

SAFETY DATA SHEET

Synthetic Jet Fuel Blend Component Hydrogenated Esters and Fatty Acids



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

1.1 Product identifier

Product name : Synthetic Jet Fuel Blend Component Hydrogenated Esters and Fatty Acids
EC number : 931-082-4
REACH Registration number

Registration number	Legal entity
01-2119850115-46-0000	-

CAS number : Not available.

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

Material uses : Fuel additive.

Identified uses
Distribution of substance Formulation and (re)packing of substances and mixtures Use as a fuel

1.3 Details of the supplier of the safety data sheet

Supplier : Kuwait Petroleum, naftna družba, d.o.o.
Trg republike 3, 1000 Ljubljana, Slovenia

Manufacturer / Distributor : Kuwait Petroleum International
Aviation Company (UK) LTD
Duke's Court, Duke Street
GU21 5GH Woking, Surrey
United Kingdom
Tel. +44 (0) 01483 757747

e-mail address of person responsible for this SDS : SDSinfo@Q8.com, communication preferably in English only.

PCN Information contact : PCNinfo@Q8.com, communication preferably in English only.

1.4 Emergency telephone number

Europe : +44 (0) 1235 239 670

Global (English only) : +44 (0) 1865 407 333



National advisory body/Poison Center

Slovenia : Emergency Number : 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mono-constituent substance

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

FLAMMABLE LIQUIDS	Category 3	H226
ASPIRATION HAZARD	Category 1	H304

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity : None.

Synthetic Jet Fuel Blend Component Hydrogenated Esters and Fatty Acids

SECTION 2: Hazards identification

Ingredients of unknown ecotoxicity : None.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H226 - Flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.

Precautionary statements

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

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

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Renewable hydrocarbons (kerosene type fraction)

Supplemental label elements : EUH066 - Repeated exposure may cause skin dryness or cracking.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

PBT	P	B	T	vPvB	vP	vB
No	N/A	N/A	No	N/A	N/A	N/A

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : Mono-constituent substance

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Renewable hydrocarbons (kerosene type fraction)	REACH #: 01-2119850115-46 EC: 931-082-4	100	Flam. Liq. 3, H226 Asp. Tox. 1, H304 EUH066 See Section 16 for the full text of the H statements declared above.	-	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

SECTION 4: First aid measures

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Hazardous combustion products** : No specific data.

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonnes	50000 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name

Renewable hydrocarbons (kerosene type fraction)

Result

DNEL - Workers - Long term - Dermal

42 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Inhalation

147 mg/m³

Effects: Systemic

PNECs

Not available.

8.2 Exposure controls

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures

: Do not ingest. If swallowed then seek immediate medical assistance.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Wear suitable gloves tested to EN374. Recommended: < 1 hour (breakthrough time): nitrile rubber 0.17 mm.

SECTION 8: Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Boiling point > 65 °C: A1; Boiling point < 65 °C: AX1; Hot material: A1P2. Gas and combination filter cartridges should comply with the European standard EN14387.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid. [Mobile liquid.]
- Appearance** : Not available.
- Color** : Clear
- Odor** : Mild.
- Odor threshold** : Not available.
- Melting point/freezing point** : <-40°C (<-40°F) [IP 529]
- Boiling point or initial boiling point and boiling range** : 115 to 300°C (239 to 572°F) [ASTM D 86]
- Flammability** : Not available.
- Lower and upper explosion limit** : Not available.
- Flash point** : Closed cup: >38°C (>100.4°F) [IP 170]
- Auto-ignition temperature** : 200 to 215°C (392 to 419°F)
- Decomposition temperature** : Not available.
- pH** : Not applicable.
- Viscosity** : Kinematic (40°C (104°F)): <7 mm²/s (<7 cSt) [EN ISO 3104]
- Solubility** :

Media	Result
water	Not soluble

- Partition coefficient n-octanol/ water (log Pow)** : >6.2 [OECD 117]

- Vapor pressure** : <0.1 kPa (<0.75006 mm Hg)
- Density** : 0.73 to 0.77 g/cm³ [ASTM D 4052]
- Relative vapor density** : Not available.

