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3
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name JET A-1, containing Neste MY Sustainable Aviation Fuel (HEFA-SPK)

Product Code(s) 15843

Safety data sheet number 15843

Unique Formula Identifier (UFI) 96VD-G1GM-C004-NQ0D

Pure substance/mixture Mixture

Contains Renewable hydrocarbons (kerosine type fraction); Distillates (petroleum), light hydrocracked; Kerosine (petroleum), hydrodesulfurized; Distillates (petroleum), hydrotreated light; Kerosine (petroleum); Kerosine (petroleum), sweetened

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

Recommended use Use as a fuel (ES_01, ES_02)

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 Components B.V.
Mercuriusplein 1, 2132 HA Hoofddorp, The Netherlands
sds@neste.com (chemical safety)

1.4. Emergency telephone number

Emergency Telephone :

| Emergency Telephone - §45 - (EC)1272/2008 | |
|---|--|
| Europe | 112 |
| Austria | Chemwatch Austria: +43 800 281336 |
| Croatia | +3851 2348 342 |
| Cyprus | 1401 (ώρες λειτουργίας 24 ώρες/24ωρο, 7 ημέρες την εβδομάδα) |
| Czech Republic | Toxikologické informační středisko: +420 224 919 293, +420 224 915 402 |
| Denmark | Giftlinjen: +45 8212 1212 |
| 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 |
| Greece | (0030) 2107793777 (ώρες λειτουργίας 24 ώρες/24ωρο, 7 ημέρες την εβδομάδα) |
| Iceland | Phone: 543 2222. The poison center is open 24 hours a day. |
| Ireland | (01) 809 2166 |
| Italy | +39 800 177 870, Chemwatch Emergency Response Phone Number |
| Latvia | Valsts toksikoloģijas centrs: (+371) 6704 2473 |
| Lithuania | Farmakologinio budrumo ir apsinuodijimų informacijos skyrius (visą parą): +370 5 236 2052. |
| Netherlands | NVIC (088 755 8000), |

| | |
|----------|---|
| | Only for the purpose of informing medical personnel in case of acute intoxications. |
| Norway | Poison Information Centre +47 22 59 13 00. |
| Poland | +48 22 208 6439, Chemwatch Emergency Response Telephone Number |
| Portugal | Em caso de intoxicação, ligue +351 800 250 250. (Centro de Informação Antivenenos (CIAV)) |
| Romania | Centrul de Informare Toxicologie de la Spitalul Clinic de Urgență București: +40215992300 |
| Slovakia | Národné toxikologické informačné centrum: +421 2 5477 4166 |
| Slovenia | 112 |
| 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

Classification according to

Regulation (EC) No. 1272/2008 [CLP]

| | |
|--|------------------------|
| Flammable liquids | Category 3 - (H226) |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 - (H332) |
| Skin corrosion/irritation | Category 2 - (H315) |
| Carcinogenicity | Category 1B - (H350) |
| Reproductive toxicity | Category 1B - (H360FD) |
| Specific target organ toxicity (single exposure) | Category 3 - (H336) |
| Category 3 Narcotic effects | |
| Specific target organ toxicity (repeated exposure) | Category 2 - (H373) |
| Aspiration hazard | Category 1 - (H304) |
| Hazardous to the aquatic environment - chronic | Category 2 - (H411) |

2.2. Label elements

Contains Renewable hydrocarbons (kerosine type fraction); Distillates (petroleum), light hydrocracked; Kerosine (petroleum), hydrodesulfurized; Distillates (petroleum), hydrotreated light; Kerosine (petroleum); Kerosine (petroleum), sweetened



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

H336 - May cause drowsiness or dizziness

H350 - May cause cancer

H360FD - May damage fertility. May damage the unborn child

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

P260 - Do not breathe dust, fume, gas, mist, vapors and spray

P273 - Avoid release to the environment

P280 - Wear protective gloves, protective clothing, eye protection and face protection

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P331 - Do NOT induce vomiting

2.3. Other hazards

Evaporates slowly. Contact with eyes may cause irritation. Risk of soil and ground water contamination.

