

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Product identifier**

Trade name: Aviation turbine fuel JET A-1

Unique Formula Identifier UFI: NS00-00TM-Y00J-FXMM

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

Relevant identified uses: Fuels [PC13].

Uses advised against: no other use is recommended.

1.3. Details of the supplier of the safety data sheet**Manufacturer:**

AB ORLEN Lietuva

Mažeikių St. 75, Juodeikiai village, LT-89453 Mazeikiai District, Lithuania

Tel.: +370 443 92121

E-mail address: post@orlenlietuva.lt

E-mail address of competent person for safety data sheet: REACH@orlenlietuva.lt

1.4. Emergency telephone number

Pharmacovigilance and Poison Information Unit (24/7): +370 5 236 2052 or +370 687 53378

General emergency number in Europe (24/7): 112

SECTION 2: HAZARDS IDENTIFICATION**2.1. Classification of the substance or mixture**

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

Flam. Liq. 3, H226**Asp. Tox. 1, H304****Skin Irrit. 2, H315****STOT SE 3, H336** (Organs affected: central nervous system. Route of exposure: inhalation)**Aquatic Chronic 2, H411**

For full text of hazard classes, category codes, hazard- and EU hazard-statements see SECTION 16.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictogram (-s):

GHS02



GHS08



GHS07



GHS09

Signal word: Danger**Hazardous components:** kerosine (petroleum), sweetened; renewable hydrocarbons (kerosene type fraction).**Hazard statements:**

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements (general):

P102 Keep out of reach of children.

Precautionary statements (prevention):

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

P273 Avoid release to the environment.

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

Precautionary statements (response):

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER / doctor.

P331 Do NOT induce vomiting.

Supplemental hazard information: not applicable.

2.3. Other hazards

Product is flammable liquid. Light hydrocarbons evaporate slowly.

Vapour irritates eyes and respiratory tract. Liquid product splashes irritate eyes and skin. Long-term and repeated contact causes skin dryness and irritation. May cause chemical pneumonia if inhaled to lungs.

Toxic to aquatic organisms. May cause long-term adverse effects to aquatic environment. Risk of soil and ground water contamination.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable.

3.2. Mixtures

Substance identifier	Weight % content	Classification according to Regulation (EC) No 1278/2008 (CLP)
Kerosine (petroleum), sweetened CAS No. 91770-15-9 EC No. 294-799-5 Index No. 649-427-00-X REACH Registration No. 01-2119502385-46-0009	Up to 100	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 (Organs affected: Central nervous system. Route of exposure: inhalation) Aquatic Chronic 2, H411
Renewable hydrocarbons (kerosene type fraction) CAS No. – EC No. 931-082-4 Index No. – REACH Registration No. 01-2119850115-46-0000	<10	Flam. Liq. 3, H226 Asp. Tox. 1, H304
Additives	0–0.004	

Mixture contains substances for which workplace exposure limit value is established. Occupational exposure limits, if available, are listed in SECTION 8.

For full text of H-statements, see SECTION 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General notes

Spillages make surface slippery.

Before attempting to rescue casualties, isolate area from all potential sources of ignition including disconnecting electrical supply.

Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces.

Drench contaminated clothing with water before removing to avoid risk of sparks from static electricity.

Following inhalation

Inhalation is unlikely because of the low vapour pressure of the substance at ambient temperature. Exposure to vapours may however occur when the substance is handled at high temperatures with poor ventilation.

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If the casualty is unconscious and:

- Not breathing – ensure that there is no obstruction to breathing and give artificial respiration by trained personnel. If necessary, give external cardiac massage and obtain medical assistance.

- Breathing – place in the recovery position and keep the head below the level of the torso.

Administer oxygen if necessary.

Obtain medical attention if casualty has an altered state of consciousness or if symptoms do not resolve.

Following skin contact

Immediately remove contaminated clothing and footwear and dispose of safely. Wash affected area thoroughly with soap and water. Seek medical attention if skin irritation, swelling or redness develops and persists.

