

# Safety Data Sheet

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



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

### 1.1. Product identifier

Substance name:

**Gas Oil**

Code:

**814649**

MARPOL Annex I Category:

Gas Oils, Including Ship's Bunkers

UK REACH Registration Number:

Not applicable

Issue date:

05-Oct-2022

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

Relevant identified uses:

Heating and fuel oil for industrial applications

Uses advised against:

Other uses are not recommended unless an assessment demonstrates potential exposures will be controlled.

### 1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Phillips 66 Ltd, Humber Refinery  
South Killingholme, North Lincolnshire DN40 3DW  
UK

Customer Service:

+44 (0)1469 571572

SDS Information:

URL: [www.Phillips66.com/SDS](http://www.Phillips66.com/SDS)

Email: [SDS@P66.com](mailto:SDS@P66.com)

### 1.4. Emergency telephone number

CHEMTREC Global +1 703 527 3887

CHEMTREC UK +(44)-870-8200418

## SECTION 2: Hazard identification

### 2.1. Classification of the substance or mixture

H226 -- Flammable liquids -- Category 3

H304 -- Aspiration Hazard -- Category 1

H315 -- Skin corrosion/irritation -- Category 2

H332 -- Acute toxicity, Inhalation -- Category 4

H350 -- Carcinogenicity -- Category 1B

H373 -- Specific target organ toxicity (repeated exposure) -- Category 2 (thymus/Liver/bone marrow/Blood)

H400 -- Hazardous to the aquatic environment, acute toxicity -- Category 1

H410 -- Hazardous to the aquatic environment, chronic toxicity -- Category 1

### 2.2. Label elements



#### DANGER

**H226 - Flammable liquid and vapour**

**H304 - May be fatal if swallowed and enters airways**

**H315 - Causes skin irritation**

**H332 - Harmful if inhaled**

**H350 - May cause cancer**

**H373 - May cause damage to the following organs through prolonged or repeated exposure: thymus/Liver/bone marrow/Blood**

**H410 - Very toxic to aquatic life with long lasting effects**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P273 - Avoid release to the environment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

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

P331 - Do NOT induce vomiting

### 2.3. Other hazards

Electrostatic charge may be generated during pumping and other operations  
 Does not meet the criteria for persistent, bioaccumulative and toxic (PBT) or very persistent, very bioaccumulative (vPvB) substances.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

Substance	Concentration <sup>1</sup>	EINECS	REACH Reg. No
Distillates, petroleum, light catalytic cracked 64741-59-9	0-100	265-060-4	UK-01-9908671323-9
Distillates, petroleum, hydrodesulfurized middle 64742-80-9	0-100	265-183-3	UK-01-9186165659-2
Fuels, diesel 68334-30-5	0-100	269-822-7	UK-01-8130493590-1
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin RR-167902-3	0-10	945-893-6	UK-01-5293626027-3
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters 67762-26-9	0-10	267-007-0	UK-01-7743870511-1
Fatty acids, C16-18 and C18-unsaturated, methyl esters 67762-38-3	0-10	267-015-4	UK-01-6078057799-9
Naphthalene 91-20-3	<1	202-049-5	--

Substance	Classification <sup>2</sup>	M-Factor/ATE/SCL
Distillates, petroleum, light catalytic cracked 64741-59-9	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Acute Tox. 4, H332 Carc. 1B, H350 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	Inhalation ATE: 4.65 mg/L M=1 (acute) M=1 (chronic)
Distillates, petroleum, hydrodesulfurized middle 64742-80-9	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Acute Tox. 4, H332 Carc. 1B, H350 STOT RE 2, H373 Aquatic Chronic 2, H411	Inhalation ATE: 4.6 mg/L
Fuels, diesel 68334-30-5	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Acute Tox. 4, H332 Carc. 2, H351 STOT RE 2, H373 Aquatic Chronic 2, H411	Inhalation ATE: > 4.1 mg/L
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin RR-167902-3	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Acute Tox. 4, H332 Carc. 1B, H350 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	Inhalation ATE: 4.65 mg/L M=1 (acute) M=1 (chronic)
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	--	

67762-26-9		
Fatty acids, C16-18 and C18-unsaturated, methyl esters 67762-38-3	--	
Naphthalene 91-20-3	Acute Tox. 4, H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	Oral ATE: 533 mg/kg M=1 (acute) M=1 (chronic)

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

**Total Sulphur:** < 0.1 wt%

Gas oil for marine use contains <0.1% fatty acids, ME (FAME).

