



24-HOUR EMERGENCY TELEPHONE

SPRAGUE: 603-431-1000

CHEMTREC: 800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: JET A AVIATION FUEL

Synonyms: AVIATION TURBINE FUEL, JET A, JP-5, JET FUEL, K -1, KEROSENE

Chemical Formula: Not applicable to mixtures

Recommended Use of the Chemical and Restrictions On Use: Industrial Fuel Oil

Manufacturer / Supplier: Sprague Operating Resources LLC

Phone: 603-431-1000

185 International Drive, Portsmouth, NH 03801

Emergency Phone Number: SPRAGUE: 603-431-1000; CHEMTREC: 800-424-9300

2. Hazard(s) Identification

Classification of the Substance or Mixture:

Flammable Liquid – Category 3

Skin Irritation – Category 2

Eye Irritation – Category 2B

Carcinogenicity - Category 2

Specific Target Organ Toxicity (Single Exposure) – Category 3

Aspiration Hazard – Category 1

Chronic Aquatic Toxicity – Category 2

Risk Phrases:

R10: Flammable

R20: Harmful by inhalation.

R35: Irritating to eyes.

R38: Irritating to skin.

R45: May cause cancer.

R51 / 53: Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

R65: Harmful: may cause lung damage if swallowed.

Label Elements:

Trade Name: JET A AVIATION FUEL

Signal Word: Danger



Hazard Statements:

H226: Flammable liquid and vapor.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin irritation.

H320: Causes eye irritation.

H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.
H351: Suspected of causing cancer.
H401: Toxic to aquatic life.

Precautionary Statements:

P210: Keep away from heat / sparks / open flames / hot surfaces. No smoking.
P233: Keep container tightly closed.
P240: Ground / bond container and receiving equipment.
P241: Use explosion-proof equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P260: Do not breathe dust / fume / gas / mist / vapors / spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves / protective clothing / eye protection / face protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.
P331: Do not induce vomiting.
P332 + 313: If skin irritation occurs: Get medical advice / attention.
P362: Take off contaminated clothing and wash before reuse.
P391: Collect spillage.
P403: Store in a well ventilated place.
P501: Dispose of contents / container to an approved waste disposal plant.

3. Composition / Information on Ingredients

CAS Number: 8008-20-6

EC Number: 232-366-4

Index Number: 649-404-00-4

Molecular Weight: Not applicable to mixtures

Ingredient	CAS Number	Percent	Hazardous	Chemical Characterization
Kerosene	8008-20-6	> 99%	Yes	Mixture
Polycyclic Hydrocarbons	08-007-452	< 1%	Yes	Substance

4. First-aid Measures

Inhalation: Remove from vapor to fresh air. If breathing has stopped, give artificial respiration. Maintain airway and blood pressure and administer oxygen, if available. Keep affected person warm and at rest. Qualified personnel should perform administration of oxygen. Get medical attention immediately.

Ingestion: DO NOT INDUCE VOMITING or give anything by mouth to an unconscious person. When vomiting occurs, keep person's head lower than hips to prevent pulmonary aspiration. Get medical attention immediately.

Skin Contact: Remove jet fuel soaked clothing. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 - 20 minutes.) If irritation develops, seek medical aid.

Eye Contact: Check for and remove any contact lenses. Flush eyes immediately with large amounts of water, occasionally lifting upper and lower lids until no evidence of chemical remains (approximately 15-20 minutes). If irritation develops, seek medical aid.

5. Fire-fighting Measures

Fire: Flammable Liquid and Vapor!

Explosion: When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces.

Fire Extinguishing Media: Foam, Carbon Dioxide, Dry Chemical, Halon, and Water Fog.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Cool exposed containers with water spray. Continue water spray until entire container contents are cool. Withdraw immediately in the event of rising sound from venting safety devices or any discoloration of storage tank due to fire (subject to the fire chief's directions.) Vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back. Runoff to sewer may cause fire or explosion hazard.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Keep out of sewers, drainage areas and waterways. If properly trained, proceed with the following measures:

1. For small spills, take up with sand or other absorbent material and place into containers for later disposal.
2. For large spills, dike far ahead of spill to prevent entrance into watercourses and/or ground water. Observe local, state, and federal governmental regulations.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities:

Protect against physical damage and excessive temperatures. Store in a well-ventilated location, away from any area where the fire hazard may be acute that complies with NFPA 30 "Flammable and Combustible Liquid Code." Separate from incompatibles, including strong oxidizers.

Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid.) Observe all warnings and precautions listed for the product. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when this product is loaded into tanks previously containing low flash point products (such as gasoline) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

8. Exposure Controls / Personal Protection

Airborne Exposure Limits:

For Kerosene (8008-20-6): mineral oil mist

OSHA Permissible Exposure Limit (PEL): 5 mg/m³

ACGIH Threshold Limit Value (TLV): 5 mg/m³

For Polycyclic Hydrocarbons (08-007-452): benzene soluble as coal tar pitch volatiles

OSHA Permissible Exposure Limit (PEL): 0.2 g/m³

ACGIH Threshold Limit Value (TLV): 0.2 mg/m³

Ventilation System: Indoors: A system of local and / or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details. Use explosion-proof equipment. / Outdoors: Work upwind.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, use a mask with an organic vapor cartridge or positive pressure air supplied (SCBA) unit. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

Skin Protection: Gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure - Neoprene, PVC.

Eye Protection: Use chemical safety goggles and / or a full face shield where splashing is possible.

Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

Appearance: Colorless liquid

Odor: Fuel oil odor

Odor Threshold: Not determined

pH: No information found

% Volatiles by volume @ 21C (70F): Greater than 50%

Melting Point: Gel point can be about -15F; freezing requires laboratory conditions

Boiling Point / Boiling Range: 350 - 550F (177 - 288C)

Flash Point: 100 - 150F (37 - 65C)

Evaporation Rate (BuAC=1): Not determined

Flammability: Flammable Liquid and Vapor!

Upper / Lower Flammability or Explosive Limits: Upper – 5.0 / Lower – 0.7

Vapor Pressure (mm Hg): 1

Vapor Density (Air=1): 6

Relative Density: 0.78 – 0.81 g/cm³

Solubility: Slight

Partition Coefficient: n-octanol / water: Not determined

Auto-ignition Temperature: 428F (220C)

Decomposition Temperature: Will evaporate or boil and possibly ignite before decomposition occurs

Viscosity: 1.6 mm²/s at 40C

10. Stability and Reactivity

Reactivity and / or Chemical Stability: Stable under ordinary conditions of use and storage at normal temperatures and pressures.

Possibility of Hazardous Reactions and Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

Incompatible Materials: May explode or react violently when exposed to oxidizing materials.

Hazardous Decomposition Products: Carbon monoxide, oxides of nitrogen, and hydrocarbons.

11. Toxicological Information

Potential Health Effects:

Inhalation: Central nervous system depressant. May cause headaches and irritation to the nose, throat, and lungs.

Ingestion: May cause irritation and burning of the gastrointestinal tract (mouth, throat, and stomach.) May cause nausea, vomiting, diarrhea, and restlessness.

Skin Contact: May cause irritation, drying, and cracking of the skin. May cause dermatitis.

Eye Contact: Irritation of the eye.

Chronic Exposure: The most common health effect associated with chronic kerosene exposure is dermatitis.

Additional Toxicological Information: Benzene may produce blood changes that include reduced platelets, red blood cells, and white blood cells; also aplastic anemia, and acute nonlymphatic leukemia. Benzene has produced fetal death in laboratory animals and caused chromosome changes in humans and mutation changes in cells of other organisms. Health effects attributable to benzene aren't known to occur in humans exposed to kerosene. Kerosene has caused kidney injury in male rats only. No comparable health hazard for kidney disease is known to occur in humans. An epidemiological study of workers exposed to two isomers of trimethylbenzene had symptoms of nervousness, tension and anxiety, and asthmatic bronchitis. In addition, after inhalation of 60 ppm measured as hydrocarbon vapor, the works' peripheral blood showed a tendency to hypochromic anemia and a deviation from normal in the coagulability of the blood. A lifetime inhalation study in rats did not show any toxic effects even at the high dose of 300 ppm. Behavioral signs of hearing loss were observed in rats exposed to toluene sub chronically at levels of 1000 ppm or more. Comparable effects have not been reported in humans.