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).

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. (Index No.) | Classification according to Regulation (EC) No. 1272/2008 [CLP] | Specific concentration limit (SCL) | M-Factor | M-Factor (long-term) | Notes |
|--|---------------|---------------------------|--------------------|--|------------------------------------|----------|----------------------|-------|
| Renewable hydrocarbons (kerosine type fraction) | <= 50% | 01-2119850115-46 | 931-082-4 | Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) | - | - | - | - |
| Distillates (petroleum), light hydrocracked 64741-77-1 | 0 - =>50%* | 01-2119474208-35 | 265-078-2 | Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Acute Tox. 4 (H332) Carc. 2 (H351) Repr. 1B (H360FD) STOT RE 2 (H373) Aq. Chronic 2 (H411) | - | - | - | - |
| Kerosine (petroleum), hydrodesulfurized 64742-81-0 | 0 - =>50%* | 01-2119462828-25 | 265-184-9 | Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) STOT SE 3 (H336) Aq. Chronic 2 (H411) | - | - | - | - |
| Kerosine (petroleum), sweetened 91770-15-9 | 0 - =>50%* | 01-2119502385-46 | 294-799-5 | Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) STOT SE 3 (H336) Aq. Chronic 2 (H411) | - | - | - | - |
| Kerosine (petroleum) 8008-20-6 | 0 - =>50%* | 01-2119485517-27 | 232-366-4 | Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) STOT SE 3 (H336) Aq. Chronic 2 (H411) | - | - | - | - |

| | | | | | | | | |
|--|------------|------------------|-----------|---|---|---|---|---|
| Distillates (petroleum), hydrotreated light 64742-47-8 | 0 - =>50%* | 01-2119484819-18 | 265-149-8 | Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) STOT SE 3 (H336) Aq. Chronic 2 (H411) | - | - | - | - |
|--|------------|------------------|-----------|---|---|---|---|---|

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

Acute Toxicity Estimate

No information available

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

Additional information

Mixture of renewable raw material fuel, petroleum product and additives.

* Total content of fossil components ≥ 50%. Total aromatics at maximum: 13,5 %. Naphthalene (CAS 91-20-3) < 1%. Toluene (CAS 108-88-3) < 1%. Benzene (CAS 71-43-2) < 0,1 %.

NOTE: One or more of the fossil components may contain more than 0.1% cumene (CAS 98-82-8), a class 1B (H350) carcinogen.

Renewable hydrocarbons (kerosine type fraction): Identity outside the EU (CAS number and name of the substance) Alkanes, C8-18- branched and linear (CAS 2252265-89-5).

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, (trained personnel should) give oxygen. Get medical attention immediately if symptoms occur.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin contact Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions see a doctor.

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.

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

Symptoms May irritate eyes and skin. Vapours in high concentrations are narcotic. May cause nausea, headache, dizziness and intoxication. 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 liquid and vapour. 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. Do not breathe vapour or mist. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

For emergency responders Prevent unauthorized access. Keep people away from and upwind of spill/leak.

Vapours may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
Take precautionary measures against static discharges.

6.2. Environmental precautions

Environmental precautions Avoid release to the environment. Prevent further leakage or spillage if safe to do so. 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 Immediately start clean-up of the liquid and contaminated soil. Take up with sand, earth or other non-combustible absorbent material. Keep in suitable, closed containers for disposal. Large spills should be collected mechanically (remove by pumping) for disposal. 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, 8, 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

The product contains volatile substances which may spread in the atmosphere. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof.

