



Aviation Fuel JET-A1

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 6/28/2007

Revision date: 5/30/2017

Version: 3.0

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

1.1. Product identifier

Chemical type : Substance
Trade name : Aviation Fuel JET-A1
EC Index-No. : 649-423-00-8
EC-No. : 265-184-9
CAS-No. : 64742-81-0
REACH registration No : 01-2119462828-25
Product code : MOL_0511_001_MOL_0511_002

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Consumer use, Professional use
Industrial/Professional use spec : Manufacture of substance
Distribution of substance
Use as an intermediate
Formulation & (re)packing of substances and mixtures
Uses in Coatings
Use in Cleaning Agents
Metal working fluids / rolling oils
Use as binders and release agents
Use in Agrochemicals
Road and construction applications
Use as a fuel
Lubricants
Explosives manufacture & use
Functional Fluids

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer: MOL Hungarian Oil and Gas Public Limited Company, Refining

Address: 2443 Százhalombatta, POB.1.

Telephone: +36-23-552-511,

Fax: +36-23-553-122

Distributor: MOL Hungarian Oil and Gas Public Limited Company

Address: 1117 Budapest, Október huszonharmadika utca 18.

Telephone, fax.: +36-1-209-0000

The competent person responsible for Safety Data Sheet: sds@mol.hu

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	
United Kingdom	National Poisons Information Service Edinburgh Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA Edinburgh	0344 892 0111	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241	
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0344 892 0111	

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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]

Flammable liquids, Category 3	H226
Skin corrosion/irritation, Category 2	H315
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
Aspiration hazard, Category 1	H304
Hazardous to the aquatic environment — Chronic Hazard, Category 2	H411

Full text of hazard classes and H-statements : see section 16

2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP)	: Danger
Hazard statements (CLP)	: 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
Precautionary statements (CLP)	: P102 - Keep out of reach of children 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 shield P301+P310+P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting

2.3. Other hazards

Other hazards not contributing to the classification : Can form explosive mixture with air.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	: Aviation Fuel JET-A1
CAS-No.	: 64742-81-0
EC-No.	: 265-184-9
EC Index-No.	: 649-423-00-8

Name	Product identifier	%
Kerosine (petroleum), hydrodesulfurized (Main constituent)	(CAS-No.) 64742-81-0 (EC-No.) 265-184-9 (EC Index-No.) 649-423-00-8 (REACH-no) 01-2119462828-25-0063	<= 100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention. 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. Do not give anything by mouth to an unconscious person.

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First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If casualty is unconscious and no 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 advice. Breathing Allow the victim to rest. Obtain medical assistance if breathing remains difficult.
First-aid measures after skin contact	: Remove contaminated clothing, contaminated footwear and dispose of safely. Wash affected area with soap and water. When using high-pressure equipment, injection of product can occur. If high-pressure injuries occur, immediately seek professional medical attention. Seek medical attention if skin irritation, swelling or redness develops and persists. 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. Body hypothermia must be avoided. Do not put ice on the burn. Remove non-sticking garments carefully. DO NOT attempt to remove portions of clothing glued to burnt skin but cut round them. Seek medical attention in all cases of serious burns.
First-aid measures after 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. If hot product is splashed into the eye, it should be cooled down immediately to dissipate heat, under cold running water.
First-aid measures after ingestion	: Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. Always assume that aspiration has occurred.

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

Symptoms/effects	: May be fatal if swallowed and enters airways.
Symptoms/effects after inhalation	: Inhalation of vapours may cause headache, nausea, vomiting and an altered state of consciousness. Possible inflammation of the respiratory tract. Chemical pneumonia. Risk of lung oedema.
Symptoms/effects after skin contact	: Irritation. Dry skin. May cause burn in case of contact with product at high temperature.
Symptoms/effects after eye contact	: mild eye irritation. May cause burn in case of contact with product at high temperature.
Symptoms/effects after ingestion	: Ingestion (swallowing) of this material may result in an altered state of consciousness and loss of coordination. May be fatal if swallowed and enters airways.

