

**SAFETY DATA SHEET****Jet A-1**

The safety data sheet is in accordance with Commission Regulation (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	10.01.2017
Revision date	23.09.2024

**1.1. Product identifier**

Product name	Jet A-1
Extended SDS with ES incorporated, comments	Exposure Scenario available. See section 16.

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

Product group	Fuel.
Use of the substance / mixture	Fuel for aviation turbine engines fitted to aircraft.
Uses advised against	This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

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

Company name	Aviation Fuelling Services Norway AS
Office address	Kristian Augusts Gate 13
Postal address	Kristian Augusts Gate 13
Postcode	NO-0164
City	Oslo
Country	Norway
Telephone number	+47 22 54 00 50
Email	<a href="mailto:support@afsn.no">support@afsn.no</a>
Website	<a href="http://www.afsn.no">www.afsn.no</a>
Enterprise No.	914 948 681

**1.4. Emergency telephone number**

Emergency telephone	Telephone number: +47 22 59 13 00 Description: Norwegian Poison Information Center
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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	<p>Flam. Liq. 3; H226</p> <p>Asp. Tox. 1; H304</p> <p>Skin Irrit. 2; H315</p> <p>STOT SE 3; H336</p> <p>Carc. 1B; H350</p> <p>Aquatic Chronic 2; H411</p>
Substance / mixture hazardous properties	<p>Flammable liquid and vapour.</p> <p>May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. May cause cancer.</p> <p>Toxic to aquatic life with long lasting effects.</p>

### 2.2. Label elements

#### Hazard pictograms (CLP)



Composition on the label	Kerosine (petroleum), Kerosine (petroleum), hydrodesulfurized, Kerosin (Fischer-Tropsch) C8-C16 branched and linear alkanes, Renewable hydrocarbons (kerosene type fraction), Cumene
Signal word	Danger
Hazard statements	<p>H226 Flammable liquid and vapour.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H315 Causes skin irritation.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H350 May cause cancer .</p> <p>H411 Toxic to aquatic life with long lasting effects.</p>
Precautionary statements	<p>P201 Obtain special instructions before use.</p> <p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P260 Do not breathe dust / fume / gas / mist / vapours / spray.</p> <p>P280 Wear protective gloves / protective clothing / eye protection / face protection.</p> <p>P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.</p> <p>P331 Do NOT induce vomiting.</p> <p>P308+P313 IF exposed or concerned: Get medical advice / attention.</p>
Supplemental label information	<p>Only for professional use.</p> <p>EUH 066 Repeated exposure may cause skin dryness or cracking.</p>

### 2.3. Other hazards

PBT / vPvB	The substances do not meet current criteria for vPvB or PBT(very persistent and very bioaccumulative or Persistent, Bioaccumulative and Toxic).
Physicochemical effects	Static accumulator: This product may accumulate static electricity. The vapours are heavier than air and will spread along the floor. Static charges can occur during pumping. Static electricity can cause fire. Liquid evaporates quickly and can ignite, causing an explosive fire or explosion in an enclosed space. Can form explosive gas-air mixtures.
Health effect	May cause skin defatting with prolonged exposure. Parts of the chemical might be absorbed through the skin. If, by vomiting, the chemical reaches the lungs, life-threatening chemical pneumonia may develop.
Other hazards	None of the substances listed in section 3.2 is listed on ECHA's Endocrine disruptor assessment list.

