

Material Safety Data Sheet

Revision: 2021-09-15

- **Product:** Jet A-1
- **Manufacturer:** Valero Energy Inc.
- **Distributor:** Avjet Holding Inc.
900 Lemire Blvd
Drummondville, Quebec, Canada J2C 7W8



- **Information about this data sheet:** Avjet Holding Inc 1-819-479-1000
- **Emergency numbers:** Canutec (24/7) 1-613-996-6666
or 1-888-226-8832

- **Recommended use and usage restrictions**

Jet fuel intended for aircraft with turbine engines. This product should not be used as a solvent or cleaning agent, for lighting, to brighten fires or as a skin cleanser. Do not use as a fuel for motor vehicles, or any other motorized land equipment.

The product is sensitive to temperature variations. Make sure barrels are stored properly to avoid warping. For more information, refer to section 7 of the CSA B836:22 standard.



See the appendix for all information on the manufacturer's safety data sheet.

TYPE AVIATION TURBINE FUEL

Section 1. Identification

Common name: TYPE AVIATION TURBINE FUEL

Product Code: 8521

Synonym: Jet A1 Fuel, Jet A, Jet Fuel, Kerosine

Material uses: Fuel.

Supplier / Manufacturer:

Énergie Valero Inc.
1801 McGill College, 13e étage
Montréal
Québec, Canada, H3A 2N4
Phone: 800-295-0391

In case of emergency:

CANUTEC: (613) 996-6666
Quebec Poison Control Center: 800-463-5060
Ontario Regional Poison Information Center (Toronto): 416-813-5900
Ontario Regional Poison Information Center (toll-free): 800-268-9017
Newfoundland Poison Information Center: 709-722-1110
Nova Scotia / PEI Poison Control Center: 800-565-8161
Or call your local Emergency Health Services Center.

Section 2. Hazards identifications

Classification:



Flammable liquid, Category 3

Acute toxicity (inhalation), Category 4

Skin irritation, Category 2

Carcinogenicity, Category 2

Reproductive toxicity, Category 2

Specific target organ toxicity - Repeated exposure, Category 2

Aspiration hazard, Category 1

Signal word: Danger

Hazard statements:

H226: Flammable liquid and vapor.

H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation.

H332: Harmful if inhaled.

H351: Suspected of causing cancer.

H361: Suspected of damaging fertility or the unborn child.

H373: May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

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

P260: Do not breathe dust/fumes/gas/mist/vapors/spray.

P264: Wash exposed and/or contaminated area thoroughly after handling.

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 a doctor.

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

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P308+P313: If exposed: Call a POISON CENTER or doctor/physician.

P312: Call a POISON CENTER or doctor if you feel unwell. P314: Get medical advice/attention if you feel unwell.

P321: Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

P331: Do NOT induce vomiting.

P370+P378: In case of fire: See section 5 for extinguish media.

P403+P235: Store in a well ventilated place. Keep cool.

P405: Store locked up.

P501: Dispose of contents / container by a local waste disposal company according to regional regulations.

Section 3. Composition and information on ingredients

Name	CAS	Concentration %
Kerosine (petroleum)	8008-20-6	0 - 100
Kerosine (petroleum), hydrodesulfurized	64742-81-0	0 - 100
Xylene	1330-20-7	0 - 1
Naphtalene	91-20-3	0 - 0.3
Toluene	108-88-3	0 - 0.2
Ethylbenzene	100-41-4	0 - 0.1

Note:

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Section 4. First aid measures

Description of first aid if required:

Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek medical attention if irritation develops and persists.

Skin contact:

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Seek medical advice/attention. Wash contaminated clothing before reuse.

Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell.

Ingestion:

Call a physician or poison control centre immediately. Rinse mouth. DO NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Indication of immediate medical attention and special treatment needed, if necessary:

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. The toxicological properties of this material have not been fully investigated.