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

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

**Skin Contact:** Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek medical attention. Wash contaminated clothing before reuse.

**Inhalation:** If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

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

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

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

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

**Other Comments** None

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

### 5.2. Special hazards arising from the substance or mixture

**Unusual Fire & Explosion Hazards:** Flammable. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe) Vapours may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapour/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. This product will float and can be reignited on surface water. Vapours are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

**Hazardous Combustion Products:** Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulphur may also be formed.

### 5.3. Special protective actions for fire-fighters

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

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

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorised personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

### 6.2. Environmental precautions

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

### 6.3. Methods and material for containment and cleaning up

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

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

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use non-sparking tools. Use only outdoors or in a well-ventilated area. Do not breathe vapour or mist. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Flammable. Open container slowly to relieve any pressure. Electrostatic charge may accumulate and create a hazardous condition when handling or processing this material. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes for specific bonding/grounding requirements). Do not enter confined spaces such as tanks or pits without following proper entry procedures. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames. May vaporize easily at ambient temperatures. The vapour is heavier than air and may create an explosive mixture of vapor and air. Beware of accumulation in confined spaces and low lying areas.

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

### 7.2. Conditions for safe storage, including any incompatibilities

Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

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

### 7.3. Specific end use(s)

Refer to supplemental exposure scenarios if attached.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**  
**Occupational Exposure Limits:**

Substance	ACGIH	Ireland	United Kingdom	Phillips 66
Fuels, diesel	TWA-8hr: 100 mg/m <sup>3</sup> inhalable fraction and vapor Skin	TWA-8hr: 100 mg/m <sup>3</sup> STEL: 300 mg/m <sup>3</sup>	---	TWA-8hr: 100 mg/m <sup>3</sup> Skin
Naphthalene	TWA-8hr: 10 ppm Skin	TWA-8hr: 10 ppm TWA-8hr: 50 mg/m <sup>3</sup> STEL: 30 ppm STEL: 150 mg/m <sup>3</sup>	---	TWA-8hr: 10 ppm Skin

STEL = Short Term Exposure Limit (15 minutes); TWA = Time Weighted Average (8 hours); --- = No Occupational Exposure Limit. Local regulations may be more stringent than regional or national requirements.

**Biological Limit Values:**

Substance	ACGIH	United Kingdom
Naphthalene	1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis in : , end of shift (nonquantitative, nonspecific)	---

--- = No Biological Limit Value. Local regulations may be more stringent than regional or national requirements

**Relevant DNEL and PNEC:** No information available

**Worker Derived No-Effect Level (DNEL)**

**Inhalation:** Not applicable

**Dermal:** Not applicable

**Consumer Derived No-Effect Level (DNEL)**

**Inhalation:** Not applicable

**Dermal:** Not applicable

**Ingestion:** Not applicable

**8.2. Exposure controls**

**Engineering controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

**Eye/Face Protection:** The use of eye protection that meets or exceeds EN 166 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, close fitting eye protection and a face shield may be necessary.

**Skin/Hand Protection:** The use of gloves impervious to the specific material handled that comply with EN 374 is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. Suggested protective materials: Nitrile rubber

**Respiratory Protection:** Where there is potential for airborne exposure above the exposure limit an approved air purifying respirator equipped with Type A, organic gases and vapour filters (as specified by the manufacturer) may be used.

A respiratory protection programme that follows recommendations for the selection, use, care and maintenance of respiratory protective devices in EN 529:2005 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health.