Use only outdoors or in a well-ventilated area. Try to avoid product volatilization during handling and transferring. Do not breathe vapour or mist. Avoid contact with skin, eyes or clothing. 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 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. Protect from direct sunlight. 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

Naphthalene: 10 ppm (8h), 50 mg/m³ (8h), EU OELV (EC/1991/322).
Naphthalene: 1 ppm (8h), 5 mg/m³ (8h), 2 ppm (15min), 10mg/m³ (15min), HTP 2020/FIN (skin).
Cumene: 10 ppm (8h), 50 mg/m³ (8h), 50 ppm (15 min), 250 mg/m³ (15min), EU OELV (EC 2019/1831), HTP 2020/FIN (skin).

Kerosine as total hydrocarbon vapor; ACGIH TLV®-TWA (8h) 200 mg/m³ (non-aerosol).

| Chemical name | Austria | Belgium | Bulgaria | Croatia |
|--|---------|----------------------------------|------------------------------|---|
| Kerosine (petroleum) 8008-20-6 | - | TWA: 200 mg/m ³ D* | TWA: 300.0 mg/m ³ | - |
| Chemical name | Cyprus | Czech Republic | Denmark | Estonia |
| Kerosine (petroleum) 8008-20-6 | - | - | - | TWA: 5 mg/kg STEL: 500 mg/m ³ |
| Distillates (petroleum), hydrotreated light 64742-47-8 | - | - | - | TWA: 5 mg/kg STEL: 500 mg/m ³ |
| Chemical name | Finland | France | Germany TRGS | Germany DFG |
| Kerosine (petroleum) 8008-20-6 | - | - | TWA: | TWA: 5 mg/m ³ TWA: 50 ppm TWA: 350 mg/m ³ |

| | | | | |
|--|--|-------------|---|---|
| | | | | Peak: 20 mg/m ³ Peak: 100 ppm Peak: 700 mg/m ³ |
| Distillates (petroleum), hydrotreated light 64742-47-8 | - | - | TWA: | TWA: 5 mg/m ³ TWA: 50 ppm TWA: 350 mg/m ³ Peak: 20 mg/m ³ Peak: 100 ppm Peak: 700 mg/m ³ |
| Chemical name | Greece | Hungary | Italy MDLPS | Italy AIDII |
| Kerosine (petroleum), hydrodesulfurized 64742-81-0 | - | - | - | TWA: 200 mg/m ³ acute* |
| Kerosine (petroleum) 8008-20-6 | - | - | - | TWA: 200 mg/m ³ acute* |
| Chemical name | Ireland | Latvia | Lithuania | Luxembourg |
| Kerosine (petroleum) 8008-20-6 | Sk* | - | - | - |
| Chemical name | Malta | Netherlands | Norway | Poland |
| Kerosine (petroleum) 8008-20-6 | - | - | - | STEL: 300 mg/m ³ TWA: 100 mg/m ³ |
| Chemical name | Portugal | Romania | Slovakia | Slovenia |
| Kerosine (petroleum), hydrodesulfurized 64742-81-0 | TWA: 200 ppm Cutânea* | - | - | - |
| Kerosine (petroleum) 8008-20-6 | TWA: 200 ppm Cutânea* | - | - | - |
| Chemical name | Spain | Sweden | Switzerland | United Kingdom |
| Kerosine (petroleum) 8008-20-6 | TWA: 200 mg/m ³ vía dérmica* | - | TWA: 50 ppm TWA: 350 mg/m ³ TWA: 5 mg/m ³ STEL: 20 mg/m ³ STEL: 100 ppm STEL: 700 mg/m ³ | - |
| Distillates (petroleum), hydrotreated light 64742-47-8 | - | - | TWA: 50 ppm TWA: 350 mg/m ³ TWA: 5 mg/m ³ STEL: 100 ppm STEL: 700 mg/m ³ | - |

Biological occupational exposure limits No information available.

