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17/04/2023

Revision date
09/09/2024

Revision Number
1.01
Country-Language: FIN-EN

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

1.1. Product identifier

Product Name Diesel fuel, sulphur free; Neste Pro Diesel; Neste Futura Diesel

Product Code(s) 13865

Unique Formula Identifier (UFI) N63P-NXQ3-U811-AEMH

Pure substance/mixture Mixture

Contains Fuels, diesel, Renewable hydrocarbons (diesel type fraction), Distillates (Fischer-Tropsch), C8-26 - branched and linear, Petroleum diesel/gas oil fraction, co-processed with renewable hydrocarbons of plant or animal origin

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

Recommended use Use as an intermediate
Use as a fuel

Uses advised against Supported uses are listed above. Other uses are not recommended.

1.3. Details of the supplier of the safety data sheet

Supplier

Neste Oyj
Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND
Tel. +358 10 45811
SDS@neste.com (chemical safety)

1.4. Emergency telephone number

Emergency Telephone :

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Estonia	Poison information telephone number: 16662, calling from abroad: (+372) 7943 794
Finland	+358 800 147 111, +358 9 471 977, Poison Information Centre
France	France: Numéro ORFILA (INRS) : + 33 (0)1 45 42 59 59.
Germany	+49 32 211121704, Chemwatch Emergency Response Phone Number
Latvia	Valsts toksikoloģijas centrs: (+371) 6704 2473
Lithuania	Neatidėliotina informacija apsinuodijus: +370 5 236 20 52.
Norway	Poison Information Centre +47 22 59 13 00.
Spain	+34 91 562 04 20 (24h/7)
Sweden	När det är akut: 112, begär giftinformation. I mindre akuta fall 010-456 6700, Giftinformationscentralens direktnummer

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flammable liquids	Category 3 - (H226)
Acute toxicity - Inhalation (Vapours)	Category 4 - (H332)
Skin corrosion/irritation	Category 2 - (H315)
Carcinogenicity	Category 2 - (H351)
Specific target organ toxicity — repeated exposure	Category 2 - (H373)
Aspiration hazard	Category 1 - (H304)
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains Fuels, diesel, Renewable hydrocarbons (diesel type fraction), Distillates (Fischer-Tropsch), C8-26 - branched and linear, Petroleum diesel/gas oil fraction, co-processed with renewable hydrocarbons of plant or animal origin



Signal word

Danger

Hazard statements

H226 - Flammable liquid and vapour

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H332 - 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

Precautionary Statements - EU (§28, 1272/2008)

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

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray

P273 - Avoid release to the environment

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

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P331 - Do NOT induce vomiting

2.3. Other hazards

Evaporates slowly. Risk of soil and ground water contamination.

This product does not contain substances considered to have endocrine disrupting properties at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Fuels, diesel 68334-30-5	0 - 100%	01-2119484664-27	269-822-7	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)	-	-	-
Renewable hydrocarbons (diesel type fraction)	0 - 80%	01-2119450077-42	700-571-2	Flam. Liq. 4 (H227) Asp. Tox. 1 (H304)	-	-	-
Distillates (Fischer-Tropsch), C8-26 - branched and linear 848301-67-7	0 - 100%	01-0000020119-75	481-740-5	Asp. Tox. 1 (H304)	-	-	-
Petroleum diesel/gas oil fraction, co-processed with renewable hydrocarbons of plant or animal origin	0 - 10%	01-2120091562-55	941-364-9	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)	-	-	-

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Additional information

Mixture of renewable raw material fuel, petroleum product and additives. Contains kerosine streams and straight-run and hydrocracked gas oil streams.

Renewable hydrocarbons (diesel type fraction): Identity outside the EU (CAS number and name of the substance): Alkanes, C10-20-branched and linear, CAS 928771-01-1.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. Get medical attention if symptoms are severe or persist.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Ingestion ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Never give anything by mouth to an unconscious person. Get immediate medical attention. Delayed pulmonary edema may occur.

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

Symptoms Irritating to skin. May irritate eyes. Harmful by inhalation. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

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

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO₂). Water spray. Alcohol resistant foam.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Flammable. Risk of ignition. Containers may explode when heated.

Hazardous combustion products Carbon dioxide (CO₂). Carbon monoxide.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Wear positive pressure self-contained breathing apparatus (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid breathing vapours or mists. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Do not touch or walk through spilled material.