Most important acute symptoms and effects:

May cause drowsiness and dizziness. Headache. Nausea, vomiting. Diarrhoea. Direct contact with eyes may cause temporary irritation. Skin irritation. May cause redness and pain.

Most important delayed symptoms and effects:

Aspiration may cause pulmonary oedema and pneumonitis.

Section 5. Firefighting measures

Flammability of the product:

Flammable liquid and vapor.

Flash point:

38°C / 100.4°F

Auto-ignition temperature:

240°C / 464°F

Products of combustion:

Data not available

Special protective actions for firefighters:

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. In case of fire and/or explosion do not breathe fumes. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discolouration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. Move containers from fire area if you can do so without risk. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed. In the event of fire and/or explosion do not breathe fumes.

Suitable extinguishing media:

Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂). Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazard arising from the chemical:

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: For non emergency personnel:

Evacuate the area.

For emergency personnel: Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 for personal protective equipment. Local authorities should be advised according to applicable regulatory requirements.

Environmental precautions:

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Methods and material for containment and cleaning up:

Eliminate all sources of ignition (no cigarettes, torches, sparks or flames in the immediate area). Keep combustible materials (wood, paper, oil, etc.) away from the spilled product. Take precautionary measures against electrostatic discharge. Use tools that do not produce sparks. Prevent entry into waterways, sewers, basements or confined areas.

For large spills: Stop flow of substance if it can be done without risk. Dike spilled material, where possible. Use a non-combustible material such as vermiculite, sand or earth to absorb the product and place it in a container for later disposal. After collecting the product, rinse the area with water.

For small spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (eg, cloth, woolen). Clean the surface thoroughly to remove residual contamination.

Never put the spilled product back into its original container for reuse. Place the material in suitable, covered and labeled containers. For waste disposal, see section 13 of the safety data sheet.

Section 7. Handling and storage**Precautions in Handling:**

Obtain instructions before use. Do not handle until you have read and understood all the safety precautions. Do not handle, store or open near an open flame, source of heat or other sources of ignition. Protect the product from direct sunlight. Do not smoke during use. Use local and general explosion-proof exhaust ventilation. Take precautionary measures against electrostatic discharge. All equipment used in handling this product must be earthed. Use non-sparking tools and explosion-proof equipment. Do not breathe mists or vapors. Avoid contact with eyes, skin and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Use only outdoors or in a well ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release into the environment. Observe good industrial hygiene practices.

Precautions in Storage:

Storage of flammable liquids. Do not handle or store near an open flame, heat source or other sources of ignition. This product can accumulate static charges which can cause sparks and become a source of ignition. Pressure in sealed containers may increase under the influence of heat. Keep the container in a cool, well-ventilated place. Keep away from food, drink and animal feed. Keep out of the reach of children.

Section 8. Exposure Controls, Personal Protections**Control parameters:**

Component	CAS	Value	Control parameters	Basis
Toluene	108-88-3	TWA	20 ppm	USA - ACGIH
		TWA	50 ppm	Alberta
		TWA	188 mg/m ³	Alberta
		TWA	20 ppm	British Columbia
		TWA	20 ppm	Manitoba
		TWA	20 ppm	Ontario
		TWA	188 mg/m ³	Québec
		TWA	50 ppm	Québec

Control parameters (continued):