Carcinogenicity: Possible human carcinogen. Kerosene generally contains benzene which has been designated a carcinogen by the National Toxicology Program (NTP), the International agency for Research on Cancer and the Occupational Safety and Health Administration.

Reproductive Toxicity: Exposure of pregnant rats during gestation to toluene at levels of 250 ppm and higher produces some maternal toxicity and fetotoxicity.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:) No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Acute Toxicity:

Oral Rabbit LD50: 2,835 mg/kg

Remarks: Behavioral:Muscle weakness. Lungs, Thorax, or Respiration:Respiratory stimulation.

Endocrine:Hypoglycemia.

12. Ecological Information

Ecotoxicity: The American Petroleum Institute (API) * concludes that adequate data regarding the ecotoxicity of kerosenes and jet fuels are available to demonstrate moderate acute toxicity to aquatic organisms.

Persistence and Degradability: According to API *, generally, kerosene/jet fuel components biodegrade significantly under aerobic conditions provided sufficient nutrients are present for conversion of the hydrocarbons to microbial biomass.

Bioaccumulative Potential: No information available.

Mobility in Soil: No information available.

Other adverse effects: No information available.

* Kerosene / Jet Fuel Category Assessment Document submitted to the US EPA: September 21, 2010

13. Disposal Considerations

Under EPA RCRA (40 CFR 261.21):

1. If this product becomes a waste material intended for disposal and has a flash point below 140 F, it would be ignitable hazardous waste (waste code number D001.)
2. If this product becomes a waste material intended for disposal and has a TCLP benzene concentration greater than 0.5 PPM, it would be considered a toxic waste (waste code number D018.)

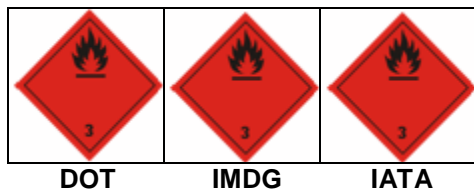
Refer to latest EPA or state regulations regarding proper disposal.

14. Transport Information

UN Number: UN1863

UN Proper Shipping Name: FUEL, AVIATION, TURBINE ENGINE

Packing Group: III



Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)

Transport Hazard Class(es): 3

Maritime Transport IMDG/GGVSea

Transport Hazard Class(es): 3

Marine Pollutant: Yes

Air Transport ICAO-TI and IATA-DGR

Transport Hazard Class(es): 3

Transport in Bulk (according to Annex II of MARPOL 73/78 and the IBC Code:) Not applicable

Special Precautions for User: This product may be re-classed as a combustible liquid when shipped domestically, by land only. If re-classed as a combustible liquid, this product is unregulated by DOT when shipped in non-bulk quantities.

15. Regulatory Information

Chemical Inventory Status

Ingredient	TSCA	EC	Canada - DSL
Kerosene (8008-20-6)	Yes	Yes	Yes

Federal, State & International Regulations

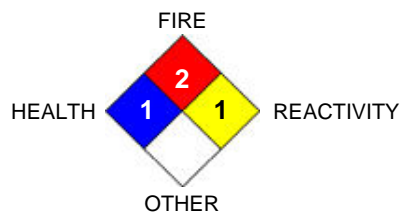
Ingredient	SARA 302		SARA 313		CERCLA	RCRA
	RQ	TPQ	List Chemical	Catg.		
Kerosene (8008-20-6)	No	No	No	No	No	No

SARA 311/312	Acute: Yes	Chronic: Yes	Fire: Yes	Pressure: No	Reactivity: No
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16. Other Information

HMIS / NFPA Hazard Rating:

- 4=EXTREME
- 3= SERIOUS
- 2= MODERATE
- 1=SLIGHT
- 0=MINIMAL



Effective Date: 11/01/13 – Standardized for GHS and REACH

Previous Revisions: 2/98, 10/12/00, 07/22/02, 06/05, 1/06

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