For emergency responders Be aware that gases can spread at ground level (heavier than air) and pay attention to the wind direction. Prevent unauthorized access. Keep people away from and upwind of spill/leak.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges. Flash back possible over considerable distance.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Avoid release to the environment. Keep out of drains, sewers, ditches and waterways. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air). Risk of soil and ground water contamination.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Take up with sand, earth or other non-combustible absorbent material. Dam up. Pick up and transfer to properly labelled containers. Immediately start clean-up of the liquid and contaminated soil. Pay attention to the fire and health hazards caused by the product.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See Section 7 for more information, See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Avoid breathing vapours or mists. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes or clothing. The product contains volatile substances which may spread in the atmosphere. Use explosion-proof electrical equipment.

Use only outdoors or in a well-ventilated area. Use personal protective equipment and/or local ventilation when needed. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands and face before breaks and immediately after handling the product. Clear up spills immediately and dispose of waste safely.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Flammable liquid storage. Store in accordance with local regulations. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. Store in a demarcated bunded area to prevent release to drains and/or watercourses.

7.3. Specific end use(s)

Risk Management Methods (RMM) Not applicable.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

The individual limit values can be applied for the hydrocarbons. Diesel fuel as total hydrocarbons; ACGIH TLV®-TWA (8h) 100 mg/m³ (IFV).

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Fuels, diesel 68334-30-5	-	2.9 mg/kg bw/day [4] [6]	68 mg/m ³ , [4] [6], Aerosol 4300 mg/m ³ [4] [7], Aerosol
Renewable hydrocarbons (diesel type fraction) -	-	42 mg/kg bw/day [4] [6]	147 mg/m ³ [4] [6]

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Fuels, diesel 68334-30-5	-	1.3 mg/kg bw/day [4] [6]	20 mg/m ³ [4] [6], Aerosol 2600 mg/m ³ [4] [7], Aerosol
Renewable hydrocarbons (diesel type fraction) -	-	18 mg/kg bw/day [4] [6]	94 mg/m ³ [4] [6]

Notes

- [4] Systemic health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC) No information available.

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Distillates (Fischer-Tropsch), C8-26 - branched and linear 848301-67-7	2.06 mg/kg sediment dw	-	10 mg/L	1.68 mg/kg soil dw	0.01 g/kg food

8.2. Exposure controls

Engineering controls

Provide adequate ventilation. Use personal protective equipment and/or local ventilation when needed. During tank operations follow special instructions (risk of oxygen displacement and hydrocarbons).

Personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Hand protection

Wear suitable gloves. It is recommended that gloves are made of the following material: Nitrile rubber. Polyvinyl chloride (PVC). Wear suitable gloves tested to EN 374. Ensure that

the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Change protective gloves regularly.

Skin and body protection	Wear suitable protective clothing. Wear anti-static protective clothing if there is a risk of ignition from static electricity.
Respiratory protection	Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Wear a respirator fitted with the following cartridge: . Combination filter, type A2/P3. Filter must be changed often enough. Gas and combination filter cartridges must comply with EN 14387.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands and face before breaks and immediately after handling the product. Clear up spills immediately and dispose of waste safely.
Environmental exposure controls	Store in a demarcated bunded area to prevent release to drains and/or watercourses.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Colour	clear Yellowish
Odour	Hydrocarbons. Mild.
Odour threshold	-

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	<= 0 °C	Cloud point
Initial boiling point and boiling range	150 - 370 °C	EN ISO 3405
Flammability	Flammable.	
Flammability Limit in Air		
Upper flammability or explosive limits	6 % (Estimated value)	
Lower flammability or explosive limits	1 % (Estimated value)	
Flash point	>= 55 °C	EN ISO 2719
Autoignition temperature	~ 220 °C	Estimated value
Decomposition temperature	-	
pH	No data available	
pH (as aqueous solution)	No data available	
Kinematic viscosity	≤ 4,5 mm ² /s @ 40°C	
Dynamic viscosity	-	
Water solubility	The product has poor water-solubility < 50 mg/l @ 20°C	
Solubility(ies)	-	
Partition coefficient	log Kow: > 3	
Vapour pressure	< 1 kPa @ 40°C	
Relative density	~ 0,8 - 0,85 @ 15/4°C	EN ISO 12185
Bulk density	-	
Liquid Density	-	
Relative vapour density	-	
Particle characteristics		
Particle Size	-	
Particle Size Distribution	-	

9.2. Other information

9.2.1. Information with regards to physical hazard classes

Explosive properties Not considered to be explosive
Oxidising properties Does not meet the criteria for classification as oxidising

9.2.2. Other safety characteristics
Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable under normal conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks.