When using high-pressure equipment, injection of product can occur. If high-pressure injuries occur, immediately seek professional medical attention. Do not wait for symptoms to develop.

For minor thermal burns: Cool the burn. Hold the burned area under cold running water for at least five minutes, or until the pain subsides. However, body hypothermia must be avoided.

Following eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.

Following ingestion

The casualty should be sent immediately to a hospital. Do not wait for symptoms to develop. Do not induce vomiting, as there is high risk of aspiration (chemical pneumonia). Gastric lavage should be undertaken only after endotracheal intubation.

Do not give anything by mouth to an unconscious person.

Self-protection of the first aider

Personal protective equipment for first aid responders is recommended.

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

Following inhalation may cause headache, nausea, dizziness, vomiting and an altered state of consciousness.

Following skin contact – reddening, irritation.

Following eye contact may cause mild reversible eye irritation (general).

Following ingestion may cause few or no symptoms expected. If any, nausea and diarrhea might occur. In case of ingestion, always assume that aspiration has occurred.

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

Treatment according to symptoms. In case of ingestion, always assume that aspiration has occurred. Do NOT induce vomiting. If vomiting does occur, have victim lean forward to reduce risk of aspiration.

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5.1. Extinguishing media**Suitable extinguishing media**

- Foam (specifically trained personnel only),
- Water fog (specifically trained personnel only),
- Dry chemical powder,
- Carbon dioxide,
- Inert gases (subject to regulations),
- Sand or earth,
- Steam.

Unsuitable extinguishing media

Do not use direct water jets on the burning product; they could cause splattering and spread the fire.

Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture**Combustion products**

Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates and gases, including carbon monoxide and unidentified organic and inorganic compounds (H_2S or SO_x).

Specific hazards

If tanks or containers with product are exposed to fire, there is a hazard of explosion and fire due to increased pressure inside the vessel. If spillage of product occurs, the mixture of hydrocarbon vapours and air may explode or ignite on sparks or heated surfaces. Tanks and containers with product, which are in the direct vicinity of the fire, should be cooled by water jets from the safe distance.

This substance will float and can be reignited on surface water.

5.3. Advice for firefighters

For larger fires use water spray, fog or regular foam. Firefighting: move container from fire area if it is safe to do so. Apply cooling water to sides of container that are exposed to flames until well after the fire is out. Wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Protective clothing for firefighters (including helmets, gloves) shall comply with EN 469:2020 (*Protective clothing for firefighters. Performance requirements for protective clothing for firefighters*) to provide a basic level of protection in the event of chemical incidents. Block fire water for later disposal. Do not allow to enter drains, sewers or watercourses.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non-emergency personnel**

Stop or contain leak at the source if safe to do so. Avoid direct contact with released material. Stay upwind. In case of large spillages, alert occupants in downwind areas.

Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency. Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares).

If required, notify relevant authorities according to all applicable regulations.

6.1.2. For emergency responders

Small spillages: normal antistatic working clothes are usually adequate. Large spillages: full body suit of chemically resistant and antistatic material. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons.

NOTE: gloves made of PVA are not water-resistant, and are not suitable for emergency use.

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Work helmet. Antistatic non-skid safety shoes or boots. Goggles or face shield, if splashes or contact with eyes is possible or anticipated.

Respiratory protection: A half or full-face respirator with filter(s) for organic vapours or a Self-Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

Product is extremely flammable liquid, any spillage or leak is a severe fire or explosion hazard.

6.2. Environmental precautions**Spillages onto land**

Stop leak at the source if safe to do so. Prevent product from entering sewers, rivers, waterways or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials.

Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation and fire risk. Do not use direct jets.

When inside buildings or confined spaces, ensure adequate ventilation.

Spillages on water or at the sea

Stop or contain leak at the source if safe to do so. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment.

6.3. Methods and material for containment and cleaning up**Spillages onto land**

Absorb spilled product with suitable non-combustible materials. Collect free product with suitable means. Transfer collected product and other contaminated materials to suitable containers for recycle, recovery or safe disposal.