**Other Protective Equipment:** Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

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

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

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

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

<b>Physical State:</b>	Liquid
<b>Colour:</b>	Clear red
<b>Odour:</b>	Diesel fuel
<b>Melting / freezing point:</b>	N/D
<b>Initial boiling point and boiling range:</b>	356 - 734 °F / 180 - 390 °C
<b>Flammability (solid, gas):</b>	N/A
<b>Upper Explosive Limits (vol % in air):</b>	5.0
<b>Lower Explosive Limits (vol % in air):</b>	0.5
<b>Flash point:</b>	> 131 °F / > 55 °C; (Marine Gas Oil >60°C)
<b>Method:</b>	CC (closed cup)
<b>Autoignition temperature:</b>	482 °F / 250 °C
<b>Decomposition temperature:</b>	N/D
<b>pH:</b>	N/A
<b>Viscosity:</b>	4.8 mm <sup>2</sup> /s @ 20°C; 1.5-5.5 mm <sup>2</sup> /s @ 40°C
<b>Solubility:</b>	Negligible
<b>Partition coefficient n-octanol /water (log Kow):</b>	N/D
<b>Vapour pressure:</b>	<0.3 kPa @20°C
<b>Vapour density:</b>	>1 (air = 1)
<b>Relative density:</b>	0.82-0.875 @ 60°F (15.6°C) (water = 1)
<b>Particle characteristics:</b>	N/A

### 9.2. Other information

#### 9.2.1. Information with regards to physical hazard classes

No information available

#### 9.2.2. Other safety characteristics

<b>Evaporation Rate (nBuAc=1):</b>	N/D
<b>Bulk Density:</b>	N/D
<b>Pour point:</b>	-11.2 °F / -24 °C
<b>Explosive properties:</b>	N/D
<b>Oxidising properties:</b>	N/D

## SECTION 10: Stability and reactivity

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

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Likely Routes of Exposure:** Inhalation, Ingestion, Eye contact, Skin contact

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

**Acute Oral Toxicity**



Product

**Classification:** Unlikely to be harmful  
**Oral LD50:** >3.2 g/kg (estimated) (rat)  
**Remarks:** Based on components

Substance	Oral LD50	Species	Method	Remarks
Distillates, petroleum, light catalytic cracked	> 3.2 g/kg	Rat	Similar to OECD 401	
Distillates, petroleum, hydrodesulfurized middle	> 5 g/kg	Rat	Similar to OECD 401	
Fuels, diesel	> 5 g/kg	Rat	Similar to OECD 401	Based on similar material
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin	> 3.2 g/kg	Rat	Similar to OECD 401	Based on similar material
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	> 5 g/kg	Rat	Similar to OECD 401	Based on similar material
Fatty acids, C16-18 and C18-unsaturated, methyl esters	> 5 g/kg	Rat	Similar to OECD 401	
Naphthalene	533 mg/kg	Mouse	Similar to OECD 401	

**Acute Dermal Toxicity**

Product

**Classification:** Unlikely to be harmful  
**Dermal LD50:** > 2 g/kg (estimated) (rabbit)  
**Remarks:** Based on components

Substance	Dermal LD50	Species	Method	Remarks
Distillates, petroleum, light catalytic cracked	> 2 g/kg	Rabbit	Similar to OECD 402	
Distillates, petroleum, hydrodesulfurized middle	> 2 g/kg	Rabbit	Similar to OECD 402	
Fuels, diesel	> 2 g/kg	Rabbit	Similar to OECD 434	Based on similar material
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin	> 2 g/kg	Rabbit	Similar to OECD 402	Based on similar material
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	> 2 g/kg	Rabbit	Other: EPA OPPTS 870.1200 (Acute Dermal Toxicity)	Based on similar material
Fatty acids, C16-18 and C18-unsaturated, methyl esters	> 2 g/kg	Rabbit	Other: EPA OPPTS 870.1200	Based on similar material
Naphthalene	> 16 g/kg	Rat	Similar to OECD 402	

**Acute Inhalation Toxicity**

Product

**Classification:** Harmful if inhaled  
**Inhalation LC50 :** >4.1 mg/L (mist, estimated) (rat)  
**Remarks:** Based on components

Substance	Inhalation LC50	Species	Method	Remarks
Distillates, petroleum, light catalytic cracked	4.65 mg/L	Rat	Similar to OECD 403	Mist
Distillates, petroleum, hydrodesulfurized middle	4.6 mg/L	Rat	Similar to OECD 403	Mist

Fuels, diesel	> 4.1 mg/L	Rat	Similar to OECD 403	Mist, Based on similar material
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin	4.65 mg/L	Rat	Similar to OECD 403	Based on similar material, Mist
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	> 5 mg/L			Estimated
Fatty acids, C16-18 and C18-unsaturated, methyl esters	No data			
Naphthalene	> 0.4 mg/L	Rat	Similar to OECD 403	Maximum attainable concentration