10.5. Incompatible materials

Incompatible materials Oxidising agent.

10.6. Hazardous decomposition products

Hazardous decomposition products None under normal use conditions.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Acute toxicity Harmful if inhaled

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Fuels, diesel	> 5000 mg/kg, Rat (OECD 401, 420)	> 4300 mg/kg, Rabbit (OECD 434)	3.6 - 5.4 mg/L, Rat (4 h, OECD 403)

Renewable hydrocarbons (diesel type fraction)	>2000 mg/kg, Rat (EC B1 tris)	> 2000 mg/kg, Rat (EC B3)	-
Distillates (Fischer-Tropsch), C8-26 - branched and linear	> 5000 mg/kg, Oral, Rat	> 2000 mg/kg, Dermal, Rat	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes skin irritation. The product irritates mucous membranes and may cause abdominal discomfort if swallowed. May cause respiratory irritation.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Suspected of causing cancer. Product may contain cracked gas oil streams. Contains a known or suspected carcinogen.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT - single exposure	Based on available data, the classification criteria are not met.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain substances considered to have endocrine disrupting properties at levels of 0.1% or higher.

11.2.2. Other information

Other adverse effects None known.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
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Fuels, diesel	OECD 201, EC C.3, 72 hours, Pseudokirchneriella subcapitata, WAF: EbL50: 10 mg/l NOEL 1 mg/l	OECD 203, EC C.1, 96 hours, Oncorhynchus mykiss (Rainbow trout), WAF: LL ₅₀ : 21 mg/l, NOEL: 10 mg/l QSAR, 14 days, Oncorhynchus mykiss (Rainbow trout): NOEL: 0,08 mg/l	QSAR, 40 hours, Micro-organisms (wastewater sludge): EL50: > 1000 mg/l NOEL: 3,22 mg/l	OECD 202, EC C.2, 48 hours, Daphnia magna, WAF: EL50: 68 mg/l NOEL: 46 mg/l QSAR, 21 days, Daphnia magna: NOEL: 0,2 mg/l
Renewable hydrocarbons (diesel type fraction)	OECD 201, 72 hours, Algae, WAF: EL50: > 100 mg/l	OECD 203, 96 h, WAF LL ₅₀ : > 1000 mg/l	OECD 209, 30-180 min, Micro-organisms (wastewater sludge): EC ₅₀ : > 1000 mg/l,	OECD 202, 48 h, Sediment organisms, WAF: par EL50: > 100 mg/l OECD 211, 21 days, WAF: NOEC: 1 mg/l LOEC,: 3,2 mg/l OSPAR Protocols, Part A: Sediment Bioassay, 2005, 10 days: NOEC: 373 mg/kg LOEC: 1165 mg/kg LC ₅₀ : 1200 mg/kg

12.2. Persistence and degradability

Persistence and degradability The product contains volatile substances which may spread in the atmosphere. Can be photodegraded in the atmosphere.

No significant reaction in water.

Fuels, diesel (68334-30-5)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)			Inherently biodegradable.

Renewable hydrocarbons (diesel type fraction) (-)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)			Rapidly biodegradable

12.3. Bioaccumulative potential

Bioaccumulation May bioaccumulate.
log Kow: > 3.

Component Information

Chemical name	Partition coefficient
Distillates (Fischer-Tropsch), C8-26 - branched and linear	6.5

12.4. Mobility in soil

Mobility in soil Evaporates slowly. The product has poor water-solubility. Product can penetrate soil until reaching the surface of ground water. The product contains substances which are bound to particulate matter and are retained in soil.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Chemical name	PBT and vPvB assessment
Distillates (Fischer-Tropsch), C8-26 - branched and linear	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain substances considered to have endocrine disrupting properties at levels of 0.1% or higher.

12.7. Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Should not be released into the environment. Do not allow into any sewer, on the ground or into any body of water. When handling waste, the safety precautions applying to handling of the product should be considered.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out.

Waste codes / waste designations according to EWC Waste codes should be assigned by the user based on the application for which the product was used. For example: 13 07 01 fuel oil and diesel.