Derived No Effect Level (DNEL) - Workers

| Chemical name | Oral | Dermal | Inhalation |
|---|------|---------------------------|---|
| Renewable hydrocarbons (kerosine type fraction) | - | 42 mg/kg/day [4] [6] | 147 mg/m ³ [4] [6] |
| Distillates (petroleum), light hydrocracked 64741-77-1 | - | 2.91 mg/kg bw/day [4] [6] | 68.34 mg/m ³ [4] [6] 4288 mg/m ³ [4] [7] |
| Kerosine (petroleum), hydrodesulfurized 64742-81-0 | - | 7.7 mg/kg bw/day [4] [6] | 50 mg/m ³ [4] [6] 250 mg/m ³ [5] [7] |

Derived No Effect Level (DNEL) - General Public

| Chemical name | Oral | Dermal | Inhalation |
|---|----------------------------|---------------------------|---|
| Distillates (petroleum), light hydrocracked 64741-77-1 | 1.25 mg/kg bw/day [4] [6] | 1.25 mg/kg bw/day [4] [6] | 20.22 mg/m ³ [4] [6] 2572.8 mg/m ³ [4] [7] |
| Kerosine (petroleum), hydrodesulfurized 64742-81-0 | 5 mg/kg bw/day [4] [6] | 1.64 mg/kg bw/day [4] [6] | 10.66 mg/m ³ [4] [6] |
| Distillates (petroleum), hydrotreated light 64742-47-8 | 18.75 mg/kg bw/day [4] [6] | - | - |

[4] Systemic health effects.

[5] Local health effects.

[6] Long term.

[7] Short term.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls

Use only in well-ventilated areas. 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 protective gloves. It is recommended that gloves are made of the following material: Nitrile rubber, Neoprene, Polyvinyl chloride (PVC). Wear suitable gloves tested to EN 374. Change protective gloves regularly. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.

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: Gas filter A2. Filter must be changed often enough. Gas and combination filter cartridges must comply with EN 14387.

Thermal hazards

No information available.

General advice

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

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 | |
| Colour | clear | |
| Odour | Hydrocarbons | |
| Odour threshold | - | |
| Property | Values | Remarks • Method |
| Melting point / freezing point | < -47 °C | |
| Boiling point or initial boiling point and boiling range | 115 - 300 °C | (ASTM D 86) |
| Flammability | H226 | - |
| Lower and upper explosion limit/flammability limit | | |
| Lower explosion limit | 0,6 % | |
| Upper explosion limit | 6 % | |
| Flash point | ≥ 38 °C | (IP 170) |
| Autoignition temperature | 207 - 250°C | (EN 14522) |
| Decomposition temperature SADT (°C) | - | |
| pH | No data available | Not applicable |
| pH (as aqueous solution) | No data available | |
| Kinematic viscosity | < 7 | EN ISO 3104 |
| Dynamic viscosity | < 4 mPa s @ 20°C | EN ISO 3104 |
| Solubility | - | - |
| Water solubility | < 50 mg/L @ 20 °C | The product has poor water-solubility. |
| Partition coefficient n-octanol/water (log value) | - | No data available |
| Vapour pressure | ~ 2 kPa @ 38°C | - |
| Density and/or relative density | 0,78 - 0,84 @ 15 °C | - |
| Bulk density | - | |
| Liquid Density | - | |
| Relative vapour density | > 3 | . (air = 1) |
| Particle characteristics | | Not applicable |
| Particle Size | n/a | |
| Particle Size Distribution | n/a | |

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

No information available

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.

Explosion data

Sensitivity to mechanical impact None.
Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None known.

10.4. Conditions to avoid

Conditions to avoid Keep away from heat, sparks and open flame.

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

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|--------------------------------|---------------------------|--------------------------------------|
| Renewable hydrocarbons (kerosine type fraction) | > 2000 mg/kg, Rat (EC B1 tris) | > 2000 mg/kg, Rat (EC B3) | - |
| Distillates (petroleum), light hydrocracked | > 5000 mg/kg (Rat) | > 4300 mg/kg (Rabbit) | = 4.1 mg/L (Rat) 4 h |
| Kerosine (petroleum), hydrodesulfurized | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 5200 mg/m ³ (Rat) 4 h |
| Kerosine (petroleum), sweetened | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 5.2 mg/L (Rat) 4 h |
| Kerosine (petroleum) | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 5.28 mg/L (Rat) 4 h |
| Distillates (petroleum), hydrotreated light | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 5.2 mg/L (Rat) 4 h |

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

Skin corrosion/irritation May cause skin irritation.