## SECTION 3: Composition / information on ingredients

### 3.2. Mixtures

Substance	Identification	Classification	Contents	Notes
Kerosine (petroleum)	CAS No.: 8008-20-6 EC No.: 232-366-4 REACH Reg. No.: 01-2119485517-27	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Asp. Tox. 1; H304 STOT SE 3; H336 Aquatic Chronic 2; H411	0 < 100 %	
Kerosine (petroleum) , hydrodesulfurized	CAS No.: 64742-81-0 EC No.: 265-184-9 REACH Reg. No.: 01-2119462828-25	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Asp. Tox. 1; H304 STOT SE 3; H336 Aquatic Chronic 2; H411	0 < 100 %	
Kerosin (Fischer- Tropesch) C8-C16 branched and linear alkanes	CAS No.: 848301-66-6 REACH Reg. No.: 01-0000020121-90	Flam. Liq. 3; H226 Asp. Tox. 1; H304 EUH 066	0 < 50 %	
Renewable hydrocarbons (kerosene type fraction)	EC No.: 931-082-4 REACH Reg. No.: 01-2119850115-46	Flam. Liq. 3; H226 Asp. Tox. 1; H304 EUH 066	0 < 50 %	
Cumene	CAS No.: 98-82-8 EC No.: 202-704-5 Index No.: 601-024-00-X	Flam. Liq. 3; H226 Asp. Tox. 1; H304 STOT SE 3; H335 Carc. 1B; H350 Aquatic Chronic 2; H411	≥ 0 < 2 %	
Description of the mixture	Complex mixture of hydrocarbons consisting of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons with carbon numbers predominantly in the C9 to C16 range. (including xylene, trimethylbenzenes, naphthalene, cumene og ethylbenzene). Small amounts of hydrogen sulfide can be present in both vapor and liquid. May also contain several additives at <0.1% v/v each.			
Substance comments	For substances without REACH registration number, no information has been provided by the subcontractor or manufacturer. See section 16 for explanation of hazard statements (H) listed above.			

## SECTION 4: First aid measures

## 4.1. Description of first aid measures

General	Emergency telephone number: see section 1.4. In case of unconsciousness or severe accidents, call 113.
Inhalation	Provide rest, warmth and fresh air. Get medical attention if any discomfort continues. In case of unconsciousness, loosen tight-fitting clothing. If respiratory problems, provide artificial respiration or oxygen. Seek medical advice.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Contact physician if irritation persists.
Eye contact	Promptly rinse eyes with plenty of water (tempered at 20-30°C) for at least 15 minutes. Remove contact lenses and open eyes wide apart. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention immediately!

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

General symptoms and effects	Risk of chemical pneumonia (pneumonitis) if aspirated during and after ingestion.
Acute symptoms and effects	Inhalation: Inhalation of vapors can be harmful and overexposure can cause headaches, nausea, vomiting and intoxication symptoms. The chemical may contain small amounts of hydrogen sulphide which, when exposed to severe exposure (inhalation), can cause cellular asphyxia, rhinitis, bronchitis and occasional pulmonary edema. Vapours may cause drowsiness and dizziness. Skin contact: The chemical irritates the skin and can cause itching, burning and redness. Parts of the chemical might be absorbed through the skin. Eye contact: May cause eye irritation. Symptoms may be stinging pain and redness in the eyes. Ingestion: Symptoms such as coughing, breathing difficulties, vomiting or lethargy may indicate chemical pneumonitis.
Delayed symptoms and effects	May cause skin defatting with prolonged exposure. Symptoms of chemical pneumonia may occur within 24 hours of difficulty breathing and coughing. May cause cancer.

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

Medical monitoring for delayed effects	Delayed effects, such as symptoms of chemical pneumonia after aspiration, should be medically monitored.
Other information	Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	In case of major fire and large quantities: Foam. Water spray, fog or mist. Small fires: Powder. Carbon dioxide (CO <sub>2</sub> ). Sand. Earth.
Improper extinguishing media	Do not use water jet. Avoid using foam and water on the same surface at the

same time as the water will destroy the foam.

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

Fire and explosion hazards	<p>Flammable liquid and vapour.</p> <p>Static accumulator: This product may accumulate static electricity. Can form explosive gas-air mixtures. Vapours are heavier than air and may spread near ground to sources of ignition.</p> <p>Closed containers can burst violently when heated, due to excess pressure build-up.</p>
Hazardous combustion products	<p>May include, but is not limited to:</p> <p>Carbon dioxide (CO<sub>2</sub>).</p> <p>Carbon monoxide (CO).</p> <p>Unspecified organic compounds.</p>

## 5.3. Advice for firefighters

Personal protective equipment	Use compressed air equipment when the chemical is involved in fire. In case of evacuation, an approved protection mask should be used. See also section 8.
Other information	If there is no risk involved, move the containers to a safe place. If not possible, cool with water from a safe position. Extinguishing water must not be discharged into drains.