SECTION 14: Transport information

IATA

- 14.1 UN number or ID number 1202
- 14.2 UN proper shipping name Diesel fuel
- 14.3 Transport hazard class(es) 3
- 14.4 Packing group III
- 14.5 Environmental hazards Marine pollutant
- 14.6 Special precautions for user -

IMDG

- 14.1 UN number or ID number 1202
- 14.2 UN proper shipping name Diesel fuel
- 14.3 Transport hazard class(es) 3
- 14.4 Packing group III
- 14.5 Environmental hazard Marine pollutant
- 14.6 Special precautions for user -
- 14.7 Maritime transport in bulk Bulk (MARPOL 73/78, Annex I): Energy-rich fuels. As of 1 January 2019 it should be

according to IMO instruments carried subject to Annex I of MARPOL, see Annex 12 of MEPC.2/Circ.24. Please also refer to MEPC.1/Circ.879 - GUIDELINES FOR THE CARRIAGE OF ENERGY-RICH FUELS AND THEIR BLENDS

RID

14.1 UN number or ID number 1202
14.2 UN proper shipping name Diesel fuel
14.3 Transport hazard class(es) 3
14.4 Packing group III
14.5 Environmental hazard Marine pollutant
14.6 Special precautions for user -

ADR

14.1 UN number or ID number 1202
14.2 UN proper shipping name Diesel fuel
14.3 Transport hazard class(es) 3
14.4 Packing group III
14.5 Environmental hazard Marine pollutant
14.6 Special precautions for user
Classification code 30
Tunnel restriction code (D/E)

SECTION 15: Regulatory information

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

National regulations

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

P5a - FLAMMABLE LIQUIDS

P5b - FLAMMABLE LIQUIDS

P5c - FLAMMABLE LIQUIDS

E2 - Hazardous to the Aquatic Environment in Category Chronic 2

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Other Regulations

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH).
Classification according to Regulation (EC) No. 1272/2008 [CLP].

15.2. Chemical safety assessment

Chemical Safety Report

Chemical Safety Assessments have been carried out for these substances

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H226 - Flammable liquid and vapour

H227 - Combustible liquid

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H332 - 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

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

*

Skin designation

+ Sensitisers

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	On basis of test data
Acute inhalation toxicity - vapour	On basis of test data
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	On basis of test data
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	On basis of test data
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	On basis of test data
Acute aquatic toxicity	On basis of test data
Chronic aquatic toxicity	On basis of test data
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	On basis of test data
Ozone	Calculation method

Flammable liquids	On basis of test data
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Supersedes date 17/04/2023

Revision date 09/09/2024

Reason for revision (new SDS software has been introduced)

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Exposure scenario

Use of Substance as Intermediate

Identification

Product name	Fuels, diesel
CAS number	68334-30-5
Version number	2020
Es reference	ES01b

1. Title of exposure scenario

Main title	Use of Substance as Intermediate
Process scope	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).
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals

Environment

Environmental release category
ERC6a Use of intermediate

SPERC
ESVOC SPERC 6.1a.v1

Worker

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent.

PROC28 Manual maintenance (cleaning and repair) of machinery

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 950 000 tonnes/year
Fraction of Regional tonnage used locally: 0.016
Annual site tonnage: 15 000 tonnes
Maximum daily site tonnage: 50 tonne/day

Frequency and duration of use

Use of Substance as Intermediate

Continuous release.
Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.001
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 1.1E-04
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.001

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.
Risk from environmental exposure is driven by freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.6%
Removal efficiency (total): 94.6%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 5.2E+04 kg/day
Assumed domestic sewage treatment plant flow (m³/day):
2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Treat air emission to provide a typical removal efficiency of 80%.
Water Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 94.4 If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.
Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment This substance is consumed during use and no waste of the substance is generated.

Conditions and measures related to external recovery of waste

Recovery method This substance is consumed during use and no waste of the substance is generated.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid With potential for aerosol generation
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details 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

Setting Assumes a good basic standard of occupational hygiene is implemented.
Temperature Covers use at ambient temperatures. (unless stated differently)

Use of Substance as Intermediate

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures

General measures (skin irritants) Ensure there is no direct skin contact with product. Identify potential areas for indirect skin contact. Wear suitable gloves tested to EN374. Clear spills immediately. Wash off any skin contamination immediately. For further specification, refer to section 8 of the SDS.