Serious eye damage/eye irritation May cause eye and respiratory 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 May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | European Union |
|---|----------------|
| Distillates (petroleum), light hydrocracked | Carc. 2 |

Reproductive toxicity May damage fertility or the unborn child.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

| Chemical name | European Union |
|---|----------------|
| Distillates (petroleum), light hydrocracked | Repr. 1B |

STOT - single exposure May cause nausea, headache, dizziness and intoxication.

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 No information available.

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 |
|---|--|---|---|--|
| Renewable hydrocarbons (kerosine type fraction) | EL50, 72 h: > 100 mg/l, WAF (OECD 201) | LL50, 96 h: > 1000 mg/l, WAF (OECD 203) | EC50, 3 h: > 1000 mg/l, Micro-organisms (wastewater sludge)(OECD 209) | EL50, 48 hours: > 100 mg/l, WAF (OECD 202) NOEC, 21 days: 1 mg/l, LOEC, 21 days: 3,2 mg/l, Daphnia magnaWAF (OECD 211) NOEC, 10 days: 373 mg/kg, LC ₅₀ , 10 days: 1200 mg/kg, Sediment organisms(OSPAR Protocols, Part A: |

| | | | | Sediment Bioassay, 2005) |
|--|---|---|---|--|
| Distillates (petroleum), light hydrocracked | ErL50, 72 h: 22 mg/L | LL50, 96 h: =21 mg/L | - | EL50, 48 h:68 mg/L, Daphnia magna |
| Kerosine (petroleum), hydrodesulfurized | EL50, 72 h: 1-3 mg/L, Pseudokirchneriella subcapitata WAF (OECD 201) | LL ₅₀ , 24 hours: 5-17 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203) | - | EL50, 24 hours: 4,6 mg/l, Daphnia magna WAF (OECD 202) |
| | NOEL, 24 hours: 1 mg/l, Pseudokirchneriella subcapitata WAF (OECD 201) | LL ₅₀ , 48 hours: 2-5 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203) | | EL50, 48 hours: 1,4 mg/l, Daphnia magna WAF (OECD 202) |
| | | NOEL, 28 days: 0,1 mg/l, Oncorhynchus mykiss (Rainbow trout) (QSAR) | | NOEL, 48 hours: 0,3 mg/l, Daphnia magna WAF (OECD 202) |
| | | | | EL50, 21 days: 0.81 mg/l, Daphnia magna WAF (OECD 211) |
| | | | | NOEL, 21 days: 0,48 mg/l, Daphnia magna WAF (OECD 211) |
| Kerosine (petroleum), sweetened | EL50, 72 h: 1-3 mg/L, Pseudokirchneriella subcapitata WAF (OECD 201) | LL ₅₀ , 24 hours: 5-17 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203) | - | EL50, 24 hours: 4,6 mg/l, Daphnia magna WAF (OECD 202) |
| | NOEL, 24 hours: 1 mg/l, Pseudokirchneriella subcapitata WAF (OECD 201) | LL ₅₀ , 48 hours: 2-5 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203) | | EL50, 48 hours: 1,4 mg/l, Daphnia magna WAF (OECD 202) |
| | | NOEL, 28 days: 0,1 mg/l, Oncorhynchus mykiss (Rainbow trout) (QSAR) | | NOEL, 48 hours: 0,3 mg/l, Daphnia magna WAF (OECD 202) |
| | | | | EL50, 21 days: 0.81 mg/l, Daphnia magna WAF (OECD 211) |
| | | | | NOEL, 21 days: 0,48 mg/l, Daphnia magna WAF (OECD 211) |
| Distillates (petroleum), hydrotreated light | EL50, 72 h: 1-3 mg/L, Pseudokirchneriella subcapitata WAF (OECD 201) | LL ₅₀ , 24 hours: 5-17 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203) | - | EL50, 24 hours: 4,6 mg/l, Daphnia magna WAF (OECD 202) |
| | NOEL, 24 hours: 1 mg/l, Pseudokirchneriella subcapitata WAF (OECD 201) | LL ₅₀ , 48 hours: 2-5 mg/l, Oncorhynchus mykiss (Rainbow trout) WAF (OECD 203) | | EL50, 48 hours: 1,4 mg/l, Daphnia magna WAF (OECD 202) |
| | | NOEL, 28 days: 0,1 mg/l, Oncorhynchus mykiss (Rainbow trout) (QSAR) | | NOEL, 48 hours: 0,3 mg/l, Daphnia magna WAF (OECD 202) |
| | | | | EL50, 21 days: 0.81 mg/l, Daphnia magna WAF (OECD 211) |
| | | | | NOEL, 21 days: 0,48 mg/l, Daphnia magna WAF (OECD 211) |