In case soil contamination, remove contaminated soil and treat this in accordance with local regulations.

Spillages on water or at the sea

Collect spilled product by absorbing with specific floating absorbents. Large spillages in open waters should be contained with floating barriers or other mechanical means and recovered, only if this is strictly necessary and if fire/explosion risks can be adequately prevented. The use of dispersants should be advised by an expert, and, if required, approved by local authorities. Collect recovered product and other materials in suitable tanks or containers for recovery or safe disposal.

Additional information

NOTE: recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken.

Spillages of limited amounts of products, especially in the open air when vapours will be usually quickly dispersed, are dynamic situations, which are unlikely to entail exposure to dangerous concentrations. A possible exception may regard the build-up of dangerous concentrations in specific spots, like trenches, depressions or confined spaces. In all these circumstances, however, the correct actions should be assessed on a case-by-case basis.

6.4. Reference to other sections

See SECTION 8 for Exposure controls/personal protection. See SECTION 13 for Disposal considerations.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Obtain special instructions before use. Ensure that all relevant regulations regarding explosive atmospheres, and handling and storage facilities of flammable products, are followed.

Keep away from heat, sparks, open flames, hot surfaces. No smoking.

Use and store only outdoors or in a well-ventilated area. Avoid contact with the product.



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Avoid release to the environment.

7.2. Conditions for safe storage, including any incompatibilities

Handling

Take precautionary measures against static electricity.

Properly sealed mobile tank cars should be used for product transportation.

Ground/bond containers, tanks and transfer/receiving equipment. Use non-explosive electrical, ventilation and lighting equipment. Use only non-sparking tools.

The vapour is heavier than air. Beware of accumulation in pits and confined spaces.

Do not use compressed air for filling, discharging, or handling operations.

Avoid contact with skin and eyes. Do not ingest. Do not breathe vapours. Use personal protective equipment as required.

Storage

Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation. Store product only in tanks or containers designed for flammable liquids. Storage installations should be designed with adequate bunds so as to prevent ground and water pollution in case of leaks or spills.

Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Before entering storage tanks and commencing any operation in a confined area check the atmosphere for oxygen content and flammability.

Product vapours (gaseous hydrocarbons) can build up in the headspace of tanks, they may ignite at temperatures below flash point, therefore, care should be taken to avoid static electrical discharge and all ignition sources during product gauging or sampling from storage tanks.

Store separately from oxidizing agents.

Recommended and unsuitable materials for storage

Recommended materials: for containers, or container linings use mild steel, stainless steel.

Unsuitable materials: some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer.

Container advice

If the product is supplied in containers: keep only in the original container or in a suitable container for this kind of product. Keep containers tightly closed and properly labelled. Protect from the direct sunlight.

Light hydrocarbon vapours can build up in the headspace of containers. These can cause flammability/explosion hazards. Open slowly in order to control possible pressure release. Empty containers may contain flammable product residues. Do not weld, solder, drill, cut or incinerate empty containers, unless they have been properly cleaned.

Hygiene measures

Ensure that proper housekeeping measures are in place. Contaminated materials should not be allowed to accumulate in the workplace and should never be kept inside the pockets. Keep away from food and beverages. Do not eat, drink or smoke while using this product. Wash the hands thoroughly after handling. Change contaminated clothes at the end of working shift.

7.3. Specific end use(s)

See subsection 1.1.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Substances for which occupational exposure limit values need to be controlled in the work environment:

Lithuanian Hygiene Standard HN 23:2011:

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Name	CAS No.	Limit value						Markers of health effects	Notes
		Long-term exposure limit value (LTEL)		Short-term exposure limit value (STEL)		Threshold limit value (TLV)			
		mg/m³	ppm	mg/m³	ppm	mg/m³	ppm		
Kerosine (petroleum), sweetened	91770-15-9	350	-	500	-	-	-	-	Lithuanian Hygiene Standard HN 23:2011

Exposure limits

Comply with established national occupational exposure limits. Where not established, the following short-term exposure limit is recommended – 500 mg/m³.