## SECTION 6: Accidental release measures

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

General measures	Evacuate area. Provide adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Larger spills are reported to the authorities at the fire service, tel: 110.
Personal protection measures	<p>Provide adequate ventilation. Use protective equipment as referred to in section 8.</p> <p>Avoid inhalation of vapours and contact with skin and eyes.</p>

### 6.2. Environmental precautions

Environmental precautionary measures	Do not allow to enter into sewer, water system or soil. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body. Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.
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### 6.3. Methods and material for containment and cleaning up

Clean up	<p>Remove ignition sources and work with non-sparking tools.</p> <p>Small Spillages: Collect with absorbent, non-combustible material into suitable containers. Proposals for inert materials: sand, kieselguhr, universal binder. Do not use sawdust or other combustible material. Collect in a suitable container and dispose as hazardous waste according to section 13.</p> <p>For large spills: In cases where a lot of liquid is spilled (&gt; 1 barrel), the spill is transferred mechanically by, for example, a vacuum tank truck which transports the waste to a collection tank for recycling or safe disposal. Do not rinse material</p>
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Other information	debris with water. Vapours may form explosive mixtures with air on the ground.
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**6.4. Reference to other sections**

Other instructions	See also sections 7, 8 and 13.
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**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Handling	<p>Provide adequate ventilation. Mechanical ventilation or local exhaust ventilation may be required. Use protective equipment as referred to in section 8. Avoid inhalation of vapours and contact with skin and eyes. Avoid swallowing.</p> <p>Product transfer: Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling ( for large storage tanks) before opening hatches or manholes.</p> <p>Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<math>\leq 1</math> m/s until fill pipe submerged to twice its diameter, then <math>\leq 7</math> m/s).</p>
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**Protective safety measures**

Safety measures to prevent fire	<p>Do not use near naked flames or glowing materials. Keep away from sources of ignition - No smoking.</p> <p>Do not spray on a naked flame or red-hot material.</p> <p>Take precautionary measures against static discharges.</p> <p>Ground / bond container and receiving equipment.</p> <p>Use explosion-proof electrical / ventilating / lighting / / equipment.</p> <p>Use only non-sparking tools.</p> <p>The vapours are heavier than air and will spread along the floor. The vapours may form explosive mixtures with air.</p>
Advice on general occupational hygiene	<p>Do not eat, drink or smoke during work. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash contaminated clothing before reuse. Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse.</p>

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

Storage	<p>Store in tightly closed original container in a well-ventilated place.</p> <p>Storage in drums and in small containers: Use approved containers. Follow rules for flammable liquids.</p>
Conditions to avoid	<p>Avoid heat, flames and other sources of ignition. Protect from sunlight.</p>

## Conditions for safe storage

Packaging compatibilities	<p>Suitable material: For containers, or container linings use carbon steel and low alloy steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. For container linings the following may also be used: Unplasticized polyvinyl chloride (U-PVC), Fluoropolymers (PTFE), Polyvinylidene fluoride (PVDF), Polyetheretherketone (PEEK), Polyamide (PA-11). For seals and gaskets use: Fluoroelastomer (FKM), Viton A, and Viton B, Nitrile butadiene (NBR), Buna-N. For coating (paint) materials use: High build, amine adduct-cured epoxy.</p> <p>Unsuitable material: For containers or container linings, examples of materials to avoid are: Polyethylene (PE, HDPE), Polypropylene (PP), Polymethyl methacrylate (PMMA), Acrylonitrile butadiene styrene (ABS). For seals and gaskets, examples of materials to avoid are: Natural rubber (NR), Ethylene Propylene (EPDM), Polychloroprene (CR) - Neoprene, Butyl (IIR), Chlorosulphonated polyethylene (CSM), e.g. Hypalon.</p>
Advice on storage compatibility	Keep away from: Strong oxidizing agents. Food and feed.

