



## 1. Product and company identification

<b>Product name</b>	Jet A-1
<b>MSDS #</b>	SAV2101.
<b>Code</b>	SAV2101.
<b>Product use</b>	Jet fuel, do not use for other purposes. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
<b>Synonyms</b>	Aviation Kerosine, Aviation Turbine Fuel, ATK, AVTUR, F-35, Turbine Fuel, Aviation Kerosine Type, Jet A-1
<b>Supplier</b>	BP Products North America 150 W. Warrenville Road Naperville, IL 60563 USA
<b>EMERGENCY HEALTH INFORMATION:</b>	1 (800) 447-8735
<b>EMERGENCY SPILL INFORMATION:</b>	1 (800) 424-9300 CHEMTREC (USA) Outside the US: +1 703-527-3887
<b>OTHER PRODUCT INFORMATION</b>	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

## 2. Hazards identification

<b>Physical state</b>	Liquid.
<b>Color</b>	Colorless. / Yellow.
<b>Emergency overview</b>	<b>WARNING !</b>  COMBUSTIBLE LIQUID AND VAPOR. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT AND EYE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. ASPIRATION HAZARD.  <input checked="" type="checkbox"/> Combustible liquid. Aspiration hazard if swallowed. Can enter lungs and cause damage. Keep away from heat, sparks and flame. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Do not ingest. If ingested, do not induce vomiting. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
<b>Routes of entry</b>	Dermal contact. Eye contact. Inhalation. Ingestion.
<b>Potential health effects</b>	
<b>Eyes</b>	Unlikely to cause more than transient stinging or redness if accidental eye contact occurs. May cause eye irritation. Exposure to vapor, mist or fume may cause stinging, redness and watering of the eyes.
<b>Skin</b>	<input checked="" type="checkbox"/> Causes skin irritation.
<b>Inhalation</b>	May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs. Vapor, mist or fume may irritate the nose, mouth and respiratory tract. Inhalation of vapor, mist or fume may cause a sore throat, coughing and shortness of breath.
<b>Ingestion</b>	Aspiration hazard if swallowed. Can enter lungs and cause damage. Ingestion may cause gastrointestinal irritation and diarrhea.

### 3. Composition/information on ingredients

A mixture of kerosine streams. May also contain small quantities of proprietary performance additives. May contain: Tracer A (LDTA-A)

Ingredient name	CAS #	%
Kerosine (petroleum), hydrodesulfurised	64742-81-0	0 - 100
Straight run kerosene	8008-20-6	0 - 100

### 4. First aid measures

<b>Eye contact</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.
<b>Inhalation</b>	Inhaled, remove to fresh air. Get medical attention if symptoms occur.
<b>Ingestion</b>	Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
<b>Notes to physician</b>	Treatment should in general be symptomatic and directed to relieving any effects.  Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.

### 5. Fire-fighting measures

<b>Flammability of the product</b>	Combustible liquid.
<b>Flash point</b>	Closed cup: $\geq 38^{\circ}\text{C}$ ( $\geq 100.4^{\circ}\text{F}$ ) [Pensky-Martens.]
<b>Fire/explosion hazards</b>	In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
<b>Unusual fire/explosion hazards</b>	Vapors can form explosive mixtures with air. Vapors are heavier than air and can spread along the ground or float on water surfaces to remote ignition sources. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
<b>Extinguishing media</b>	
<b>Suitable</b>	Use dry chemical, $\text{CO}_2$ , water spray (fog) or foam.
<b>Not suitable</b>	Do not use water jet.
<b>Fire-fighting procedures</b>	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. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
<b>Hazardous combustion products</b>	Combustion products may include the following: carbon oxides ( $\text{CO}$ , $\text{CO}_2$ ) (carbon monoxide, carbon dioxide), other hazardous substances.
<b>Protective clothing (fire)</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### 6. Accidental release measures

<b>Personal precautions</b>	Immediately contact 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
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<b>Product name</b> Jet A-1	<b>Product code</b> SAV2101.	<b>Page:</b> 2/7
<b>Version</b> 2	<b>Date of issue</b> 03/19/2014.	<b>Language</b> ENGLISH
	<b>Format</b> Canada (Canada)	<b>(ENGLISH)</b>

## Environmental precautions

Storage tanks must be positioned within a bunded area. 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). Water polluting material. May be harmful to the environment if released in large quantities.