Biological limit values (BLV)

No biological limit value has been established for these substances.

Recommended monitoring procedures

Standard monitoring procedures must be followed.

Follow the monitoring measures applied in the country.

Derived No Effect Level DNEL

Derived No Effect Level (DNEL) or other conclusions of hazardous health effects:

Route of exposure	Type of exposure	Hazard assessment conclusion	Most sensitive endpoint
Kerosine (petroleum), sweetened, CAS No. 91770-15-9			
Workers			
Systemic effects			
Inhalation	Long term exposure	No hazard identified	
Inhalation	Acute/short term exposure	No hazard identified	
Dermal	Long term exposure	No hazard identified	
Dermal	Acute/short term exposure	No hazard identified	
Local effects			
Inhalation	Long term exposure	No hazard identified	
Inhalation	Acute/short term exposure	No hazard identified	
Dermal	Long term exposure	Low hazard (no threshold derived)	
Dermal	Acute/short term exposure	Low hazard (no threshold derived)	
Eyes	Local effects	No hazard identified	
General population			
Systemic effects			
Inhalation	Long term exposure	No hazard identified	
Inhalation	Acute/short term exposure	No hazard identified	
Dermal	Long term exposure	No hazard identified	
Dermal	Acute/short term exposure	No hazard identified	
Oral	Long term exposure	No hazard identified	
Oral	Acute/short term exposure	No hazard identified	
Local effects			
Inhalation	Long term exposure	No hazard identified	
Inhalation	Acute/short term exposure	No hazard identified	
Dermal	Long term exposure	Low hazard (no threshold derived)	
Dermal	Acute/short term exposure	Low hazard (no threshold derived)	
Eyes	Local effects	No hazard identified	
Renewable hydrocarbons (kerosene type fraction), EC No. 931-082-4			
Workers			
Systemic effects			

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Inhalation	Long term exposure	DNEL 147 mg/m ³	
Dermal	Long term exposure	DNEL 42 mg/kg/day	

Predicted no effect concentrations PNEC

The mixture contains a hydrocarbon UVCB: technically, the PNEC is not determined or cannot be determined.

8.2. Exposure controls**8.2.1. Appropriate engineering controls**

Reduce exposure by using closed systems, sufficient general and local ventilation. If exposure is likely, restrict access to area. Provide training for staff.

During various technical and process operations product vapour may be emitted into the environment, therefore the concentration in working environment air shall be controlled to the minimum allowed limit.

8.2.2. Individual protection measures, such as personal protective equipment**a) Eyeface protection**

Wear safety glasses in circumstances where eye contact may occur (according to EN 166). Do not use contact lenses.

b) Skin protection**i) Hand protection**

Use petroleum product resistant gloves (tested and compliant to EN 374). Check before use. Use only with clean hands. Contaminated gloves should be replaced. Always seek advice from glove suppliers for use, storage, care and replacement of gloves.

ii) Other

Wear protective clothes (according to EN 465) and other protection equipment. Protective clothing should be regularly inspected and maintained.

c) Respiratory protection

If during operations the exposure of employees to large amounts of product vapour and gas is inevitable, suitable respiratory protective equipment, such as A2 filtering mask or analogous should be applied (according to EN 14387). When working in vessel internals or other confined spaces **do not** use filtering masks but the special self-contained protective equipment. Respiratory protection equipment should be selected and used in accordance with the manufacturer's instructions and requirements established by the law.

d) Thermal hazards

If applicable, use heat-resistant personal protective equipment.

Hygiene measures

Comply with personal hygiene requirements. Wash hands before breaks and after work. Wash immediately in case of skin contact.

8.2.3. Environmental exposure controls

To ensure the compliance of ventilation and process equipment with requirements of environmental legislation, emissions of such equipment are subject to verification. In some cases vapour filtering installations or process equipment modifications may be necessary for the reduction of emission to allowed limit.