### 7.3. Specific end use(s)

Specific use(s)	See section 1.2. See exposure scenario.
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## SECTION 8: Exposure controls / personal protection

### 8.1. Control parameters

Substance	Identification	Exposure limits	TWA Year
Decanes and higher aliphatic hydrocarbons		Country of origin: Norwegian ADN Limit value (8 h) : 40 ppm Limit value (8 h) : 275 mg/m <sup>3</sup>	
Cumene	CAS No.: 98-82-8	Limit value (8 h) : 10 ppm Limit value (8 h) : 50 mg/m <sup>3</sup> <b>Exposure limit letter</b> Letter code: H, K, E Limit value (8 h) : 50 ppm Limit value (8 h) : 250 mg/m <sup>3</sup> <b>Exposure limit letter</b> Letter code: S	
Xylen	CAS No.: 1330-20-7	Limit value (8 h) : 25 ppm Limit value (8 h) : 108 mg/m <sup>3</sup> H	
Trimethylbenzen		Limit value (8 h) : 20 ppm Limit value (8 h) : 100 mg/m <sup>3</sup> <b>Exposure limit letter</b> Letter code: E Comments: Mesitylene (trimethylbenzenes)	
Naphthalene	CAS No.: 91-20-3	Limit value (8 h) : 10 ppm	

		Limit value (8 h) : 50 mg/m <sup>3</sup> <b>Exposure limit letter</b> Letter code: E
Hydrogen sulphide	CAS No.: 7783-06-4	Limit value (8 h) : 5 ppm Limit value (8 h) : 7 mg/m <sup>3</sup> <b>Limit value (short term)</b> Value: 10 ppm <b>Limit value (short term)</b> Value: 14 mg/m <sup>3</sup>
Ethylbenzene	CAS No.: 100-41-4	Limit value (8 h) : 20 mg/m <sup>3</sup> Limit value (8 h) : 5 ppm <b>Exposure limit letter</b> Letter code: H, K, E

Control parameters comments	<p>Hydrogen sulphide has notations; T for 10ppm/14 mg/m<sup>3</sup>.</p> <p>Explanation of the notations:</p> <p>E = The EU has adopted a recommended limit value for the substance.</p> <p>H = Can be absorbed through the skin.</p> <p>Carc = Capable of causing cancer and/or heritable genetic damage.</p> <p>S = The short-term exposure limit: the average concentration of a chemical substance in an employee's breathing zone that must not be exceeded over a given reference period. The reference period is 15 minutes unless otherwise specified.</p> <p>T = ceiling value</p> <p>References (laws/regulations):</p> <p>Norwegian regulation on exposure limits: FOR 2011-12-06 nr. 1358 Forskrift om tiltaks- og grenseverdier (sist endret gjennom FOR-2024-05-15-785).</p>
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## DNEL / PNEC

DNEL	Comments: No data available
PNEC	Comments: Substance is a hydrocarbon with a complex, unknown or variable composition. Conventional methods of deriving PNECs are not appropriate and it is not possible to identify a single representative PNEC for such substances.
DMEL	Comments: No data available

## 8.2. Exposure controls

### Precautionary measures to prevent exposure

Technical measures to prevent exposure	<p>Explosion-proof general and local exhaust ventilation.</p> <p>Provide adequate ventilation. The personal protective equipment must be CE-marked and the latest version of the standards shall be used. The protective equipment and the specified standards recommended below are only suggestions, and should be selected on advice from the supplier of such equipment.</p> <p>A risk assessment of the work place/work activities (the actual risk) may lead to other control measures. The protection equipment's suitability and durability will depend on application.</p>
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### Eye / face protection