## Methods for cleaning up

### Large spill

Eliminate all ignition sources. 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. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

### Small spill

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

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## 7. Handling and storage

### Handling

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Never siphon by mouth. If ingested, do not induce vomiting. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Use only with adequate ventilation. Avoid breathing vapors, spray or mists. Keep away from heat, sparks and flame. When using do not eat, drink or smoke. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Avoid contact of spilled material and runoff with soil and surface waterways.

### Storage

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). 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.

### Other information

Light hydrocarbon vapors can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapor in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks.

Entry to any tanks or other confined space requires a full risk assessment and appropriate control measures to be put in place in conformance with appropriate regulations and industry practice on confined space entry. Do not enter storage tanks without breathing apparatus unless the tank has been well ventilated and the tank atmosphere has been shown to contain hydrocarbon vapor concentrations of less than 1% of the lower flammability limit and an oxygen concentration of at least 20% volume. Always have sufficient people standing by outside the tank with appropriate breathing apparatus and equipment to effect a quick rescue.

When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. If product comes into contact with hot surfaces, or leaks occur from pressurized fuel pipes, the vapor or mists generated will create a flammability or explosion hazard. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

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## 8. Exposure controls/personal protection

### Occupational exposure limits

#### Ingredient name

Kerosine (petroleum), hydrodesulfurised

#### Occupational exposure limits

**CA British Columbia Provincial (Canada). Absorbed through skin.**

TWA: 200 mg/m<sup>3</sup>, (as total hydrocarbon vapour) 8 hours. Issued/Revised: 8/2004

**CA Alberta Provincial (Canada). Absorbed through skin.**

8 hrs OEL: 200 mg/m<sup>3</sup>, (as total hydrocarbon vapour) 8 hours. Issued/Revised: 7/2009

**CA British Columbia Provincial (Canada). Absorbed through skin.**

TWA: 200 mg/m<sup>3</sup>, (as total hydrocarbon vapour) 8 hours. Issued/Revised: 8/2004

Straight run kerosene

<b>Product name</b> Jet A-1	<b>Product code</b> SAV2101.	<b>Page:</b> 3/7
<b>Version</b> 2	<b>Date of issue</b> 03/19/2014.	<b>Format</b> Canada
	<b>(Canada)</b>	<b>Language</b> ENGLISH
		<b>(ENGLISH)</b>

**CA Ontario Provincial (Canada). Absorbed through skin.**TWA: 200 mg/m<sup>3</sup>, (as total hydrocarbon) 8 hours. Issued/Revised: 1/2003 Form: vapour**CA Alberta Provincial (Canada). Absorbed through skin.**8 hrs OEL: 200 mg/m<sup>3</sup>, (as total hydrocarbon vapour) 8 hours. Issued/Revised: 7/2009

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

<b>Control Measures</b>	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.
<b>Hygiene measures</b>	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.
<b>Personal protection</b>	
<b>Eyes</b>	Chemical splash goggles.
<b>Skin and body</b>	Do not get on skin or clothing. Wear suitable protective clothing. Recommended: Wear clothing and footwear that cannot be penetrated by chemicals or oil.
<b>Respiratory</b>	Use only with adequate ventilation. Do not breathe vapor or mist. Recommended: If ventilation is inadequate, use respirator that will protect against organic vapor and dust/mist.
<b>Hands</b>	Wear gloves that cannot be penetrated by chemicals or oil. Recommended: Nitrile gloves.  The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.  Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