Particle characteristics

- Median particle size** : Not applicable.

SECTION 9: Physical and chemical properties

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties : Not applicable.

Oxidizing properties : Not applicable.

9.2.2 Other safety characteristics

Miscible with water : No.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity

Not available.

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met.

Acute toxicity estimates

N/A

Skin corrosion/irritation

Not available.

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Serious eye damage/eye irritation

Not available.

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met.

SECTION 11: Toxicological information

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met.

Respiratory

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
Renewable hydrocarbons (kerosene type fraction)	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: Defatting to the skin. May cause skin dryness and irritation.
Ingestion	: May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: Adverse symptoms may include the following: irritation dryness cracking
Ingestion	: Adverse symptoms may include the following: nausea or vomiting

SECTION 11: Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Based on available data, the classification criteria are not met.

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Not available.

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Renewable hydrocarbons (kerosene type fraction)	>6.2	-	High

12.4 Mobility in soil

Soil/Water partition coefficient

Not available.

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Renewable hydrocarbons (kerosene type fraction)	No	No	No	No	No	No	No

Mobility : Not available.

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SECTION 12: Ecological information

Conclusion/Summary : The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

According to the results of its assessment, this substance is not a PBT or a vPvB.

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

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Renewable hydrocarbons (kerosene type fraction)	No	No	No	No	No	No	No

Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] : The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN1863	UN1863	UN1863	UN1863
14.2 UN proper shipping name	FUEL, AVIATION, TURBINE ENGINE	FUEL, AVIATION, TURBINE ENGINE	FUEL, AVIATION, TURBINE ENGINE	Fuel, aviation, turbine engine
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	No.	No.	No.

Additional information

ADR/RID

: **Hazard identification number** 30
Limited quantity 5 L
Special provisions 664
Tunnel code (D/E)

IMDG

: **Emergency schedules** F-E, S-E
Special provisions 223

IATA

: **Quantity limitation** Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 10 L. Packaging instructions: Y344.
Special provisions A3

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
Renewable hydrocarbons (kerosene type fraction)	100	3

Labeling : Not applicable.

Other EU regulations

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SECTION 15: Regulatory information

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Explosive precursors : Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants (1021/2019/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
P5c

National regulations

Germany

Hazard class for water (WGK) : 1

Switzerland

VOC content : Exempt.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : This material is listed or exempted.

China : Not determined.

Eurasian Economic Union : **Russian Federation inventory:** This material is listed or exempted.

Japan : **Japan inventory (CSCL):** Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

SECTION 15: Regulatory information

Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States of America	: This material is active or exempted.
Viet Nam	: Not determined.

15.2 Chemical Safety Assessment : Complete.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms	: ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway : ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road : ASTM = American Society for Testing and Materials : ATE = Acute Toxicity Estimate : BCF = Bioconcentration Factor : CAS = Chemical Abstracts Service : CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] : DIN = German Institute for Standardization : DMEL = Derived Minimal Effect Level : DNEL = Derived No Effect Level : EC = European Commission : EC50 = Half maximal effective concentration : EN = European Standard (Norm) : EUH statement = CLP-specific Hazard statement : GHS - Globally Harmonized System of Classification and Labeling of Chemicals : IATA = International Air Transport Association : IBC = Intermediate Bulk Container : IC50 = Half maximal inhibitory concentration : IMDG = International Maritime Dangerous Goods : IMO = International Maritime Organisation : ISO = International Organization for Standardization : LC50 = Median lethal concentration : LD50 = Median lethal dose : LOAEL / LOAEC = Lowest Observed Adverse Effect Level / Concentration : MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) : N/A = Not available : NOAEL / NOAEC = No Observed Adverse Effect Level / Concentration : NOEL / NOEC = No Observed Effect Level / Concentration : OECD = Organisation for Economic Co-operation and Development : OEL = Occupational Exposure Limit : PBT = Persistent, Bioaccumulative and Toxic : PNEC = Predicted No Effect Concentration : REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006] : RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail : SDS = Safety Data Sheet : SVHC = Substances of Very High Concern : STEL = Short Term Exposure Limit : TLV = Threshold Limit Value : TWA = Time Weighted Average : UFI = Unique Formula Identifier : UN = United Nations : VOC = Volatile Organic Compound : vPvB = Very Persistent and Very Bioaccumulative
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Synthetic Jet Fuel Blend Component Hydrogenated Esters and Fatty Acids