Eye protection equipment	Description: Wear approved chemical safety goggles where eye exposure is reasonably probable.
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Additional eye protection measures	Reference to relevant standard: EN ISO 16321-1:2022 (Eye and face protection for occupational use - Part 1: General requirements). Eye wash facilities should be available at the work place. Either a fixed eye wash facility connected to the drinking water (preferably warm water) or a portable disposable unit.
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## Hand protection

Suitable materials	Nitrile. For incidental contact/splash protection Neoprene, PVC gloves may be suitable.
Breakthrough time	Comments: Nitrilrubber: > 240 minutes
Thickness of glove material	Value: $\geq 0,3$ mm Comments: (From literature)
Hand protection equipment	Description: Use chemical resistant gloves. Glove thickness must be chosen in consultation with the glove supplier, who can inform about the breakthrough time for the glove. The gloves abilities may vary among the different glove manufacturers. Reference to relevant standard: EN ISO 374 (Protective gloves against chemicals and micro-organisms). EN ISO 21420:2020 (Protective gloves - General requirements and test methods).
Additional hand protection measures	Replace gloves if signs of wear and tear. Gloves must only be worn on clean, dry hands. Wash promptly with soap & water if skin becomes contaminated.

## Skin protection

Recommended protective clothing	Description: Use appropriate antistatic protective clothing.
Additional skin protection measures	Remove contaminated clothing and wash the skin thoroughly with soap and water after work. Wash contaminated clothing before reuse. Contaminated leather items including shoes cannot be decontaminated and should be destroyed to prevent further use. Emergency shower should be available at the workplace.

## Respiratory protection

Recommended respiratory protection	Description: In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with combination filter (type A/P2). At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. Reference to relevant standard: EN 14387 (Respiratory protective devices. Gas filter(s) and combined filter(s). Requirements, testing, marking). EN 12083 (Respiratory protective devices. Filters with breathing hoses, (Non-mask mounted filters). Particle filters, gas filters, and combined filters. Requirements, testing, marking).
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## Thermal hazards

Thermal hazards	Not relevant.
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## Appropriate environmental exposure control

Environmental exposure controls	Do not allow to enter into sewer, water system or soil.
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Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

## SECTION 9: Physical and chemical properties

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

Physical state	Liquid.
Colour	Colourless.
Odour	Data lacking.
pH	Comments: Not relevant. Insoluble in water.
Freezing point	Value: < - 20 °C
Boiling point / boiling range	Value: 150 - 290 °C Comments: Typical
Flash point	Value: 38 -51 °C
Flammability	Flammable liquid and vapor.
Explosion limit	Comments: Not specified by the manufacturer.
Vapour pressure	Value: 1 - 21 kPa Temperature: 37, 8 °C  Value: 1 - 3,7 kPa Temperature: 38,0 °C  Value: 1,6 - 7 kPa Temperature: 50,0 °C
Vapour density	Value: > 1 Comments: Air=1.
Particle characteristics	Comments: Not relevant for liquids.
Relative density	Value: 0,75 - 0,86 Comments: Water = 1 Temperature: 15 °C
Density	Value: ~ 799 kg/m <sup>3</sup> Comments: Typical Temperature: 15 °C
Bulk density	Comments: Data lacking.
Solubility	Medium: Water Comments: Insignificant.
Partition coefficient: n-octanol/ water	Value: 2 - 10 Comments: Typical
Auto-ignition temperature	Value: > 220 °C
Decomposition temperature	Comments: Data lacking.
Viscosity	Value: 1 - 2,5 mm <sup>2</sup> /s Comments: Typical Temperature: 40 °C Type: Kinematic

Explosive properties	The chemical is not explosive, but may form explosive mixtures with air.
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## 9.2. Other information

### Physical hazards

Oxidising liquids	Assessment: Not oxidizing.
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#### 9.2.2. Other safety characteristics

Conductivity	Comments: 50 - 600 pS/m
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity	Oxidises on contact with air.
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### 10.2. Chemical stability