12.2. Persistence and degradability

Persistence and degradability Inherently biodegradable.

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

Renewable hydrocarbons (kerosine type fraction) (-)

| Method | Exposure time | Value | Results |
|---|---------------|-------|-----------------------|
| OECD Test No. 301B: Ready Biodegradability: CO ₂ Evolution Test (TG 301 B) | | | Readily biodegradable |

Kerosine (petroleum), hydrodesulfurized (64742-81-0)

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

Kerosine (petroleum), sweetened (91770-15-9)

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

Distillates (petroleum), hydrotreated light (64742-47-8)

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

12.3. Bioaccumulative potential

Bioaccumulation Possibly bioaccumulative.

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 The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

| Chemical name | PBT and vPvB assessment |
|---|-------------------------|
| Kerosine (petroleum), hydrodesulfurized | Not PBT/vPvB |
| Kerosine (petroleum), sweetened | Not PBT/vPvB |
| Distillates (petroleum), hydrotreated light | 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

Product causes fouling, and direct contact produces harmful effects e.g. to birds and vegetation.

Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--|--|
| Waste from residues/unused products | Dispose of in accordance with local regulations. When handling waste, the safety precautions applying to handling of the product should be considered. Do not allow into any sewer, on the ground or into any body of water. |
| Contaminated packaging | Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Product residues retained in emptied containers can be hazardous. |
| 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 03 other fuels (including mixtures)

SECTION 14: Transport information

IATA

| | |
|--|--------------------------------|
| 14.1 UN number or ID number | 1863 |
| 14.2 UN proper shipping name | Fuel, aviation, turbine engine |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | III |
| 14.5 Environmental hazards | Yes |
| 14.6 Special precautions for user | - |

IMDG

| | |
|---|------------------------------------|
| 14.1 UN number or ID number | 1863 |
| 14.2 UN proper shipping name | Fuel, aviation, turbine engine |
| 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 according to IMO instruments | MARPOL, Annex I: Energy-rich fuels |

RID

| | |
|--|--------------------------------|
| 14.1 UN number or ID number | 1863 |
| 14.2 UN proper shipping name | Fuel, aviation, turbine engine |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | III |
| 14.5 Environmental hazard | Yes |
| 14.6 Special precautions for user | - |

ADR

| | |
|--|--------------------------------|
| 14.1 UN number or ID number | 1863 |
| 14.2 UN proper shipping name | Fuel, aviation, turbine engine |
| 14.3 Transport hazard class(es) | 3 |
| 14.4 Packing group | III |
| 14.5 Environmental hazard | Yes |
| 14.6 Special precautions for user | - |
| Classification code | 30 |

