Driven:	1.32E-01
RCR - Water Compartment Driven:	1.41E-01

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
Health	Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given 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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	SFR2122
Product name	Gazole Pêche / Gazole Marine

Section 1:: Title

Short title of the exposure scenario	Gas Oils (vacuum, hydrocracked & distillate fuels) R20, R38, R40, R65, R51/53 Uses in Coatings - Professional
List of use descriptors	**Identified use name:** Uses in Coatings - Professional **Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC15, PROC19 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC08a, ERC08d **Specific Environmental Release Category:** ESVOC SpERC 8.3b.v1
Processes and activities covered by the exposure scenario	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.
Assessment Method	See Section 3

Section 2: Operational conditions and risk management measures

Section 2.1: Control of worker exposure

Product characteristics:

Physical state:	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 given operational conditions affecting workers 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: Operational conditions and risk management measures

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 all skin contact with product, clean up contamination/spills as soon as they occur.
Wear gloves (tested to EN374) if hand contamination likely, 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.

General exposures (closed systems): Handle substance within a closed system.

Filling/preparation of equipment from drums or containers: Wear suitable gloves tested to EN374.

Material transfers Drum/batch transfers: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Preparation of material for application Mixing operations (closed systems): No other specific measures identified.

Preparation of material for application Mixing operations (open systems): Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Film formation - air drying: Wear suitable gloves tested to EN374.

Manual Spraying Indoor.: Carry out in a vented booth or extracted enclosure. Wear suitable gloves tested to EN374. Limit the substance content in the product to 25%. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Manual Spraying Outdoor.: Wear a respirator conforming to EN140 with Type A/P2 filter or better. Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Limit the substance content in the product to 25%. Avoid carrying out activities involving exposure for more than 4 hours. Ensure operatives are trained to minimise exposures.

Roller, spreader, flow application: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Limit the substance content in the product to 25%.

Dipping, immersion and pouring: Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Hand application - fingerpaints, pastels, adhesives: Wear chemical-resistant gloves (tested to EN374) in combination with specific activity training. Limit the substance content in the product to 5%.

Laboratory activities: No other specific measures identified.

Equipment cleaning and maintenance: Drain down system prior to equipment break-in or maintenance. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Storage: Store substance within a closed system.

Section 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):	2.3E3
Fraction of Regional tonnage used locally:	0.0005
Annual site tonnage (tonnes/year):	1.2
Maximum daily site tonnage (kg/day):	3.2
Frequency and duration of use:	Continuous release.
Emission Days (days/year):	365
Environment factors not influenced by risk management:	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Release fraction to air from process (initial release prior to RMM):	0.98
Release fraction to soil from process (initial release prior to RMM):	0.01
Release fraction to wastewater from process (initial release prior to RMM):	0.01
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion). No wastewater treatment required.
Treat air emission to provide a typical removal efficiency of (%):	Not applicable.
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of [3] (%):	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of [3] (%):	0
Organisational 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 on-site sewage treatment (%):	94.1
Total efficiency of removal from wastewater after on-site and off-site (domestic treatment plant) RMMs (%):	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d):	5.0E1
Assumed on-site 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.
RCR - Air Compartment Driven:	4.35E-03
RCR - Water Compartment Driven:	5.98E-02

Section 3:: Exposure estimation

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4:: Guidance to check compliance with the exposure scenario

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.
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 do not enable the derivation of a DNEL for dermal irritant effects. Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.