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

Do NOT induce vomiting. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam (trained personnel only). Water fog (trained personnel only). Carbon dioxide. Other inert gases (subject to regulations). Sand or earth. Dry powder.
Unsuitable extinguishing media	: Do not use direct water jets on the burning product. 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

Fire hazard	: Combustible liquid. Heating may cause a fire or explosion. May build up electrostatic charges: risk of ignition.
Explosion hazard	: Vapours may form explosive mixture with air. They may be ignited by heat, sparks, static electricity or flames.
Hazardous decomposition products in case of fire	: Carbon dioxide. Carbon monoxide. Toxic fumes may be released.
Hungarian fire hazard	

5.3. Advice for firefighters

Precautionary measures fire	: Keep container closed when not in use. Eliminate all ignition sources if safe to do so. Fight fire remotely due to the risk of explosion.
Firefighting instructions	: Evacuate area. Contain the extinguishing fluids by bunding.
Protection during firefighting	: In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Other information	: Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide. High temperature decomposition products are harmful by inhalation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Evacuate area. Stop engines and no smoking. Avoid contact with skin and eyes. Spilled material may present a slipping hazard.
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6.1.1. For non-emergency personnel

- Protective equipment : gloves made of PVA are not water-resistant, and are not suitable for emergency use. Antistatic non-skid safety shoes or boots. Work gloves (preferably gauntlets) providing adequate chemical resistance. Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated. a half or full-face respirator with filter(s) for organic vapours/H₂S, 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.
- Emergency procedures : Keep upwind. Stop or contain leak at the source, if safe to do so. Avoid direct contact with released material. Do not breathe vapours. Keep non-involved personnel away from the area of spillage. Alert emergency personnel. If required, notify relevant authorities according to all applicable regulations. Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares. Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation. In case of large spillages, alert occupants in downwind areas. When inside buildings or confined spaces, ensure adequate ventilation.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

prevent product from entering sewers, rivers or other bodies of water. In case of soil contamination, remove contaminated soil and treat in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

- For containment : Stop or contain leak at the source, if safe to do so. Collect spillage.
- Methods for cleaning up : Absorb spilled product with suitable non-combustible materials. Transfer collected product and other contaminated materials to suitable containers for recovery or safe disposal. In case of small spillages in closed waters, contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. Consult an expert on waste disposal or treatment.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : In use, may form flammable vapour-air mixture. Flammable vapours may accumulate in the container.
- Precautions for safe handling : Ensure that all relevant regulations regarding handling and storage facilities of flammable products are followed. Keep away from heat/sparks/open flames/hot surfaces. Avoid contact with the hot product. Do not eat, drink or smoke when using this product. Prevent the build-up of electrostatic charge. Ground/bond container and receiving equipment. Use only non-sparking tools. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Do not ingest. Avoid splash filling of bulk volumes when handling hot liquid product. Contaminated materials should not be allowed to accumulate in the workplaces and should never be kept inside the pockets. Keep away from food and beverages. Wash the hands thoroughly after handling.
- Hygiene measures : Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Before entering storage tanks and commencing any operation in a confined area, check the atmosphere for oxygen content, hydrogen sulphide (H₂S) and flammability. Empty containers may contain flammable product residues. Do not weld, solder, drill, cut or incinerate empty containers, unless they have been properly cleaned.
- Storage conditions : Keep container tightly closed. Keep only in original container. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Incompatible products : Oxidizing agent.
- Incompatible materials : Sources of ignition. Heat sources. Direct sunlight.

7.3. Specific end use(s)

Site documentation to support safe handling arrangements including the selection of engineering, administrative and personal protective equipment controls in accordance with risk-based management systems is available at each manufacturing site.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Additional information : There is no specified limit for the product (or for the ingredients) according to the 25/2000. (IX. 30.) EüM-SzCsM Hungarian regulation.

8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation. Use in contained systems.

Personal protective equipment : Gloves. EN 374. In case of splash hazard: safety glasses. EN 166. Full protective flameproof clothing.

Materials for protective clothing : Protective clothing. Clothing to protect against heat and flame (EN 11612)

Hand protection : Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Gloves must be periodically inspected and changed in case of wear, perforations or contaminations.

Eye protection : If contact is likely, a protection (protective shield or safety goggles) should be used.

Skin and body protection : Wear suitable coveralls to prevent exposure to the skin. Chemical resistant safety shoes

Respiratory protection : Respirators are not required if the product used in closed technology. If necessary, approved respiratory protection equipment shall be used when handling hot product in confined spaces: enclosed face mask with cartridge/filter type "A" or self-contained breathing apparatus (SCBA). Change filter cartridge on respirator daily



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : Colourless. light yellow.

Odour : odourless.