**Serious Eye Damage/Irritation**

Product

**Classification:** Causes mild eye irritation

**Remarks:** Based on components

Substance	Classification	SCL	Species	Method	Remarks
Distillates, petroleum, light catalytic cracked	Causes mild eye irritation.		Rabbit	Similar to OECD 405	
Distillates, petroleum, hydrodesulfurized middle	Causes mild eye irritation.		Rabbit	Similar to OECD 405	
Fuels, diesel	Causes mild eye irritation.		Rabbit	Similar to OECD 405	Based on similar material
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin	Causes mild eye irritation.		Rabbit	Similar to OECD 405	Based on similar material
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	Causes mild eye irritation.		Rabbit	OECD 405	Based on similar material
Fatty acids, C16-18 and C18-unsaturated, methyl esters	Causes mild eye irritation.		Rabbit	OECD 405	
Naphthalene	Causes mild eye irritation.		Rabbit	Similar to OECD 405	

**Skin Corrosion/Irritation**

Product

**Classification:** Causes skin irritation

**Additional Information:** Repeated exposure may cause skin dryness or cracking

**Remarks:** Based on components

Substance	Classification	SCL	Species	Method	Remarks
Distillates, petroleum, light catalytic cracked	Causes skin irritation		Rabbit	Similar to OECD 404	
Distillates, petroleum, hydrodesulfurized middle	Causes skin irritation		Rabbit	Similar to OECD 404	
Fuels, diesel	Causes skin irritation		Rabbit	Similar to OECD 404	Based on similar material
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin	Causes skin irritation		Rabbit	Similar to OECD 404	Based on similar material
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	Causes mild skin irritation		Rabbit	OECD 404	Based on similar material
Fatty acids, C16-18 and C18-unsaturated, methyl esters	Causes mild skin irritation		Rabbit	OECD 404	
Naphthalene	Causes mild skin irritation		Rabbit	Similar to	



				OECD 404	
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**Respiratory Sensitisation**

Product

**Classification:** No information available on the mixture, however none of the components have been classified for respiratory sensitisation (or are below the concentration threshold for classification)

Substance	Respiratory Sensitisation:	SCL	Species	Method	Remarks
Distillates, petroleum, light catalytic cracked	No information available				
Distillates, petroleum, hydrodesulfurized middle	Not expected to be a respiratory sensitizer				
Fuels, diesel	Not expected to be a respiratory sensitizer				
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin	No information available				
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	No information available				
Fatty acids, C16-18 and C18-unsaturated, methyl esters	No information available				
Naphthalene	No information available				

**Skin Sensitisation**

Product

**Classification:** Not expected to be a skin sensitizer

Substance	Skin Sensitisation	SCL	Species	Method	Remarks
Distillates, petroleum, light catalytic cracked	Not expected to be a skin sensitizer		Guinea pig	Similar to OECD 406	
Distillates, petroleum, hydrodesulfurized middle	Not expected to be a skin sensitizer		Guinea pig	Similar to OECD 406	
Fuels, diesel	Not expected to be a skin sensitizer		Guinea pig	Similar to OECD 406	Based on similar material
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin	Not expected to be a skin sensitizer		Guinea pig	Similar to OECD 406	Based on similar material
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	Not expected to be a skin sensitizer		Guinea pig	OECD 406	Based on similar material
Fatty acids, C16-18 and C18-unsaturated, methyl esters	Not expected to be a skin sensitizer		Guinea pig	OECD 406	
Naphthalene	Not expected to be a skin sensitizer		Guinea pig	OECD 406	

**Specific target organ toxicity - Single exposure**

Product

**Classification:** Not expected to cause organ effects from single exposure

Substance	Specific target organ toxicity - Single exposure	Target Organs
Distillates, petroleum, light catalytic cracked	Not expected to cause organ effects from single exposure.	
Distillates, petroleum, hydrodesulfurized middle	Not expected to cause organ effects from single exposure.	
Fuels, diesel	Not expected to cause organ effects from single exposure.	
Petroleum gas oil fraction,	Not expected to cause organ effects from single exposure.	

co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin		
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	Not expected to cause organ effects from single exposure.	
Fatty acids, C16-18 and C18-unsaturated, methyl esters	Not expected to cause organ effects from single exposure.	
Naphthalene	Inadequate information available.	