## 9. Physical and chemical properties

<b>Physical state</b>	Liquid.
<b>Color</b>	Colorless. / Yellow.
<b>Odor</b>	Hydrocarbon.
<b>Odor threshold</b>	Not available.
<b>Flash point</b>	Closed cup: >=38°C (>=100.4°F) [Pensky-Martens.]
<b>Specific gravity</b>	Not available.
<b>Density</b>	775 to 840 kg/m <sup>3</sup> (0.775 to 0.84 g/cm <sup>3</sup> ) at 15°C
<b>pH</b>	Not available.
<b>Viscosity</b>	Kinematic: 1 to 8 mm <sup>2</sup> /s (1 to 8 cSt) at -20°C
<b>Boiling point / Range</b>	140 to 280°C (284 to 536°F)
<b>Melting point / Range</b>	<-47°C (<-52.6°F)
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Solubility</b>	Very slightly soluble in water.

<b>Product name</b> Jet A-1	<b>Product code</b> SAV2101.	<b>Page:</b> 4/7
<b>Version</b> 2	<b>Date of issue</b> 03/19/2014.	<b>Format</b> Canada
	<b>(Canada)</b>	<b>Language</b> ENGLISH
		<b>(ENGLISH)</b>

## 10. Stability and reactivity

<b>Stability and reactivity</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	Avoid all possible sources of ignition (spark or flame). Avoid excessive heat.
<b>Incompatibility with various substances</b>	Reactive or incompatible with the following materials: oxidizing materials.
<b>Hazardous decomposition products</b>	Combustion products may include the following: carbon oxides (CO, CO <sub>2</sub> ) (carbon monoxide, carbon dioxide), other hazardous substances.
<b>Hazardous polymerization</b>	Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11. Toxicological information

### Classification

Product/ingredient name	IARC	NTP	OSHA
Straight run kerosene	3	-	-

**IARC :**  
3 - Not classifiable as a human carcinogen.

### Other information

Aspiration of this product into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Do not siphon by mouth.

From skin-painting studies of petroleum distillates of similar composition and distillate range, it has been shown that these types of materials often possess weak carcinogenic activity in laboratory animals. In these tests, the material is painted on the shaved backs of mice twice a week for their lifetime. The material is not washed off between applications. Therefore, there may be a potential risk of skin cancer from prolonged or repeated skin contact with this product in the absence of good personal hygiene. This particular product has not been tested for carcinogenic activity, but we have chosen to be cautious in light of the findings with other distillate streams.

Occasional skin contact with this product is not expected to have serious effects, but good personal hygiene should be practiced and repeated skin contact avoided. Animal studies with this material have resulted in moderate skin irritation following short-term exposure or prolonged/repeated exposure. Skin irritation and body weight loss were observed in 28 day dermal studies on this material in rats, but there were no systemic tissue changes characteristic of disease. Personal hygiene measures taken to prevent skin irritation are expected to be adequate to prevent risk of skin cancer.

This product has a sufficiently low vapor pressure to prevent a hazardous buildup of vapors unless the product is heated, used in a confined space with inadequate ventilation or misted. Inhalation of mist or high concentrations of vapors can produce dizziness, headache, and nausea and possibly irritation of the eye, nose and throat. In acute inhalation toxicity tests in rats, during exposure the material caused labored breathing, reduced activity and nasal discharge.

Materials of this type have been shown to produce kidney damage in male rats following prolonged inhalation exposures. Following extensive research, this effect appears to be unique to the male rat and is considered to be of little or no relevance in terms of human health risk.

Dermal and inhalation exposure to some jet fuel mixtures has been shown to reduce or inhibit certain indicators of immune function in mice. The relevance of these findings for humans is under investigation.

Diesel exhaust particulates have been classified by the National Toxicological Program (NTP) to be a reasonably anticipated human carcinogen. Exposure should be minimized to reduce potential risk.

