

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Material Name : Jet A-1

CAS No : 8008-20-6

EC No : 232-366-4

Other Names of Product: Tüpraş-330 Jet Fuel (F-34), Tüpraş-340 Jet Fuel (F-44)

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

It is used as aviation turbine engine fuel.

1.2 Details of the supplier of the substance or mixture

Manufacturer/Supplier: Tüpraş

Address : Türkiye Petrol Rafinerileri A.Ş. Genel Müdürlüğü KÖRFEZ/ KOCAELİ

Telephone : +90 262 316 30 00

Fax : +90 262 316 30 10-11

e-mail : selcen.temeltopallar@tupras.com.tr

yasin.ersoz@tupras.com.tr

1.3 Emergency Telephone Number

Company Telephone : +90 262 316 30 00

2. HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Classification According to Regulation (EC) No 1272/2008

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

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2.2 Label Elements

Labelling According to Regulation (EC) No 1272/2008 (CLP/GHS)

Symbols:



GHS02



GHS07



GHS08



GHS09

Signal Word: Danger

Hazard statements: Physical Hazards

H226 Flammable liquid and vapor.

Health hazards

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

Environmental Hazards

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention : **P210** Keep away from heat/sparks/open flames/hot surfaces - No smoking

P233 Keep container tightly closed.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting equipment.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. **P271** Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

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

Response : **P301+P310** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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P302 + P352 IF ON SKIN: Wash with plenty of water and soap.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P331 Do NOT induce vomiting.

P391 Collect spillage.

Disposal : **P501** Dispose of contents and container to appropriate waste site or reclaimed in accordance with local and national regulations.

2.3 Other hazards

Slightly irritating to respiratory system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

CAS NO	EINECS NO	Chemical Composition	% Conc.	Risk Phrases (Regulation (EC) No 1272/2008)
8008-20-6	232-366-4	It consists of hydrocarbons having carbon numbers predominantly between C9 and C16.	100	<ul style="list-style-type: none">- Flammable liquids,3 H226- Skin corrosion/irritation,2 H315- Aspiration hazard, 1 H304- Specific target organ toxicity - single exposure,3 H336- Hazardous to the aquatic environment – Longterm Hazard, 2 H411

3.2 Mixtures

Not applicable

4. FIRST-AID MEASURES

4.1 Description of First Aid Measures

Inhalation: If inhalation of mists, fumes or vapour causes irritation to the nose or throat, or coughing, remove to fresh air. If symptoms persist obtain medical advice.

Skin Contact: Wash skin thoroughly with soap and water as soon as reasonably practicable. Remove heavily contaminated clothing and wash underlying skin. If hot product causes burns, the effected area should be flooded immediately with, or immersed in cold water for 15 minutes, or longer if pain persists. Burns should be covered with clean cotton or gauze, and

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the casualty taken to hospital as soon as possible for examination and treatment. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.

Eye Contact: Wash eye thoroughly with copious quantities of water, ensuring eyelids are held open. If redness, burning, blurred vision, or swelling persist transport to the nearest medical facility for additional treatment.

Ingestion: If contamination of the mouth occurs, wash out thoroughly with water. Except as a deliberate act, the ingestion or large amounts of product is unlikely. If it should occur, do not induce vomiting; obtain medical advice.

4.2 Most important symptoms/effects, acute & delayed

Inhalation: If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath.

Skin Contact: Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters.

Eye contact: Eye irritation signs and symptoms may include a burning sensation and a temporary redness of the eye.

Ingestion: Swallowing can cause lung damage.

4.3 Indication of immediate medical attention and special treatment needed

There are no specific antidotes or other therapeutic measures, treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Use foam, dry powder or water spray. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

5.2 Special hazards arising from substance or mixture

Combustion results from toxic gases. It can burn at high temperatures.

5.3 Advice for fire-fighters

For major fires call the Fire Service. Ensure an escape path is always available from any fire. Use alcohol resistant foam, dry powder, water spray and sand. Fires in confined spaces should be dealt with by trained personnel wearing approved breathing apparatus.

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6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment.

6.2 Environmental precautions

Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

6.3 Methods and material for containment and cleaning up

Take precautionary measures against static discharges. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. Shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.

6.4 Reference to other sections

Refer to sections 8 and 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Avoid inhaling vapour and/or mists. Avoid prolonged or repeated contact with skin. When using do not eat or drink. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Earth all equipment. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.

7.2 Conditions for safe storage, including any incompatibilities

Drum and small container storage: Drums should be stacked to a maximum of 3 high. Use properly labelled and closeable containers. Take suitable precautions when opening sealed containers, as pressure can build up during storage. Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded).

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Locate tanks away from heat and other sources of ignition. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.

7.3 Specific end use

Except as provided in Section 1.2 is not required to offer any specific suggestions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Material	Exposure Limits
Jet A-1 (CAS 8008-20-6)	No appropriate occupational exposure limits.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation.

8.2.2 Personal protective precautions

Personal protective equipment:

Personal protective equipment (PPE) should meet recommended national standards.

Eyes: Chemical splash goggles (chemical monogoggles).

Skin: Protective clothing and gloves should be used.