**Specific target organ toxicity - Repeated exposure**

Product

**Classification:** May cause damage to organs through prolonged or repeated exposure

Substance	Specific target organ toxicity - Repeated exposure	SCL	Method	Target Organs
Distillates, petroleum, light catalytic cracked	May cause damage to organs through prolonged or repeated exposure		Similar to OECD 411	Blood Liver thymus
Distillates, petroleum, hydrodesulfurized middle	May cause damage to organs through prolonged or repeated exposure		Similar to OECD 411	Liver thymus Blood
Fuels, diesel	May cause damage to organs through prolonged or repeated exposure		Similar to OECD 411	thymus Liver bone marrow
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin	May cause damage to organs through prolonged or repeated exposure		Similar to OECD 413 OECD 410	Liver, thymus Blood
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	Not expected to cause organ effects from repeated exposure		OECD 422	
Fatty acids, C16-18 and C18-unsaturated, methyl esters	Not expected to cause organ effects from repeated exposure		OECD 422	
Naphthalene	Inadequate information available.		Similar to OECD 408 OECD 411 OECD 413	

**Additional Information**

Distillates, petroleum, light catalytic cracked

Repeated dermal application of petroleum gas oils for 90 days resulted in decreased liver, thymus, and spleen weights, and altered bone marrow function. Microscopic alterations included liver hypertrophy and necrosis, decreased hematopoiesis and lymphocyte depletion.

Distillates, petroleum, hydrodesulfurized middle

Repeated dermal application of petroleum gas oils for 90 days resulted in decreased liver, thymus, and spleen weights, and altered bone marrow function. Microscopic alterations included liver hypertrophy and necrosis, decreased hematopoiesis and lymphocyte depletion.

Fuels, diesel

Repeated dermal application of petroleum gas oils for 90 days resulted in decreased liver, thymus, and spleen weights, and altered bone marrow function. Microscopic alterations included liver hypertrophy and necrosis, decreased hematopoiesis and lymphocyte depletion.

Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin

Repeated dermal application of petroleum gas oils for 90 days resulted in decreased liver, thymus, and spleen weights, and altered bone marrow function. Microscopic alterations included liver hypertrophy and necrosis, decreased hematopoiesis and lymphocyte depletion.

**Carcinogenicity**

Product

**Classification:** May cause cancer

Substance	Classification	Method
Distillates, petroleum, light catalytic cracked	May cause cancer	Similar to OECD 451
Distillates, petroleum, hydrodesulfurized middle	May cause cancer	
Fuels, diesel	Suspected of causing cancer	Other: skin painting bioassays
Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin	May cause cancer	Similar to OECD 451 Based on similar material
Fatty acids, C14-18 and C16-18-unsaturated, methyl esters	Inadequate information available.	Other: EU Method B.32 (Carcinogenicity Test) Based on similar material
Fatty acids, C16-18 and C18-unsaturated, methyl esters	Not expected to cause cancer.	
Naphthalene	Suspected of causing cancer	Other: Non-guideline

**Additional Information**

**Distillates, petroleum, light catalytic cracked**

Repeated skin application of cracked gas oils has been shown to cause an increased incidence of skin tumours in mice.

**Fuels, diesel**

Petroleum middle distillates have been shown to cause skin tumors in mice following repeated and prolonged skin contact. Follow-up studies have shown that these tumors are produced through a non-genotoxic mechanism associated with frequent cell damage and repair, and that they are not likely to cause tumors in the absence of prolonged skin irritation.

**Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin**

Repeated skin application of cracked gas oils has been shown to cause an increased incidence of skin tumours in mice.

**Naphthalene**

Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The US National Toxicology Programme (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. Naphthalene has been identified as a carcinogen by IARC and NTP.

**Reproductive/Developmental/Teratogenic effects**

Product

**Classification:** No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification)

Distillates, petroleum, light catalytic cracked (64741-59-9)			
Endpoint type	Method	Result	Remarks
Effects on fertility	Similar to OECD 421	Based on available data, the classification criteria are not met	
Effects on fetal development			
Effects on fetal development	Similar to OECD 414	Based on available data, the classification criteria are not met	

Distillates, petroleum, hydrodesulfurized middle (64742-80-9)			
Endpoint type	Method	Result	Remarks
Effects on fetal development	Similar to OECD 414	Based on available data, the classification criteria are not met	