Tunnel restriction code D/E

ADN

| | |
|----------------------------|--------------------------------|
| UN number or ID number | 1863 |
| UN proper shipping name | Fuel, aviation, turbine engine |
| Transport hazard class(es) | 3 |
| Subsidiary hazard class | N2 + CMR |
| Packing group | III |

SECTION 15: Regulatory information

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

National regulations

UK REACH Registration number:
Renewable hydrocarbons (kerosene type fraction) (UK-01-5174728449-8-XXXX),
Kerosine (petroleum), hydrodesulfurized (UK-01-3269319310-7-XXXX),
Kerosine (petroleum), sweetened (UK-01-0698716160-8-XXXX),
Kerosine (petroleum) (UK-01-5382718756-7-XXXX),
Distillates (petroleum), hydrotreated light; Kerosine - unspecified
(UK-01-9161676197-8-XXXX)
OR UK: Penman Consulting Limited 42, Aspect House, Waylands Avenue, Grove Business Park, Wantage, Oxon, OX12 9FF, United Kingdom; Telephone: 01367 718474; Email: pcld42@penmanconsulting.com.

Water hazard class (WGK) strongly hazardous to water (WGK 3)

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)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 2024/590

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 any hazard and/or precautionary statements referred to under Sections 2-15

H226 - Flammable liquid and vapour

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H332 - Harmful if inhaled

H336 - May cause drowsiness or dizziness

H350 - May cause cancer

H360FD - May damage fertility. May damage the unborn child

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 | Calculation method |
| Acute inhalation toxicity - vapour | Calculation method |
| Acute inhalation toxicity - dust/mist | Calculation method |
| Skin corrosion/irritation | Calculation method |
| Serious eye damage/eye irritation | Calculation method |
| Respiratory sensitisation | Calculation method |
| Skin sensitisation | Calculation method |
| Mutagenicity | Calculation method |
| Carcinogenicity | Calculation method |
| STOT - single exposure | Calculation method |
| STOT - repeated exposure | Calculation method |
| Acute aquatic toxicity | Calculation method |
| Chronic aquatic toxicity | Calculation method |
| Aspiration hazard | Calculation method |
| Ozone | Calculation method |

Supercedes date 26/02/2025

Revision date 09/02/2026

Reason for revision Change in the mixture classification

Restrictions on use Restricted to professional users

Further information Key literature references and sources for data : Regulations, databases, literature, own research.
Chemical Safety Report
CONCAWE Report 15/24: Hazard classification and labelling of petroleum substances in the European Economic Area - 2024.

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 as a fuel - Industrial

Identification

Product name Jet Fuel (ID 20927; 20928)

Version number 2020

Es reference ES_01

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

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: 550 000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 550 000 tonnes
Maximum daily site tonnage: 1800 tonnes

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): 0,00001

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

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

Use as a fuel - Industrial

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: 94,7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 5 300 tonne/day Assumed domestic sewage treatment plant flow (m ³ /day): 2 000. |

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 | If discharging to domestic sewage treatment plant, no onsite wastewater treatment required. Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 84,6. |
| 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. |
|------------------------|--|

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 (Industrial - Environment 2)

Control of environmental exposure

CAS 91770-15-9 Kerosine (petroleum), sweetened

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 540 000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 540 000 tonnes
Maximum daily site tonnage: 1 800 tonnes

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): 0.05 |
| Emission factor - water | Release fraction to wastewater from process (initial release prior to RMM): 0.00001 |
| Emission factor - soil | Release fraction to soil from process (initial release prior to RMM): 0 |

Environmental factors not influenced by risk management measures

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

Risk management measures

Use as a fuel - Industrial

| | |
|----------------------|--|
| 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: 95% Removal efficiency (total): 95% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2 100 tonne/day Assumed domestic sewage treatment plant flow (m ³ /day): 2 000. |

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

| | |
|--------------|--|
| Air | Treat air emission to provide the required removal efficiency of 95%. |
| Water | Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 94,2 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 |
| Vapour pressure | Vapour pressure 0.5 - 10 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 | Assumes use at not more than 20°C above ambient temperature, unless stated differently. |

Risk management measures

General measures (skin irritants)
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.
No other specific measures identified.