Stability	Stable under normal temperature conditions and recommended use.
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### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	May arise in contact with incompatible materials (see section 10.5) and/or under inappropriate conditions (see section 10.4).
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### 10.4. Conditions to avoid

Conditions to avoid	Heat, sparks or open flame. Take precautionary measures against static discharge. Protect from sunlight.
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### 10.5. Incompatible materials

Materials to avoid	Strong oxidizing agents.
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### 10.6. Hazardous decomposition products

Hazardous decomposition products	None under normal conditions. See also section 5.2.
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## SECTION 11: Toxicological information

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

#### Other information regarding health hazards

Acute toxicity, mixture estimate	Dose: LD50
	Route of exposure: Oral
	Value: > 2000 mg/kg
	Comments: Rat
	Dose: LC50
	Route of exposure: Inhalation.
	Value: > 5 mg/l

	<p>Comments: Rat /4 hours</p> <p>Dose: LD50</p> <p>Route of exposure: Dermal</p> <p>Value: &gt; 2000 mg/kg</p> <p>Comments: Rabbit</p>
Assessment of acute toxicity, classification	Based on available data, the classification criteria are not met.
Assessment of skin corrosion / irritation, classification	Irritating to skin.
Assessment of eye damage or irritation, classification	Based on available data, the classification criteria are not met.
Assessment of respiratory sensitisation, classification	Based on available data, the classification criteria are not met.
Assessment of skin sensitisation, classification	Based on available data, the classification criteria are not met.
Assessment of germ cell mutagenicity, classification	Based on available data, the classification criteria are not met.
Assessment of carcinogenicity, classification	<p>May cause cancer.</p> <p>The classification as carcinogenic category 1B is based on lung tumors in mice supported by nasal and kidney tumors in rats.</p>
Assessment of reproductive toxicity, classification	Based on available data, the classification criteria are not met.
Assessment of specific target organ toxicity - single exposure, classification	May cause drowsiness or dizziness.
Assessment of specific target organ toxicity - repeated exposure, classification	Based on available data, the classification criteria are not met.
Assessment of aspiration hazard, classification	May be fatal if swallowed and enters airways.

## Symptoms of exposure

In case of ingestion	Ingestion may cause the same symptoms as by inhalation. Symptoms such as coughing, breathing difficulties, vomiting or lethargy may indicate chemical pneumonitis.
In case of skin contact	The chemical irritates the skin and can cause itching, burning and redness. Parts of the chemical might be absorbed through the skin. Absorption through the skin will give similar symptoms as for inhalation. May cause skin defatting with prolonged exposure.
In case of inhalation	<p>Vapours may cause drowsiness and dizziness. Inhalation of vapors can be harmful and overexposure can cause headaches, nausea, vomiting and intoxication symptoms.</p> <p>The chemical may contain small amounts of hydrogen sulphide which in case of severe exposure (inhalation) can lead to cellular asphyxia, rhinitis, bronchitis and occasional pulmonary oedema. inhalation of va</p>
In case of eye contact	May cause temporary eye irritation. May cause stinging and redness.

## 11.2 Other information

Endocrine disruption	None of the substances listed in section 3.2 is listed on ECHA's Endocrine disruptor assessment list.
Other information	May cause cancer.