Fuels, diesel (68334-30-5)			
Endpoint type	Method	Result	Remarks
Effects on fertility	Other: US EPA Health Effects Test Guideline OPPTS 870.3800 and OECD	Based on available data, the classification criteria are not met	Based on similar material
Effects on fetal development			

	Guidelines for the Testing of Chemicals, No, 416 "Two-Generation Reproduction Toxicity		
Effects on fetal development	Similar to OECD 414	Based on available data, the classification criteria are not met	Based on similar material

Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin (RR-167902-3)			
<b>Endpoint type</b>	<b>Method</b>	<b>Result</b>	<b>Remarks</b>
Effects on fertility Effects on fetal development	Similar to OECD 421	Based on available data, the classification criteria are not met	Based on similar material

Fatty acids, C14-18 and C16-18-unsaturated, methyl esters (67762-26-9)			
<b>Endpoint type</b>	<b>Method</b>	<b>Result</b>	<b>Remarks</b>
Effects on fertility Effects on fetal development	OECD 422	Based on available data, the classification criteria are not met	
Effects on fetal development	OECD 414	Based on available data, the classification criteria are not met	Based on similar material

Fatty acids, C16-18 and C18-unsaturated, methyl esters (67762-38-3)			
<b>Endpoint type</b>	<b>Method</b>	<b>Result</b>	<b>Remarks</b>
Effects on fertility Effects on fetal development	OECD 422	Based on available data, the classification criteria are not met	
Effects on fetal development	OECD 414	Based on available data, the classification criteria are not met	Based on similar material

Naphthalene (91-20-3)			
<b>Endpoint type</b>	<b>Method</b>	<b>Result</b>	<b>Remarks</b>
Effects on fertility	Other: Non-guideline	Based on available data, the classification criteria are not met	
Effects on fetal development	Similar to OECD 414	Based on available data, the classification criteria are not met	

**Additional Information**

**Fuels, diesel**

A developmental toxicity study of heavy atmospheric gas oil involving repeated application to the skin resulted in decreased litter size and fetal weights, as well as incomplete skeletal ossification. Because maternal toxicity also occurred (skin irritation and decreased body weight gain and food consumption), it is not possible to separate toxicity to the foetus from indirect effects resulting from maternal toxicity.

**Mutagenic effects**

Product

**Classification:** No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification)

Distillates, petroleum, light catalytic cracked (64741-59-9)		
<b>Method</b>	<b>Result</b>	<b>Remarks</b>
Similar to OECD 471	Positive	Based on similar material
Similar to OECD 476	Positive	
OECD 475	Negative	

Distillates, petroleum, hydrodesulfurized middle (64742-80-9)		
Method	Result	Remarks
Similar to OECD 471	Negative	Based on similar material
Similar to OECD 476	Negative	
Similar to OECD 479	Ambiguous	
Similar to OECD 475	Negative	

Fuels, diesel (68334-30-5)		
Method	Result	Remarks
Similar to OECD 476	Negative	Based on similar material
Other: Modified Ames Test according to ASTM E 1687	Negative	Based on similar material
Similar to OECD 474	Negative	Based on similar material

Petroleum gas oil fraction, co-processed (catalytic cracking) with renewable hydrocarbons of plant and/or animal origin (RR-167902-3)		
Method	Result	Remarks
Similar to OECD 471	Positive	Based on similar material
Similar to OECD 476	Ambiguous	Based on similar material
OECD 475	Negative	Based on similar material

Fatty acids, C14-18 and C16-18-unsaturated, methyl esters (67762-26-9)		
Method	Result	Remarks
OECD 473	Negative	Based on similar material
OECD 471	Negative	Based on similar material
OECD 476	Negative	Based on similar material
Similar to OECD 475	Negative	Based on similar material

Fatty acids, C16-18 and C18-unsaturated, methyl esters (67762-38-3)		
Method	Result	Remarks
OECD 473	Negative	
OECD 476	Negative	Based on similar material
OECD 471	Negative	
Similar to OECD 475	Negative	Based on similar material

Naphthalene (91-20-3)		
Method	Result	Remarks
Similar to OECD 471	Negative	
Similar to OECD 473	Positive	
Other: in vitro eukaryotic gene mutation assay	Negative	
Other: EPA OPP 84-2	Negative	
OECD 486	Negative	

**11.2 Information on other hazards**  
**11.2.1 Endocrine disrupting properties**

The currently available information does not indicate that this substance has endocrine disrupting properties as defined by the criteria set out in Section B of Regulation (EU) No 2017/2100.