General measures (flammability) For measures to control risks from physicochemical properties, refer to main body of the SDS, section 7 and/or 8.

General measures (aspiration hazard) Do not ingest. If swallowed, then seek immediate medical assistance.

General measures applicable to all activities Minimise exposure using measures such as contained and enclosed systems, properly designed and maintained dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Ensure staff are informed of and trained on the nature of exposure and basic actions to minimise exposure. Wear suitable coveralls to prevent exposure to the skin. Wear suitable gloves tested to EN374. Wear respiratory protection when its use is identified for certain contributing scenarios. Clear spills immediately. Dispose of this material and its container at hazardous or special waste collection point. Ensure control measures are regularly inspected and maintained. Consider the need for risk based health surveillance.

Risk management measures

Use of Substance as Intermediate

General exposures (closed systems)

(PROC 1, PROC 2, PROC 3)

Handle substance within a closed system.

Sample via a closed loop or other system to avoid exposure.

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General exposures (open systems)

(PROC 4)

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Process sampling

(PROC 9)

Wear suitable gloves tested to EN374.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Laboratory activities

(PROC 15)

No other specific measures identified.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Put lids on containers immediately after use.

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Bulk transfers

(closed systems)

(PROC 8b)

Handle substance within a closed system.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Bulk transfers

(open systems)

(PROC 8b)

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Ensure no splashing occurs during transfer.

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Equipment cleaning and maintenance

Use of Substance as Intermediate

(PROC 8a, PROC 28)

Drain down and flush system prior to equipment break-in or maintenance.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Wear suitable coveralls to prevent exposure to the skin.

Clear spills immediately.

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Storage

(PROC 1, PROC 2)

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven $RCR(\text{air}) \leq 0.048$

Risk-driving RCR - water compartment driven $RCR(\text{water}) \leq 0.97$

4. Guidance to check compliance with the exposure scenario (Environment 1)

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 onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

4. Guidance to check compliance with the exposure scenario (Health 1)

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. Available hazard data do not enable the derivation of a DNEL for aspiration effects. Risk Management Measures are based on qualitative risk characterisation.

Exposure scenario

Use as a Fuel - Industrial

Identification

Product name	Fuels, diesel
CAS number	68334-30-5
Version number	2020
Es reference	ES12a

1. Title of exposure scenario

Main title	Use as a Fuel - Industrial
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

Environment

Environmental release category ERC7 Use of functional fluid at industrial site

SPERC ESVOC SPERC 7.12a.v1

Worker

Process category PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC16 Use of fuels
PROC28 Manual maintenance (cleaning and repair) of machinery

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 3 700 000 tonnes/year
Fraction of Regional tonnage used locally: 0.4
Annual site tonnage: 1 500 000 tonnes
Maximum daily site tonnage: 5 000 tonne/day

Frequency and duration of use

Continuous release.
Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.005
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 1.1E-06
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Use as a Fuel - Industrial

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.
Risk from environmental exposure is driven by freshwater sediment.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.6%
Removal efficiency (total): 94.6%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 5 200 tonne/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Treat air emission to provide a typical removal efficiency of 95%.

Water Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 94.4. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method This substance is consumed during use and no waste of the substance is generated.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details 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

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Covers use at ambient temperatures. (unless stated differently)

Organisational measures to prevent/limit releases, dispersion and exposure

Use as a Fuel - Industrial

Organisational measures

General measures (skin irritants) Ensure there is no direct skin contact with product. Identify potential areas for indirect skin contact. Wear suitable gloves tested to EN374. Clear spills immediately. Wash off any skin contamination immediately. For further specification, refer to section 8 of the SDS.

General measures (flammability) For measures to control risks from physicochemical properties, refer to main body of the SDS, section 7 and/or 8.

General measures (aspiration hazard) Do not ingest. If swallowed, then seek immediate medical assistance.

General measures applicable to all activities Minimise exposure using measures such as contained and enclosed systems, properly designed and maintained dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Ensure staff are informed of and trained on the nature of exposure and basic actions to minimise exposure. Wear suitable coveralls to prevent exposure to the skin. Wear suitable gloves tested to EN374. Wear respiratory protection when its use is identified for certain contributing scenarios. Clear spills immediately. Dispose of this material and its container at hazardous or special waste collection point. Ensure control measures are regularly inspected and maintained. Consider the need for risk based health surveillance.