SECTION 16: Other information

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226 Asp. Tox. 1, H304	Expert judgment Expert judgment

Full text of abbreviated H statements

H226	Flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications [CLP/GHS]

Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3

- Training advice : Ensure operatives are trained to minimise exposures.
- Date of printing : 29-10-2025
- Date of issue/ Date of revision : 29-10-2025
- Date of previous issue : No previous validation
- Version : 1
- Prepared by : Kuwait Petroleum Research & Technology B.V., The Netherlands

Notice to reader

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

- Product definition** : Mono-constituent substance
- Product name** : Synthetic Jet Fuel Blend Component Hydrogenated Esters and Fatty Acids

Section 1 - Title

- Short title of the exposure scenario** : Distribution of substance; Industrial
- List of use descriptors** : **Identified use name:** Distribution of substance
Process Category: PROC02, PROC03, PROC08a, PROC08b, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU08
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC01, ERC02
Article category related to subsequent service life: Not applicable.

- Processes and activities covered by the exposure scenario** : Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

Section 2 - Exposure controls

- Contributing scenario controlling environmental exposure for 1:**
- Product characteristics** : Substance is complex UVCB. Predominantly hydrophobic. Readily biodegradable.
- Amounts used** : Annual amount per site: 170 000 tonnes
- Frequency and duration of use** : Emission days: 300 days per year
- Environment factors not influenced by risk management** : Local freshwater dilution factor: 10
 Local marine water dilution factor: 100
- Other operational conditions of use affecting environmental exposure** : Release fraction to air from process (initial release prior to RMM): 0.00001
 Release fraction to wastewater from process (initial release prior to RMM): 0.000000047
 Release fraction to soil from process (initial release prior to RMM): 0.00001
- Technical conditions and measures at process level (source) to prevent release** : Bund storage facilities to prevent soil and water pollution in the event of spillage.
 Ensure no splashing occurs during transfer.
- Risk management measures - Air** : Air emission controls are not applicable as there is no direct release to air.
- Risk management measures - Water** : Not applicable as there is no release to wastewater.
- Risk management measures - Soil** : Soil emission controls are not applicable as there is no direct release to soil.
- Conditions and measures related to external treatment of waste for disposal** : Dispose of waste in accordance with environmental legislation.

Contributing scenario controlling worker exposure for 2:

General exposures (closed systems)
Material transfers
Ensure operation is undertaken outdoors.

Product sampling
Ensure operation is undertaken outdoors.
Wear suitable gloves tested to EN374.

Laboratory activities
Wear suitable gloves tested to EN374.
Handle in a fume cupboard or under extract ventilation.

Bulk transfers (Closed system)
road tanker/rail car loading
Wear suitable gloves tested to EN374.
Use vapor recovery units when necessary.
Ensure operation is undertaken outdoors.

Bulk transfers (Closed systems)
marine vessel/barge (un)loading
Wear suitable gloves tested to EN374.
Ensure operation is undertaken outdoors.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.
Wear suitable gloves tested to EN374.
All waste product is assumed to be collected and returned for re-processing or use as a fuel.

Storage
Transfer via enclosed lines.
Store substance within a closed system.
Ensure operation is undertaken outdoors.

Product characteristics : Vapor pressure < 0.5 kPa at STP.

Concentration of substance in mixture or article : Covers use of substance/product up to 100 % (unless stated differently).

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours unless stated differently.

Other operational conditions affecting worker exposure : Assumes a good basic standard of occupational hygiene is implemented Assumes activities are at ambient temperature (unless stated differently).