Freezing point : < -47 °C

Boiling point : 146 - 300 °C

Flash point : > 40 (29 - 70) °C Pensky-Martens

Explosive limits (vol %) : 0.6 - 6.5 vol %

Vapour pressure : < 1 (≤ 3.7) kPa EN 13016-1

Density : 0.77 - 0.85 g/cm³ 15 °C-on, EN ISO 12185

Auto-ignition temperature : 220 - 250 °C

Viscosity, kinematic : 1.1 - 2.5 mm²/s 20°C

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

This substance is stable under all ordinary circumstances at ambient temperatures, and if released into the environment.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Contact with strong oxidizers (peroxides, chromates, etc.) may cause a fire hazard.

10.4. Conditions to avoid

They may be ignited by heat, sparks, static electricity or flames.

10.5. Incompatible materials

A mixture with nitrates or other strong oxidisers (e.g. chlorates, perchlorates, liquid oxygen) may create an explosive mass.

10.6. Hazardous decomposition products

No decomposition if stored normally.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

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Kerosine (petroleum), hydrodesulfurized (64742-81-0)	
LD50 oral rat	> 5000 mg/kg bodyweight literature data
LD50 dermal rabbit	> 2000 mg/kg bodyweight literature data
LC50 inhalation rat (mg/l)	> 58.2 mg/l literature data

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation:	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.

Aviation Fuel JET-A1 (64742-81-0)	
Viscosity, kinematic	1.1 - 2.5 mm ² /s 20°C

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life.

Kerosine (petroleum), hydrodesulfurized (64742-81-0)	
LC50 fish 1	1 - 20 mg/l literature data
EC50 Daphnia 1	1 - 20 mg/l literature data
EC50 other aquatic organisms 1	1 - 20 mg/l literature data

12.2. Persistence and degradability

Aviation Fuel JET-A1 (64742-81-0)	
Persistence and degradability	May cause long-term adverse effects in the environment.

Kerosine (petroleum), hydrodesulfurized (64742-81-0)	
Biodegradation	inherent biodegradable (literature data)

12.3. Bioaccumulative potential

Kerosine (petroleum), hydrodesulfurized (64742-81-0)	
Log Kow	> 4 potentially bioaccumulative (literature data)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Aviation Fuel JET-A1 (64742-81-0)	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: 2012. évi CLXXXV. törvény a hulladékról. DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on waste and repealing certain Directives.
Waste treatment methods	: Contain and dispose of waste according to local regulations. External recovery and recycling of waste should comply with applicable local and/or national regulations. Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended. If recycling is not possible, eliminate in accordance with local valid waste disposal regulations.
Sewage disposal recommendations	: Do not empty into drains. Dispose of at a licensed waste collection centre.
Waste disposal recommendations	: Clear up spills immediately and dispose of waste safely. Dispose of waste and used sacks/containers according to local regulations.
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Hazardous waste. Avoid any discharge of the product into waste water. Recycle by distillation. Recycle/reuse. Disposal in high-temperature incinerator (> 1200 °C).

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EWC (EURAL) code : 13 07 03* - other fuels (including mixtures)

SECTION 14: Transport information

In accordance with ADN / ADR / IATA / IMDG / RID

ADR	RID	ADN	IMDG	IATA
14.1. UN number				
1223	1223	1223	1223	1223
14.2. UN proper shipping name				
KEROSENE	KEROSENE	KEROSENE	KEROSENE	Kerosene
14.3. Transport hazard class(es)				
3 	3 	3	3	3 
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
14.6. Special precautions for user				
30	30	3 + N2 +F	EmS-No. (Fire) F-E EmS-No. (Spillage) S-E	
F1	F1	F1		
Environmentally hazardous substances derogation applies (quantity of liquids ≤ 5 litres or net mass of solids ≤ 5 kg)				
No supplementary information available				

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006. 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.

No REACH Annex XVII restrictions

Aviation Fuel JET-A1 is not on the REACH Candidate List

Aviation Fuel JET-A1 is not on the REACH Annex XIV List

15.1.2. National regulations

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

1.-16.	All Sections	updated	All Sections have been updated
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Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor

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CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative

Data sources : 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. <http://echa.europa.eu/>. CONCAWE registration dossier. Data arise from reference works and literature. Data relies on practical experience.

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Classification for mixtures and used evaluation method according to regulation (EC) 1272/2008 (CLP)

Flammable liquids, Category 3 H226
Skin corrosion/irritation, Category 2 H315
Specific target organ toxicity — Single exposure, Category 3, Narcosis H336
Aspiration hazard, Category 1 H304
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411

Full text of H- and EUH-statements:

Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
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

SDS EU (REACH Annex II) MOL

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product