3. Exposure estimation (Environment 1)

| | |
|--------------------------|--|
| Assessment method | Used Petrorisk model. (Hydrocarbon Block Method) |
|--------------------------|--|

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

Use as a fuel - Industrial

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>)

3. Exposure estimation (Environment 2)

| | |
|--------------------------|---|
| Assessment method | CAS 91770-15-9 Kerosine (petroleum), sweetened: Used Petrorisk model. (Hydrocarbon Block Method) |
| | Risk-driving RCR - air compartment driven RCR(air) $\leq 0,028$ |
| | Risk-driving RCR - water compartment driven RCR(water) $\leq 0,86$ |

4. Guidance to check compliance with the exposure scenario (Environment 2)

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

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Users are advised to consider national Occupational Exposure Limits or other equivalent values.

Exposure scenario

Use as a fuel - Professional

Identification

Product name Jet Fuel (ID 20927; 20928)

Version number 2020

Es reference ES_02

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)

SPERC ESVOC SPERC 9.12b.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
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

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: 4 400 000 tonnes/year
Fraction of Regional tonnage used locally: 0.0005
Annual site tonnage: 2 200 tonnes
Maximum daily site tonnage: 6,1 tonnes

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 process (initial release prior to RMM): 0,001

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0,00001

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0,00001

Environmental factors not influenced by risk management measures

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

Use as a fuel - Professional

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: 94,7% Removal efficiency (total): 94,7% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 690 tonne/day Assumed domestic sewage treatment plant flow (m ³ /day): 2 000. |

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

| | |
|--------------|--|
| Air | No air emission controls required; required removal efficiency is 0%. |
| Water | No 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. |
|------------------------|--|

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 (Industrial - Environment 2)

Control of environmental exposure

CAS 91770-15-9 Kerosine (petroleum), sweetened

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Fraction of EU tonnage used in region: 0.1
Regional use tonnage: 540 000 tonnes/year
Fraction of Regional tonnage used locally: 1
Annual site tonnage: 540 000 tonnes
Maximum daily site tonnage: 1 800 tonnes

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): 0.05 |
| Emission factor - water | Release fraction to wastewater from process (initial release prior to RMM): 0.00001 |
| Emission factor - soil | Release fraction to soil from process (initial release prior to RMM): 0 |

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. |
|----------------------|---|

Use as a fuel - Professional

| | |
|--------------------|--|
| STP details | Estimated substance removal from wastewater via domestic sewage treatment: 95% Removal efficiency (total): 95% Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 2 100 tonne/day Assumed domestic sewage treatment plant flow (m ³ /day): 2 000. |
|--------------------|--|

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

| | |
|--------------|--|
| Air | Treat air emission to provide the required removal efficiency of 95%. |
| Water | Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of (%): ≥ 94,2 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 |
| Vapour pressure | Vapour pressure 0.5 - 10 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 | Assumes use at not more than 20°C above ambient temperature, unless stated differently. |

Risk management measures

General measures (skin irritants)
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.
No other specific measures identified.

3. Exposure estimation (Environment 1)

| | |
|--------------------------|--|
| Assessment method | Used Petrorisk model. (Hydrocarbon Block Method) |
|--------------------------|--|

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

Use as a fuel - Professional

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>)

3. Exposure estimation (Environment 2)

| | |
|--------------------------|---|
| Assessment method | CAS 91770-15-9 Kerosine (petroleum), sweetened: Used Petrorisk model. (Hydrocarbon Block Method) |
| | Risk-driving RCR - air compartment driven RCR(air) $\leq 0,028$ |
| | Risk-driving RCR - water compartment driven RCR(water) $\leq 0,86$ |

4. Guidance to check compliance with the exposure scenario (Environment 2)

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

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

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Users are advised to consider national Occupational Exposure Limits or other equivalent values.