Risk management measures

Use as a Fuel - Industrial

Bulk transfers

Dedicated facility

(PROC 8b)

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Ensure no splashing occurs during transfer.

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Drum/batch transfers

Dedicated facility

(PROC 8b)

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Ensure no splashing occurs during transfer.

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General exposures (closed systems)

(PROC 1, PROC 2)

Handle substance within a closed system.

Sample via a closed loop or other system to avoid exposure.

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Use as a fuel

(closed systems)

(PROC 16)

Handle substance within a closed system.

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Equipment cleaning and maintenance

(PROC 8a, PROC 28)

Drain down and flush system prior to equipment break-in or maintenance.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Wear suitable coveralls to prevent exposure to the skin.

Clear spills immediately.

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Storage

(PROC 1, PROC 2)

Use as a Fuel - Industrial

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)
Risk-driving RCR - air compartment driven $RCR(\text{air}) \leq 0.059$
Risk-driving RCR - water compartment driven $RCR(\text{water}) \leq 0.97$

4. Guidance to check compliance with the exposure scenario (Environment 1)

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 onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

4. Guidance to check compliance with the exposure scenario (Health 1)

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. Available hazard data do not enable the derivation of a DNEL for aspiration effects. Risk Management Measures are based on qualitative risk characterisation.

Exposure scenario

Use as a Fuel - Professional

Identification

Product name	Fuels, diesel
CAS number	68334-30-5
Version number	2020
Es reference	ES12b

1. Title of exposure scenario

Main title	Use as a Fuel - Professional
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

Environment

Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
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SPERC	ESVOC SPERC 9.12b.v1
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Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC16 Use of fuels PROC28 Manual maintenance (cleaning and repair) of machinery
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 6 800 000 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 3 400 tonnes
Maximum daily site tonnage: 9.3 tonne/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.0001
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.00001
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.00001

Use as a Fuel - Professional

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.
Risk from environmental exposure is driven by fresh water.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 94.6%
Removal efficiency (total): 94.6%
Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 1.1E+05 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Not determined.

Water Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 38.8. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required.

Soil Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method This substance is consumed during use and no waste of the substance is generated.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid With potential for aerosol generation

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details 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

Setting Assumes a good basic standard of occupational hygiene is implemented.

Temperature Covers use at ambient temperatures. (unless stated differently)

Organisational measures to prevent/limit releases, dispersion and exposure

Use as a Fuel - Professional

Organisational measures

General measures (skin irritants) Ensure there is no direct skin contact with product. Identify potential areas for indirect skin contact. Wear suitable gloves tested to EN374. Clear spills immediately. Wash off any skin contamination immediately. For further specification, refer to section 8 of the SDS.

General measures (flammability) For measures to control risks from physicochemical properties, refer to main body of the SDS, section 7 and/or 8.

General measures (aspiration hazard) Do not ingest. If swallowed, then seek immediate medical assistance.

General measures applicable to all activities Minimise exposure using measures such as contained and enclosed systems, properly designed and maintained dedicated facilities and suitable general/local exhaust ventilation. Drain down and flush system prior to equipment break-in or maintenance. Ensure staff are informed of and trained on the nature of exposure and basic actions to minimise exposure. Wear suitable coveralls to prevent exposure to the skin. Wear suitable gloves tested to EN374. Wear respiratory protection when its use is identified for certain contributing scenarios. Clear spills immediately. Dispose of this material and its container at hazardous or special waste collection point. Ensure control measures are regularly inspected and maintained. Consider the need for risk based health surveillance.

Risk management measures

Use as a Fuel - Professional

Bulk transfers

Dedicated facility

(PROC 8b)

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Ensure no splashing occurs during transfer.

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Drum/batch transfers

Dedicated facility

(PROC 8b)

Use drum pumps.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Ensure no splashing occurs during transfer.

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Refuelling

(PROC 8b)

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Ensure no splashing occurs during transfer.

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General exposures (closed systems)

(PROC 1, PROC 2)

Handle substance within a closed system.

Sample via a closed loop or other system to avoid exposure.

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Use as a fuel

(closed systems)

(PROC 16)

Handle substance within a closed system.

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Equipment cleaning and maintenance

(PROC 8a, PROC 28)

Drain down and flush system prior to equipment break-in or maintenance.

Use as a Fuel - Professional

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands.

For further specification, refer to section 8 of the SDS.

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Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Wear suitable coveralls to prevent exposure to the skin.