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

a) Physical state	Liquid
b) Colour	Clear, colourless
c) Odour	Typical odour of hydrocarbons
d) Melting point/freezing point	Not higher than minus 47 °C

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e) Boiling point or initial boiling point and boiling range	150–300 °C
f) Flammability	Flamable liquid
g) Lower and upper explosion limit	0.6–6.0 %
h) Flash point	Not less than 38 °C
i) Auto-ignition temperature	> 220 °C
j) Decomposition temperature	Not applicable
k) pH	Irrelevant information
l) Kinematic viscosity	Not higher than 12 mm ² /s (at minus 40 °C)
m) Solubility	Not applicable
n) Partition coefficient n-octanol/water (log value)	Not applicable
o) Vapour pressure	approximately 2 kPa (at 38 °C)
p) Density and/or relative density	0.775–0.840 g/cm ³ (at 15 °C)
q) Relative vapour density	> 3 (rel. to air)
r) Particle characteristics	Not applicable

9.2. Other information**9.2.1. Information with regard to physical hazard classes**

Based on the available data, meets the CLP Regulation criteria as Flammable liquids, category 3.

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity**

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

Stable at ambient temperature.

10.3. Possibility of hazardous reactions

Hazardous reactions with strong oxidizing agents.

10.4. Conditions to avoid

High ambient temperature.

Avoid electrostatic discharges and other ignition sources.

Keep away from heat, sparks, open flames, hot surfaces. No smoking.

10.5. Incompatible materials

Avoid contact with strong oxidizing agents.

10.6. Hazardous decomposition products

Thermal decomposition products vary depending on conditions.

Partial decomposition produces fume, carbon dioxide, carbon monoxide and other harmful gases.

Concentration of toxic gas in a confined space or premises may reach a hazardous limit.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****a) acute toxicity**

Based on available data, the classification criteria are not met.

Calculated ATE_{mix} values for the product:

ATE_{mix} (oral) > 4000 mg/kg;

ATE_{mix} (dermal) = 2000 mg/kg.

Experimental data of components:

Kerosine (petroleum), sweetened

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Oral: LD₅₀ > 5000 mg/kg body weight (test method equivalent or similar to OECD 420).
Inhalation: LC₅₀ > 5.28 mg/l vapour (test method equivalent or similar to OECD 403).
Dermal: LD₅₀ > 2000 mg/kg body weight (test method equivalent or similar to OECD 402).
Renewable hydrocarbons (kerosene type fraction)
Oral: LD₅₀ > 2000 mg/kg (EC B1, rat).
Inhalation: no data.
Dermal: LD₅₀ > 2000 mg/kg (EC B3, rat).

b) skin corrosion/irritation

The mixture is classified: skin corrosion/irritation, hazard category 2. Causes skin irritation.

Experimental data of components:

Kerosine (petroleum), sweetened

Causes skin irritation (rabbit, test method similar to OECD 404).

Renewable hydrocarbons (kerosene type fraction)

Based on available data, the classification criteria are not met (EC B4; OECD 439).

c) serious eye damage/irritation

Based on available data, the classification criteria are not met.

Experimental data of components:

Kerosine (petroleum), sweetened

Based on available data, the classification criteria are not met (weight of evidence approach).

Renewable hydrocarbons (kerosene type fraction)

Based on available data, the classification criteria are not met (EC B5; OECD 438).

d) respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Experimental data of components:

Kerosine (petroleum), sweetened

Based on available data, the classification criteria are not met (test method equivalent or similar to OECD 406).

Renewable hydrocarbons (kerosene type fraction)

Based on available data, the classification criteria are not met (EC B6; OECD 406).

e) germ cell mutagenicity

Based on available data, the classification criteria are not met.

Experimental data of components:

Kerosine (petroleum), sweetened

Genetic toxicity *in vitro*: negative (OECD 471, 476, 479).

Genetic toxicity *in vivo*: negative (OECD 475, 478).

Renewable hydrocarbons (kerosene type fraction)

Genetic toxicity *in vitro/in vivo*: negative (EC B10, B13/14, B17; OECD 471, 473).

f) carcinogenicity

Based on available data, the classification criteria are not met.

Experimental data of components:

Kerosine (petroleum), sweetened

Based on available data, the classification criteria are not met (weight of evidence approach).