### Potential chronic health effects

**Carcinogenicity** No known significant effects or critical hazards.

**Mutagenicity** No known significant effects or critical hazards.

<b>Product name</b> Jet A-1	<b>Product code</b> SAV2101.	<b>Page:</b> 5/7
<b>Version</b> 2	<b>Date of issue</b> 03/19/2014.	<b>Format</b> Canada
	<b>(Canada)</b>	<b>Language</b> ENGLISH
		<b>(ENGLISH)</b>

<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.
<b>Reproductive effects</b>	No known significant effects or critical hazards.
<b>Medical conditions aggravated by over-exposure</b>	None known.

## 12. Ecological information

### Ecotoxicity

No testing has been performed by the manufacturer.

<b>Persistence/degradability</b>	Inherently biodegradable
<b>Mobility</b>	Spillages may penetrate the soil causing ground water contamination.
<b>Bioaccumulative potential</b>	This product is not expected to bioaccumulate through food chains in the environment.
<b>Other ecological information</b>	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

## 13. Disposal considerations

<b>Waste information</b>	<p>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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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.</p>
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**NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal**

## 14. Transport information

### International transport regulations

Regulatory information	UN number	Proper shipping name	Class	Packing group	Additional information
<b>DOT Classification</b>	UN1863	FUEL, AVIATION, TURBINE ENGINE	3	III	
<b>TDG Classification</b>	UN1863	FUEL, AVIATION, TURBINE ENGINE	3	III	-
<b>IMDG Classification</b>	UN1863	FUEL, AVIATION, TURBINE ENGINE. Marine pollutant	3	III	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p><b>Emergency schedules (EmS)</b> F-E, S-E</p>
<b>IATA/ICAO Classification</b>	UN1863	FUEL, AVIATION, TURBINE ENGINE	3	III	<p>The environmentally hazardous substance mark may appear if required by other transportation regulations.</p>

<b>Product name</b> Jet A-1	<b>Product code</b> SAV2101.	<b>Page:</b> 6/7
<b>Version</b> 2	<b>Date of issue</b> 03/19/2014.	<b>Format</b> Canada (Canada)
		<b>Language</b> ENGLISH (ENGLISH)



Regulatory information	UN number	Proper shipping name	Class	Packing group	Additional information

## 15. Regulatory information

### WHMIS (Canada)

Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).  
Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### Other regulations

Canada inventory	<input checked="" type="checkbox"/> Contact supplier for regulatory information.
United States inventory (TSCA 8b)	<input checked="" type="checkbox"/> All components are listed or exempted.
REACH Status	<input checked="" type="checkbox"/> For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	Not determined.
China inventory (IECSC)	Not determined.
Japan inventory (ENCS)	Not determined.
Korea inventory (KECI)	Not determined.
Philippines inventory (PICCS)	Not determined.

## 16. Other information

### Label requirements

WARNING !

COMBUSTIBLE LIQUID AND VAPOR.  
INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS.  
CAUSES SKIN IRRITATION.  
MAY CAUSE RESPIRATORY TRACT AND EYE IRRITATION.  
HARMFUL OR FATAL IF SWALLOWED.  
CAN ENTER LUNGS AND CAUSE DAMAGE.  
ASPIRATION HAZARD.

### History

**Date of issue** 03/19/2014.

**Date of previous issue** 07/12/2010.

**Prepared by** Product Stewardship

Indicates information that has changed from previously issued version.

### Notice to reader

*All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.*

*The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.*

*It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.*

<b>Product name</b> Jet A-1	<b>Product code</b> SAV2101.	<b>Page:</b> 7/7
<b>Version</b> 2	<b>Date of issue</b> 03/19/2014.	<b>Format</b> Canada
	<b>(Canada)</b>	<b>Language</b> ENGLISH
		<b>(ENGLISH)</b>