Clear spills immediately.

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Storage

(PROC 1, PROC 2)

Store substance within a closed system.

3. Exposure estimation (Environment 1)

Assessment method

Used Petrorisk model. (Hydrocarbon Block Method)

Risk-driving RCR - air compartment driven $RCR(\text{air}) \leq 0.022$

Risk-driving RCR - water compartment driven $RCR(\text{water}) \leq 0.089$

4. Guidance to check compliance with the exposure scenario (Environment 1)

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 onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

4. Guidance to check compliance with the exposure scenario (Health 1)

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. Available hazard data do not enable the derivation of a DNEL for aspiration effects. Risk Management Measures are based on qualitative risk characterisation.

Exposure scenario

Use as a Fuel - Consumer

Identification

Product name	Fuels, diesel
CAS number	68334-30-5
Version number	2020
Es reference	ES12c

1. Title of exposure scenario

Main title	Use as a Fuel - Consumer
Process scope	Covers consumer uses in liquid fuels.
Product category	PC13 Fuels.
<u>Environment</u>	
Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
SPERC	ESVOC SPERC 9.12c.v1
<u>Non-industrial</u>	
Product sub-category	PC13_1 Liquid: automotive refuelling CONCAWE SCED 13.3.a PC13_4 Liquid: Garden equipment - Refuelling CONCAWE SCED 13.4.a PC13_6 Liquid: home space heater fuel CONCAWE SCED 13.5.a

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 19 000 000 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 9 500 tonnes
Maximum daily site tonnage: 26 tonne/day

Frequency and duration of use

Continuous release.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.0001
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.00001
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0.00001

Use as a Fuel - Consumer

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

STP details Not applicable as there is no release to wastewater.
Estimated substance removal from wastewater via domestic sewage treatment: 94.6%
Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2.3E+05 kg/day
Assumed domestic sewage treatment plant flow (m³/day): 2000.

Conditions and measures related to external treatment of waste for disposal

Waste treatment Combustion emissions limited by required exhaust emission controls. Combustion emissions considered in regional exposure assessment. External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste

Recovery method This substance is consumed during use and no waste of the substance is generated.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state Liquid

Concentration details Covers concentrations up to 100 %.

Amounts used

PC13_1 Liquid: automotive refuelling
For each use event, covers use amounts up to 44 kg.

PC13_4 Liquid: Garden equipment - Refuelling
For each use event, covers use amounts up to 750 g.

PC13_6 Liquid: home space heater fuel
For each use event, covers use amounts up to 3.32 kg.

Frequency and duration of use

Covers use up to 1 time(s)/day.

PC13_1 Liquid: automotive refuelling
Covers exposure up to 0.05 hours per event.

PC13_4 Liquid: Garden equipment - Refuelling
PC13_6 Liquid: home space heater fuel
Covers exposure up to 0.033 hours per event.

Human factors not influenced by risk management

Potentially exposed body parts PC13_1 Liquid: automotive refuelling , PC13_6 Liquid: home space heater fuel :
Assumes that potential dermal contact is limited to palm of one hand.

PC13_4 Liquid: Garden equipment - Refuelling :
Assumes that potential dermal contact is limited to inside hands/one hand/palm of hands.

Other given operational conditions affecting Non-industrial exposure

Use as a Fuel - Consumer

Setting PC13_1 Liquid: automotive refuelling : Covers outdoor use.

Other given operational conditions affecting Non-industrial exposure

General measures (skin irritants) Ensure there is no direct skin contact with product. Wash off any skin contamination immediately.

General measures (flammability) For measures to control risks from physicochemical properties, refer to main body of the SDS, section 7 and/or 8.

General measures (aspiration hazard) Do not ingest. If swallowed, then seek immediate medical assistance.

3. Exposure estimation (Environment 1)

Assessment method Used Petrorisk model. (Hydrocarbon Block Method)
Risk-driving RCR - air compartment driven $RCR(\text{air}) \leq 0.045$
Risk-driving RCR - water compartment driven $RCR(\text{water}) \leq 0.11$

4. Guidance to check compliance with the exposure scenario (Environment 1)

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.

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate consumer exposures, unless otherwise indicated.

4. Guidance to check compliance with the exposure scenario (Health 1)

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. 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. Available hazard data do not enable the derivation of a DNEL for aspiration effects. Risk Management Measures are based on qualitative risk characterisation.