Renewable hydrocarbons (kerosene type fraction)

Based on available data, the classification criteria are not met.

g) reproductive toxicity

Based on available data, the classification criteria are not met.

Experimental data of components:

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Kerosine (petroleum), sweetened

Effects on fertility/developmental toxicity: Based on available data, the classification criteria are not met (weight of evidence approach).

Renewable hydrocarbons (kerosene type fraction)

Effects on fertility/developmental toxicity: Based on available data, the classification criteria are not met.

h) STOT-single exposure

The mixture is classified: specific target organ toxicity single exposure, hazard category 3. Organs affected: central nervous system. Route of exposure: inhalation. May cause drowsiness or dizziness.

Experimental data of components:

Kerosine (petroleum), sweetened

Based on available data, the classification criteria are met, specific target organ toxicity single exposure, hazard category 3. Organs affected: central nervous system. Route of exposure: inhalation (weight of evidence approach).

Renewable hydrocarbons (kerosene type fraction)

Based on available data, the classification criteria are not met.

i) STOT-repeated exposure

Based on available data, the classification criteria are not met.

Experimental data of components:

Kerosine (petroleum), sweetened

Based on available data, the classification criteria are not met (weight of evidence approach).

Renewable hydrocarbons (kerosene type fraction)

Based on available data, the classification criteria are not met.

j) aspiration hazard

The mixture is classified: aspiration hazard, hazard category 1. May be fatal if swallowed and enters airways.

The kinematic viscosity of the mixture at 40 °C is $\leq 20.5 \text{ mm}^2/\text{s}$.

k) summary of evaluation of the CMR properties

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

The main contact may be skin contact, eye contact, possible exposure by accidental ingestion.

Symptoms related to the physical, chemical and toxicological characteristics

Product vapour slightly irritates eyes and respiratory tract. Liquid product splashes irritate eyes and skin. Irritating to digestive tract if swallowed. May cause chemical pneumonia if liquid product is inhaled to lungs. In case of ingestion assume that aspiration has occurred.

Prolonged or repeated contact with the product causes drying and irritation of the skin. Vapour irritates eyes and respiratory tract. Prolonged contact with kerosene vapour may cause renal failure.

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

No experimental toxicological data on the mixture as such available.

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

Not applicable. The substances in the mixture do not meet the criteria and/or characteristics of endocrine disruptor.

SECTION 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

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The mixture is harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Spills may form a film on water surfaces causing physical damage to aquatic life. Oxygen transfer can also be impaired due to the formed film.

The mixture is classified: hazardous to the aquatic environment, chronic hazard, category 2. Toxic to aquatic life with long lasting effects.

Experimental data of components:

Kerosine (petroleum), sweetened

Acute (short-term) toxicity

Fish (*Oncorhynchus mykiss*) LL50 96 h: 2–5 mg/l; NOEL 2.0 mg/l (OECD 203).

Aquatic invertebrates (*Daphnia magna*) EL50 48 h: 1.4 mg/l; NOEL 0.3 mg/l (based on immobilisation and data of similar substances).

Chronic (long-term) toxicity

Fish: NOEL 0.098 mg/l based on mortality (based on data of similar substances).

Aquatic invertebrates (*Daphnia magna*) chronic reproductive NOEL 21 d.: 0.48 mg/l. LOEL is 1.2 mg/l. EL50 0.89 mg/l (based on reproduction).

Toxicity to aquatic algae and cyanobacteria

EL50 (*Raphidocelis subcapitata*) 72 h: 1–3 mg/l, NOEL (*Raphidocelis subcapitata*) 72 h: 1 mg/l.

EL50 (*Selenastrum capricornutum*) 72 h: 3,7 mg/l.

EL50 (*Selenastrum capricornutum*) 96h: 5,0–6,2 mg/l.

Toxicity to microorganisms

LL50 (*Tetrahymena pyriformis*) 72 h: 677,9 mg/l (calculated).