**11.2.2 Other Information**

None known

**SECTION 12: Ecological information**

**12.1. Toxicity**

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**12.2. Persistence and degradability**

Gas oils are complex combinations of individual hydrocarbon species. Based on the known or expected properties of individual

constituents, category members are not predicted to be readily biodegradable. Some hydrocarbon constituents of gas oils are predicted to meet the criteria for persistence; on the other hand, some components can be easily degraded by microorganisms under aerobic conditions.

**Persistence per IOPC Fund definition:** Non-Persistent

#### 12.3. Bioaccumulative potential

Gas oil components have measured or calculated Log Kow values in the range of 3.9 to 6 which indicates a high potential to bioaccumulate. Lower molecular weight compounds are readily metabolized and the actual bioaccumulation potential of higher molecular weight compounds is limited by the low water solubility and large molecular size.

#### 12.4. Mobility in soil

Releases to water will result in a hydrocarbon film floating and spreading on the surface. For the lighter components, volatilisation is an important loss process and reduces the hazard to aquatic organisms. In air, the hydrocarbon vapours react readily with hydroxyl radicals with half-lives of less than one day. Photooxidation on the water surface is also a significant loss process particularly for polycyclic aromatic compounds. In water, the majority of components will be adsorbed on sediment. Adsorption is the most predominant physical process on release to soil. Adsorbed hydrocarbons will slowly degrade in both water and soil.

#### 12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance.

#### 12.6 Endocrine disrupting properties

No information available

#### 12.7 Other adverse effects

None anticipated.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

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

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

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

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

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

### SECTION 14: Transport information

#### 14.1. UN number

UN1202

#### 14.2. UN proper shipping name

Diesel fuel; Gas oil; Heating oil, light,

#### 14.3. Transport hazard class(es)

3

#### 14.4. Packing group

III

#### 14.5. Environmental hazards

Marine pollutant - Environmentally Hazardous

#### 14.6. Special precautions for user

If transported in bulk by marine vessel in international waters, product is being carried under the scope of MARPOL Annex I.



14.7 Maritime transport in bulk according to IMO instruments  
Not applicable

## SECTION 15: Regulatory information

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

EC 1272/2008 - Classification, labelling and packaging of substances and mixtures  
EN166:2002 Eye Protection  
EN 529:2005 Respiratory Protective devices  
BS EN 374-1:2016 Protective gloves against chemicals and micro-organisms  
Workplace Exposure Limits, EH40/2005, Control of Substances Hazardous to Health  
Directive 2008/98/EC (Waste Framework Directive)  
Directive 2000/76/EC on incineration of waste  
Directive 1999/31/EC on landfill of waste

**Export Rating:** NLR (No Licence Required)

### 15.2. Chemical safety assessment

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

## SECTION 16: Other information

**Issue date:** 05-Oct-2022  
**Status:** FINAL  
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**Revised Sections or Basis for Revision:** Format change  
Exposure limits (Section 8)  
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### List of Relevant Hazard Statements:

H226 - Flammable liquid and vapour  
H302 - Harmful if swallowed  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H332 - Harmful if inhaled  
H350 - May cause cancer  
H351 - Suspected of causing cancer  
H373 - May cause damage to organs through prolonged or repeated exposure  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects  
H411 - Toxic to aquatic life with long lasting effects

### Regulatory Basis of Classification

Classification	Regulatory Basis
H226 -- Flammable liquids -- Category 3	On basis of test data
H304 -- Aspiration Hazard -- Category 1	On basis of test data
H315 -- Skin corrosion/irritation -- Category 2	Based on component information.
H332 -- Acute toxicity, Inhalation -- Category 4	Based on component information.
H350 -- Carcinogenicity -- Category 1B	Based on component information.
H373 -- Specific target organ toxicity (repeated exposure) -- Category 2 (thymus/Liver/bone marrow/Blood)	Based on component information.
H400 -- Hazardous to the aquatic environment, acute toxicity -- Category 1	Based on component information.
H410 -- Hazardous to the aquatic environment, chronic toxicity -- Category 1	Based on component information.

### Key literature references and sources for data:

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

**Guide to Abbreviations:**

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

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