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : EUSES

Exposure estimation and reference to its source : RCR <= 0.30
Sediment (Marine water)

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human): : ECETOC TRA

Exposure estimation and reference to its source : Dermal
RCR $\leq$ 0.33
Equipment cleaning and maintenance

Inhalation
RCR $\leq$ 0.20
Product sampling
marine vessel/barge (un)loading

All Route RCR $\leq$ 0.38
Equipment cleaning and maintenance

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Health : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Mono-constituent substance
Product name : Synthetic Jet Fuel Blend Component Hydrogenated Esters and Fatty Acids

Section 1 - Title

Short title of the exposure scenario : Formulation and (re)packing of substances and mixtures; Industrial
List of use descriptors : **Identified use name:** Formulation and (re)packing of substances and mixtures
Process Category: PROC02, PROC03, PROC08a, PROC08b, PROC15
Substance supplied to that use in form of: As such
Sector of end use: SU10, SU03
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02
Article category related to subsequent service life: Not applicable.

Processes and activities covered by the exposure scenario : Formulation of the substance and its mixtures in batch or continuous operations within closed or contained systems, including incidental exposures during storage, materials transfers, mixing, maintenance, sampling and associated laboratory activities.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

Product characteristics : Substance is complex UVCB. Predominantly hydrophobic. Readily biodegradable.

Amounts used : Annual amount per site: 170 000 tonnes
 Fraction of regional tonnage used locally: 0.6

Frequency and duration of use : Emission days: 300 days per year

Environment factors not influenced by risk management : Local freshwater dilution factor: 10
 Local marine water dilution factor: 100

Other operational conditions of use affecting environmental exposure : Release fraction to air from process (initial release prior to RMM): 0.00033
 Release fraction to wastewater from process (initial release prior to RMM): 0.000000047
 Release fraction to soil from process (initial release prior to RMM): 0.0001

Technical conditions and measures at process level (source) to prevent release : Bund storage facilities to prevent soil and water pollution in the event of spillage.

Risk management measures - Air : Air emission controls are not applicable as there is no direct release to air.

Risk management measures - Water : Not applicable as there is no release to wastewater.

Risk management measures - Soil : Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures related to external treatment of waste for disposal : Dispose of waste in accordance with environmental legislation.

Waste management measures - Water : Sewage sludge incineration

Contributing scenario controlling worker exposure for 2:

General exposures (closed systems)
With sample collection
No specific measures identified.

Mixing operations (Closed systems)
Transfer via enclosed lines.

Product sampling
Ensure operation is undertaken outdoors.
Wear suitable gloves tested to EN374.

Bulk transfers (Closed system)
No specific measures identified.

Laboratory activities
Handle in a fume cupboard or under extract ventilation.
Wear suitable gloves tested to EN374.

Equipment cleaning and maintenance
Drain down and flush system prior to equipment break-in or maintenance.
Wear suitable gloves tested to EN374.
All waste product is assumed to be collected and returned for re-processing or use as a fuel.

Storage
Transfer via enclosed lines.
Store substance within a closed system.
Ensure operation is undertaken outdoors.

Product characteristics	: Vapor pressure < 0.5 kPa at STP.
Concentration of substance in mixture or article	: Covers use of substance/product up to 100 % (unless stated differently).
Physical state	: Liquid
Frequency and duration of use/exposure	: Covers daily exposures up to 8 hours unless stated differently.
Other operational conditions affecting worker exposure	: Assumes a good basic standard of occupational hygiene is implemented Assumes activities are at ambient temperature (unless stated differently).

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : EUSES

Exposure estimation and reference to its source : RCR <= 0.26
Sediment (Marine water)

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human): : ECETOC TRA

Exposure estimation and reference to its source : Dermal
RCR $\leq$ 0.33
Equipment cleaning and maintenance

Inhalation
RCR $\leq$ 0.20
Product sampling

All Route RCR $\leq$ 0.38
Equipment cleaning and maintenance

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Health : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

- Product definition** : Mono-constituent substance
- Product name** : Synthetic Jet Fuel Blend Component Hydrogenated Esters and Fatty Acids

Section 1 - Title

- Short title of the exposure scenario** : Use as a fuel; Professional
- List of use descriptors** : **Identified use name:** Use as a fuel
Process Category: PROC02, PROC08a, PROC08b, PROC15, PROC01, PROC16
Substance supplied to that use in form of: As such
Sector of end use: SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC09b
Market sector by type of chemical product: PC13
Article category related to subsequent service life: Not applicable.