## SECTION 12: Ecological information

### 12.1. Toxicity

Substance	Kerosine (petroleum)
Aquatic toxicity, fish	<b>Value:</b> 0,098 mg/l <b>Effect dose concentration:</b> NOEC <b>Test reference:</b> Petrotox model <b>Comments:</b> Source: REACH dossier information.
Substance	Kerosine (petroleum), hydrodesulfurized
Aquatic toxicity, fish	<b>Value:</b> 0,098 mg/l <b>Effect dose concentration:</b> NOEC <b>Test reference:</b> Petrotox model <b>Comments:</b> Source: REACH dossier information.
Substance	Kerosine (petroleum)
Aquatic toxicity, algae	<b>Value:</b> 1 - 3 mg/l <b>Effect dose concentration:</b> EL50 <b>Test duration:</b> 72 hour(s) <b>Species:</b> Raphidocelis subcapitata <b>Test reference:</b> OECD 201 <b>Comments:</b> Source: REACH dossier information.
Substance	Kerosine (petroleum), hydrodesulfurized
Aquatic toxicity, algae	<b>Value:</b> 1 - 3 mg/l <b>Effect dose concentration:</b> EL50 <b>Test duration:</b> 72 hour(s) <b>Species:</b> Raphidocelis subcapitata <b>Test reference:</b> OECD 201 <b>Comments:</b> Source: REACH dossier information.
Substance	Kerosine (petroleum)
Aquatic toxicity, crustacean	<b>Value:</b> 0,89 mg/l <b>Effect dose concentration:</b> EL50 <b>Species:</b> Daphnia magna <b>Comments:</b> Source: REACH dossier information.
Substance	Kerosine (petroleum), hydrodesulfurized
Aquatic toxicity, crustacean	<b>Value:</b> 0,89 mg/l <b>Effect dose concentration:</b> EL50 <b>Species:</b> Daphnia magna <b>Comments:</b> Source: REACH dossier information.
Ecotoxicity	Toxic to aquatic life with long lasting effects.

### 12.2. Persistence and degradability

Persistence and degradability description/evaluation	All organic components are considered biodegradable. Volatile solvents are rapidly oxidized by photochemical reaction in air.
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### 12.3. Bioaccumulative potential

Bioaccumulation, evaluation	The product contains potentially bioaccumulating substances.
Bioaccumulation, comments	Log Pow: 2- 10.

### 12.4. Mobility in soil

Mobility	Evaporates within one day from water or soil surfaces. May contaminate soil and groundwater. Floats on water.
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### 12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	The substances do not meet current criteria for vPvB or PBT(very persistent and very bioaccumulative or Persistent, Bioaccumulative and Toxic).
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### 12.6. Endocrine disrupting properties

Endocrine disrupting properties	None of the substances listed in section 3.2 is listed on ECHA's Endocrine disruptor assessment list.
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### 12.7. Other adverse effects

Additional ecological information	Forms an oil film on water surfaces that may harm organisms in the water and disrupt oxygen transport in the boundary layer between air and water. Do not allow to enter into sewer, water system or soil.
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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Appropriate methods of disposal for the chemical	Disposed of as hazardous waste by approved contractor. The waste code (EWC-Code) is intended as a guide. The code must be chosen by the user, if the use differs from the one mentioned below.
EWC waste code	EWC waste code: 13 07 03 other fuels (including mixtures) Classified as hazardous waste: Yes  EWC waste code: 13 07 01 fuel oil and diesel Classified as hazardous waste: Yes
NORSAS	7023 Fuel and heating oil.
Other information	Do not empty into drains. Barrels are sent for reconditioning or metal recycling. Empty the container thoroughly. Vent the empty container in a safe place, away from sparks and fire. Spill products can pose an explosion hazard if heated above their flash point. It is not permitted to puncture, cut or weld barrels that have not been cleaned. Follow all local regulations for recycling and waste disposal.

## SECTION 14: Transport information

Dangerous goods	Yes
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#### 14.1. UN number

ADR/RID/ADN	1863
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IMDG	1863
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ICAO/IATA	1863
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#### 14.2. UN proper shipping name

Proper shipping name English	FUEL, AVIATION, TURBINE ENGINE
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ADR/RID/ADN	
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ADR/RID/ADN	FUEL, AVIATION, TURBINE ENGINE
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IMDG	FUEL, AVIATION, TURBINE ENGINE
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ICAO/IATA	FUEL, AVIATION, TURBINE ENGINE
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#### 14.3. Transport hazard class(es)

ADR/RID/ADN	3
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Classification code ADR/RID/ADN	F1
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IMDG	3
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ICAO/IATA	3
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#### 14.4. Packing group

ADR/RID/ADN	III
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IMDG	III
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ICAO/IATA	III
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#### 14.5. Environmental hazards