Inhalation: Chemical resistant gloves are recommended. Safety glasses with side shields are recommended.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Property	Test Unit	Guarantee	Test Method
Appearance		Clear, bright and visually free from solid matter and undissolved water at normal ambient temperature.	Visual inspection
Odour		Hydrocarbon	
Odour threshold		No data	
pH		No data	
Freezing point	°C	-47 max	ASTM D 2386 ASTM D 5972 IP 16, IP 435
Initial boiling point and boiling range	°C	150-300	ASTM D 86, IP 123
Evaporation rate		No data	
Flammability		No data	
Vapor Pressure		No data	
Vapor density		No data	
Relative density (at 15°C)	Kg/L	0.775-0.840	ASTM D 1298 ASDM D 4052 IP 160, IP 365
Resolution		No data	
Partition coefficient: n-octanol / water		No data	
Decomposition temperature		No data	
Viscosity (at -20°C)	cSt	8.0 max	ASTM D 445, IP 71

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Property	Test Unit	Guarantee	Test Method
Flash point	°C	38 min	ASTM D 3828 ASTM D 56 IP 170, IP 523
Explosive properties		No data	
Oxidising properties		No data	

9.2 Other Information

No relevant additional information available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

Oxidises on contact with air.

10.2 Chemical Stability

No hazardous reaction is expected when handled and stored according to provisions.

10.3 Possibility of Hazardous Reactions

Product vapors may form explosive mixtures with air.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition source.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

This Safety Data Sheet is in accordance with Regulation (EC) No 1907/2006 (REACH).

Information given is based on product data, a knowledge of the components and the toxicology of similar products.

Acute Oral Toxicity: Low toxicity: LD50 (Rat) > 5,000 mg/kg

Acute Dermal Toxicity: Low toxicity: LD50 (Rabbit) >2,000 mg/kg

Acute Inhalation Toxicity: Low toxicity: LC50 (Rat) >5 mg/l, 4 h

Skin corrosion/irritation: Irritating to skin

Serious eye damage/irritation: Expected to be slightly irritating.

Respiratory or skin sensitisation: Not expected to be a sensitiser.

Germ cell mutagenicity: Not considered a mutagenic hazard.

Carcinogenicity: Not classified as a carcinogen.

Reproductive and Developmental Toxicity: Not expected to be a developmental toxicant.

Specific target organ toxicity - single exposure: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Specific target organ toxicity - repeated exposure: Kidney: caused kidney effects in male rats which are not considered relevant to humans.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxic to aquatic life with long lasting effects

12.2 Persistence and degradability

Major constituents are expected to be inherently biodegradable. The volatile constituents will oxidize rapidly by photochemical reactions in air.

12.3 Bioaccumulative potential

Contains constituents with the potential to bioaccumulate.

12.4 Mobility in soil

Evaporates within a day from water or soil surfaces. Large volumes may penetrate soil and could contaminate groundwater. Contains volatile constituents. Floats on water.

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

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12.6 Other adverse effects

Films formed on water may affect oxygen transfer and damage organisms.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Material Disposal:

Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Container Disposal:

Send to drum recoverer or metal reclaimer. Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard if heated above the flash point. Do not puncture, cut or weld uncleaned drums. Do not pollute the soil, water or environment with the waste container. Comply with any local recovery or waste disposal regulations.

Local Legislation:

Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be in compliance.

14. TRANSPORT INFORMATION

Land transport (ADR/RID):

ADR

14.1 UN Number : 1863

14.2 UN proper shipping name : FUEL, AVIATION, TURBINE ENGINE

14.3 Transport hazard class(es) : 3

14.4 Packing group : III

14.5 Environmental hazards : Environmentally Hazardous

14.6 Special precautions for user : Refer to Chapter 7

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RID**14.1 UN Number : 1863****14.2 UN proper shipping name : FUEL, AVIATION, TURBINE ENGINE****14.3 Transport hazard class(es) : 3****14.4 Packing group : III****14.5 Environmental hazards : Environmentally Hazardous****14.6 Special precautions for user : Refer to Chapter 7****Sea transport (IMDG Code):****14.1 UN Number : 1863****14.2 UN proper shipping name : FUEL, AVIATION, TURBINE ENGINE****14.3 Transport hazard class(es) : 3****14.4 Packing group : III****14.5 Marine pollutant : Yes****14.6 Special precautions for user : Refer to Chapter 7****Air transport (IATA):****14.1 UN Number : 1863****14.2 UN proper shipping name : FUEL, AVIATION, TURBINE ENGINE****14.3 Transport hazard class(es) : 3****14.4 Packing group : III****14.5 Environmental hazards :****14.6 Special precautions for user : Refer to Chapter 7****Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No data



Türkiye Petrol Rafinerileri A.Ş.

SAFETY DATA SHEET JET A-1, AVATION TURBINE FUEL

Dok. No : TPR.YPG.SDS.0300
Yayın Tarihi : 30.10.1999
Rev. No : 7
Rev. Tarihi : 30.10.1999
Sayfa No : 12 / 13

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15. REGULATORY INFORMATION

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

The contents and format of this SDS are in accordance with EEC Commission Directive 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH).

15.2 National Regulations

This Safety Data Sheet, Environment and Urban Planning Ministry by December 13, 2014 date and 29204 numbered published in the Official Gazette of Hazardous Substances Regulation on safety data sheets of mixtures' Environment and Forestry and the Ministry of 26 by December 2008, and 27092 (bis) Official Gazette published "Classification of Hazardous Substances and preparations Regulations on Packaging and Labelling 'base is based.

16. OTHER INFORMATION

16.1 Other Information

The information presented about health, safety and environment issues in this safety data sheet was given by considering of best knowledge and reliable sources at the date of its preparation. Although maximum effort was shown, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission, recommendation or authorization given or implied to practise any patented invention without a valid licence. The TÜPRAŞ shall not be responsible for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

Abbreviations :

ADN: Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin

ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route

CLP: Classification, Labelling and Packaging Regulation according to 1272/2008/EC



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IMDG: International Maritime Dangerous Goods

IATA: International Air Transport Association

IMDG = International Maritime Dangerous Goods Code

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials (US EPA)

TWA: Time weighted average

STEL: Short-term exposure limit.

16.2 Related Person

Competent Person Accreditation no: TSE GBF-A-0-2828