Renewable hydrocarbons (kerosene type fraction)

Acute (short-term) toxicity

Fish LL50 96 h: > 1000 mg/l (OECD 203).

Aquatic invertebrates LL50 72 h: > 100 mg/l (OECD 201).

Toxicity to microorganisms

EC50 3 h: > 1000 mg/l (OECD 209).

12.2. Persistence and degradability

The mixture contains substances that are UVCB hydrocarbons. Standard tests for this endpoint are intended for single substances and are not appropriate for the risk assessment of this complex substance.

12.3. Bioaccumulative potential

The mixture contains substances that are UVCB hydrocarbons. Standard tests for this endpoint are intended for single substances and are not appropriate for the risk assessment of this complex substance.

12.4. Mobility in soil

The mixture contains substances that are UVCB hydrocarbons. Standard tests for this endpoint are intended for single substances and are not appropriate for the risk assessment of this complex substance.

12.5. Results of PBT and vPvB assessment

The mixture contains substances that do not contain any hydrocarbon structures that are assessed as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) according to Annex XIII of REACH and are present in concentrations equal to or greater than 0.1% by weight.

12.6. Endocrine disrupting properties

The mixture contains substances that do not contain any hydrocarbon structures with endocrine-disrupting properties and whose concentration is equal to or greater than 0.1% by weight.

12.7. Other adverse effects

No data available.

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SECTION 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Waste disposed of by decontamination in accordance with national requirements and local regulations or via a licensed waste disposal contractor. Note hazards arising from waste, and undertake required safety measures when handling it. Personnel involved in waste handling should wear personal protective equipment.

Empty storage tanks and railway tank cars may contain product residues; therefore, warning labels are to be retained as a guide to the safe tank handling and waste disposal. Empty containers represent a fire hazard as they may contain flammable product residues and vapour.

It is PROHIBITED to weld, solder and repair in other ways the tanks without proper preparation.

SECTION 14: TRANSPORT INFORMATION**Land transport (ADR-RID) / Inland waterway transport (UN RTDG/ADN(R)) / Marine transport (UN RTDG/IMDG) / Air transport (UN RTDG/ICAO/IATA)****14.1. UN number or ID number**

ADR / RID / ADN / IMDG / IATA: UN 1863

14.2. UN proper shipping name

ADR / RID / ADN / IMDG / IATA: FUEL, AVIATION, TURBINE ENGINE

14.3. Transport hazard class(es)

ADR / RID / ADN / IMDG / IATA: 3

14.4. Packing group

ADR / RID / ADN / IMDG / IATA: III

14.5. Environmental hazards

ADR / RID / ADN / IMDG / IATA: Environmentally hazardous.

14.6. Special precautions for user**ADR / RID:**

Hazard identification No.	30
Classification code	F1
Labels	3
Special provisions	664
Tunnel restriction code	3 (D/E)

For details on special provisions, see In chapter 3.3 of the ADR / RID regulation.
See also SECTION 7 of the SDS for handling and storage advice.

ADN:

Classification code	F1
Labels	3
Special provisions	274
Equipment required	PP, EX, A

IMDG:

EmS number	F-E, S-E
Limited and excepted quantities	5 L
IBC instructions	IBC03
Special provisions	223

1863 is category A for stacking and separation.

IATA:

Limited and excepted quantities	10 L
Special provisions	A3

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14.7. Maritime transport in bulk according to IMO instruments

ADR / RID / ADN / IATA:

Not applicable.

IMDG:

IMO tank instructions T1.

SECTION 15: REGULATORY INFORMATION

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

EU / international regulations:

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
- Council Regulation (EC) No 440/2008 of 30 May 2008 laying down test methods pursuant to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
- Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.
- Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC.
- Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC).
- Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work.
- Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work.
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
- International Maritime Dangerous Goods Code (IMDG Code).
- European Agreement concerning the International Carriage of Dangerous Goods by Air (IATA).
- Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council.
- Directive 2004/37/EC of the European Parliament and of the Council of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work

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(Sixth individual Directive within the meaning of Article 16(1) of Council Directive 89/391/EEC).