IMDG Marine pollutant	Yes
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#### 14.6. Special precautions for user

Special safety precautions for user	Not specified by the manufacturer.
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#### 14.7. Maritime transport in bulk according to IMO instruments

Transport in bulk (yes/no)	No
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#### Additional information

Hazard label ADR/RID/ADN	3
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Hazard label IMDG	3
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Hazard label ICAO/IATA	3
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#### ADR/RID Other information

Tunnel restriction code	D/E
Transport category	3
Hazard No.	30
Other applicable information ADR/ RID	30

### IMDG Other information

EmS	F-E, S-E
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## SECTION 15: Regulatory information

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

Restriction of chemicals according to Annex XVII (REACH)	For professional use only.
References (laws/regulations)	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP-regulation) with later amendments. Regulation (EC) No 1907/2006 on the registration, evaluation, authorization and restriction of chemicals (REACH Regulation), with later amendments. Norwegian regulation on waste, 01.06.2004 no. 930, with later amendments. Norwegian regulation on dangerous goods: FOR 2009-04-01 nr 384: Forskrift om landtransport av farlig gods med senere endringer, Direktoratet for samfunnssikkerhet og beredskap. Norwegian regulation on declaration: FOR-2015-05-19-541, 01.06.2015 with later amendments.
Declaration No.	325758


### 15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
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## SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)	EUH 066 Repeated exposure may cause skin dryness or cracking. H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H350 May cause cancer . H411 Toxic to aquatic life with long lasting effects.
Key literature references and sources for data	The Safety Data Sheet is based on information provided by the producer. Earlier version(s) of the safety data sheet. Safety data sheet from supplier dated 27.11.2023.
Abbreviations and acronyms used	ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road



	<p>DMEL: derived minimal effect level; For non-threshold effects, the underlying assumption is that a no-effect-level cannot be established, so a DMEL therefore expresses an exposure level corresponding to a low, possibly theoretical risk, which should be seen as a tolerable risk.</p> <p>DNEL: Derived No Effect Level</p> <p>EWC: European Waste Code (a code from the EU's common classification system for waste)</p> <p>EC50: The effective concentration of substance that causes 50% of the maximum response</p> <p>EL50: The effective concentration of substance (slightly soluble) that causes 50% of the maximum response.</p> <p>IATA: The International Air Transport Association</p> <p>ICAO: The International Civil Aviation Organisation</p> <p>IMDG: The International Maritime Dangerous Goods Code</p> <p>IMO: International Maritime Organization</p> <p>LC50: Median concentration lethal to 50% of a test population.</p> <p>LD50: Lethal dose, is the amount of a substance given to a group of test animals, which causes the death of 50%.</p> <p>Log Pow: Partition coefficient: n-octanol / water</p> <p>NOEC: No observed effect concentration</p> <p>OECD: Organisation for Economic Cooperation and Development.</p> <p>PBT: Persistent, Bioaccumulative and Toxic</p> <p>PNEC: Predicted No Effect Concentration</p> <p>RID: The Regulations concerning the International Carriage of Dangerous Goods by Rail</p> <p>vPvB: very Persistent and very Bioaccumulative</p>
Information added, deleted or revised	Sections being revised since previous version: 1 - 16
Checking quality of information	This SDS is quality controlled by Kiwa Kompetanse AS in Norway, certified according to the Quality Management System requirements specified in ISO 9001:2015.
Version	2
Prepared by	Kiwa Kompetanse, Norway by SR
Contents or index of annexed ES	<p>1 Manufacture of substance- Industrial</p> <p>2 Use as an intermediate- Industrial</p> <p>3 Distribution of substance- Industrial</p> <p>4 Formulation &amp; (re)packing of substances and mixtures- Industrial</p> <p>5 Use as a fuel- Industrial</p> <p>6 Use as a fuel- Professional</p> <p>7 Use as a fuel - Consumer</p>
Exposure scenario	 <a href="#">ES JET A-1 EN.pdf</a>