- Processes and activities covered by the exposure scenario** : Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste. (max. Concentration 50 %).

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1:

- Product characteristics** : Substance is complex UVCB. Predominantly hydrophobic. Readily biodegradable.
- Amounts used** : Annual amount per site: 170 000 tonnes
 Fraction of regional tonnage used locally: 0.6
- Frequency and duration of use** : Emission days: 365 days per year
- Environment factors not influenced by risk management** : Local freshwater dilution factor: 10
 Local marine water dilution factor: 100
- Other operational conditions of use affecting environmental exposure** : Release fraction to air from process (initial release prior to RMM): 0.0001
 Release fraction to wastewater from process (initial release prior to RMM): 0.0000001
 Release fraction to soil from process (initial release prior to RMM): 0.00001
- Technical conditions and measures at process level (source) to prevent release** : Bund storage facilities to prevent soil and water pollution in the event of spillage.
 Avoid splashing.
- Risk management measures - Air** : Treat air emission to provide a typical removal efficiency of 90%.
- Risk management measures - Water** : Not applicable as there is no release to wastewater.
- Risk management measures - Soil** : Soil emission controls are not applicable as there is no direct release to soil.
- Conditions and measures related to external treatment of waste for disposal** : Dispose of waste in accordance with environmental legislation.
- Waste management measures - Water** : Sewage sludge incineration

Conditions and measures related to external recovery of waste : This substance is consumed during use and no waste from the substance is generated.

Contributing scenario controlling worker exposure for 2:

Bulk transfers

Handle substance within a closed system.

Wear suitable gloves tested to EN374.

Use as a fuel

General exposures (closed systems)

No specific measures identified.

Process sampling

Wear suitable gloves tested to EN374.

Ensure operation is undertaken outdoors.

Laboratory activities

Handle in a fume cupboard or under extract ventilation.

Wear suitable gloves tested to EN374.

Drum/batch transfers

Use drum pumps or carefully pour from container.

Wear suitable gloves tested to EN374.

Equipment cleaning and maintenance

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

All waste product is assumed to be collected and returned for re-processing or use as a fuel.

Wear suitable gloves tested to EN374.

Vessel and container cleaning

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

All waste product is assumed to be collected and returned for re-processing or use as a fuel.

Wear suitable gloves tested to EN374.

Wear suitable coveralls to prevent exposure to the skin.

Provide enhanced general ventilation by mechanical means.

If above technical/organisational control measures are not feasible, then adopt following PPE:

- Wear positive-pressure air-supplied respirator, if required by safe entry procedures.

Storage

With sample collection

Transfer via enclosed lines.

Store substance within a closed system.

Ensure operation is undertaken outdoors.

Product characteristics : Vapor pressure < 0.5 kPa at STP.

Concentration of substance in mixture or article : Covers use of substance/product up to 100 % (unless stated differently).

Physical state : Liquid

Frequency and duration of use/exposure : Covers daily exposures up to 8 hours unless stated differently.

Other operational conditions affecting worker exposure : Assumes a good basic standard of occupational hygiene is implemented. Assumes activities are at ambient temperature (unless stated differently).

Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

Exposure estimation and reference to its source - Environment: 1:

Exposure assessment (environment): : EUSES

Exposure estimation and reference to its source : RCR $\leq$ 0.26
Sediment (Marine water)

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in section 2 are implemented.

Exposure estimation and reference to its source - Workers: 2:

Exposure assessment (human): : ECETOC TRA

Exposure estimation and reference to its source : Dermal
RCR $\leq$ 0.33
Product sampling
Equipment cleaning and maintenance
Vessel and container cleaning

Inhalation
RCR $\leq$ 0.61
Product sampling

All Route RCR $\leq$ 0.93
Product sampling

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Environment : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Health : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.