Authorisations and / or restrictions on use

- Regulation (EC) No 1907/2006 (REACH) Annex XIV List of Authorised Substances: Not included.
- Regulation (EC) No 1907/2006 (REACH) Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not applicable.
- Regulation (EC) No 1907/2006 (REACH) Article 59(10) SVHC (Candidate List of Substances of Very High Concern): Not included.
- Seveso III. Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC: Annex 1, Part 2, No. 34.

Note: any subsequent updates, amendments and/or additions to the legislation should be duly considered. The list of legal acts is not exhaustive.

15.2. Chemical safety assessment

Chemical safety assessments of the substances contained in the mixture have been conducted.

SECTION 16: OTHER INFORMATION

Revision of safety data sheet: 2025-10-20

Updated: all relevant sections.

Based on changes to the product composition during the review, the data in the Safety Data Sheet has been revised.

Abbreviations:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
EC	EINECS (European Inventory of Existing Commercial Chemical Substances) or ELINCS (European List of Notified Chemical Substances)
EL ₅₀	Effective loading rate resulting in 50% effect
EmS	Emergency Response Procedures for Ships Carrying Dangerous Goods
EN	European standard of European Committee for Standardization
ErL ₅₀	Loading Rate of Test Substance (in dilution water) which causes 50% reduction in algal growth rate
EU	European Union
IATA	International Air Transport Association
IBC	Intermediate bulk container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
IMO	International Maritime Organization
JT	United Nations
LC ₅₀	Lethal concentration for 50 % percent of test organisms
LD ₅₀	Lethal dose for 50 % of test organisms (median lethal dose)
LL ₅₀	Lethal load for 50 % of the test organisms

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LR Republic of Lithuania
LTEL Long-term exposure limit value
NOAEC No observed adverse effect concentration
NOAEL No observed adverse effect level
NOEL Non observed effect level
OECD Organization for Economic Cooperation and Development
PBT Persistent, bioaccumulative and toxic
RID The Regulation concerning the International Carriage of Dangerous Goods by Rail
RTDG Recommendations on the Transport of Dangerous Goods
REACH Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
UVCB Substance of unknown or variable composition, complex reaction products or biological materials
vPvB very Persistent and very Bioaccumulative

Acronyms and full text of hazard statements:

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Skin Irrit. 2: Skin corrosion / irritation, Hazard Category 2

STOT SE 3: Specific target organ toxicity — Single exposure, Hazard Category 3

Aquatic Chronic 2: Hazardous to the aquatic environment — Chronic Hazard, Category 2

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Key literature references and sources for data

Registration documentation.

Publicly available data from the national limit value databases of the European Chemicals Agency (ECHA), The GESTIS International Limit values Database.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Flam. Liq. 3, H226: On basis of test data.

Asp. Tox. 1, H304: On basis of test data.

Skin Irrit. 2, H315: Calculation method.

STOT SE 3, H336: Calculation method.

Aquatic Chronic 2, H411: Calculation method.

Training advice

Employees/users must be trained/familiarized with the relevant safety information provided.

Do not use the product for any purposes other than indicated in the manufacturer's information.

During such use the user may be exposed to unforeseen hazards.

Should you have any questions or doubts regarding SDS, its contents or any other concerns related to safety of the product, please contact us by e mail: post@orlenlietuva.lt

As the working conditions of the user are unknown, the information provided in this Safety Data Sheet is based on our current level of knowledge and national and community legislation.

The mixture must not be used for purposes other than those specified in Section 1 without first obtaining written instructions for use. It is always the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information contained in this Safety Data Sheet is to be considered as a description of the safety requirements of the mixture and not as a guarantee of its properties.

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NOTE: Information provided herein is considered to be accurate as of the date specified below. No warranty is made as to the accuracy or completeness of the data and information provided in this MSDS. Information provided herein serves only as guidelines for safe work, use, processing, storage, and waste handling. It cannot be considered as a warranty or statement of quality. This information applies only to the specific product and may not be suitable for use of the product in combination with any other substances or in any other manner contrary to that described in this document.

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