Component	CAS	Value	Control parameters	Basis
Xylene	1330-20-7	STEL	150 ppm	USA - ACGIH
		TWA	100 ppm	USA - ACGIH
		STEL	651 mg/m ³	Canada - Alberta
		STEL	150 ppm	Canada - Alberta
		TWA	434 mg/m ³	Canada - Alberta
		TWA	100 ppm	Canada - Alberta
		STEL	150 ppm	Canada - British Columbia
		TWA	100 ppm	Canada - British Columbia
		STEL	150 ppm	Canada - Manitoba
		TWA	100 ppm	Canada - Manitoba
		STEL	150 ppm	Canada - Ontario
		TWA	100 ppm	Canada - Ontario
		STEL	651 mg/m ³	Canada - Québec
		STEL	150 ppm	Canada - Québec
		TWA	434 mg/m ³	Canada - Québec
TWA	100 ppm	Canada - Québec		
Ethylbenzene	100-41-4	STEL	543 mg/m ³	Canada - Alberta
		STEL	125 ppm	Canada - Alberta
		TWA	434 mg/m ³	Canada - Alberta
		TWA	100 ppm	Canada - Alberta
		TWA	20 ppm	Canada - British Columbia
		TWA	20 ppm	Canada - Manitoba
		TWA	20 ppm	Canada - Ontario
		STEL	543 mg/m ³	Canada - Québec
		STEL	125 ppm	Canada - Québec
		TWA	434 mg/m ³	Canada - Québec
		TWA	100 ppm	Canada - Québec

Control parameters (continued) :

Component	CAS	Value	Control parameters	Basis
Naphtalene	91-20-3	TWA	10 ppm	USA - ACGIH
		STEL	79 mg/m ³	Canada - Alberta
		STEL	15 ppm	Canada - Alberta
		TWA	52 mg/m ³	Canada - Alberta
		TWA	10 ppm	Canada - Alberta
		STEL	15 ppm	Canada - British Columbia
		TWA	10 ppm	Canada - British Columbia
		TWA	10 ppm	Canada - Manitoba
		STEL	15 ppm	Canada - Ontario
		TWA	10 ppm	Canada - Ontario
		STEL	79 mg/m ³	Canada - Québec
		STEL	15 ppm	Canada - Québec
		TWA	52 mg/m ³	Canada - Québec
		TWA	10 ppm	Canada - Québec
Kerosine (petroleum)	8008-20-6	TWA	200 mg/m ³	USA - ACGIH
		TWA	200 mg/m ³	Canada - Alberta
		TWA	200 mg/m ³	Canada - British Columbia
		TWA	200 mg/m ³	Canada - Manitoba
		TWA	200 mg/m ³	Canada - Ontario
		TWA	200 mg/m ³	Canada - Québec
Kerosine (petroleum), hydrodesulfurized	64742-81-0	TWA	200 mg/m ³	USA - ACGIH
		TWA	200 mg/m ³	Canada - Alberta
		TWA	200 mg/m ³	Canada - British Columbia
		TWA	200 mg/m ³	Canada - Manitoba
		TWA	200 mg/m ³	Canada - Ontario

Engineering controls:

Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

Personal protective equipment:

Eyes: Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

Skin/body: Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended. Wear appropriate thermal protective clothing, when necessary.

Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.

Hands: Avoid exposure - obtain special instructions before use. Wear protective gloves.

Other: Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practices.

Section 9. Physical and chemical properties

Physical state: Liquid

Color: Clear, straw

Odor: Characteristic

Melting point/Freezing point: -47°C / -52.6°F

Boiling point: Data not available

Appearance: Liquid

Lower explosion limit: 0.8 %

Upper explosion limit: 7 %

Flash point: 38°C / 100.4°F (Closed cup)

Auto-ignition temperature: 240°C / 464°F

pH: Data not available

Kinematic viscosity: 1 - 2.4 cSt (40 °C (104 °F)) / ≤ 8 cSt (-20 °C (-4 °F))

Solubility: Insoluble

Vapor pressure: < 8 mm Hg (38°C)

Density: 0.775 - 0.84 (15 °C (59 °F))

Relative vapor density: 4.5

Section 10. Stability and reactivity

Chemical reactivity: The product is non-reactive under normal conditions of use, storage and transport.

Chemical stability: Stable under normal temperature conditions and recommended use.

Possibility of hazardous reactions: Hazardous polymerisation does not occur.

Conditions to avoid: Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Avoid contact with incompatible materials.

Incompatible materials: Strong oxidising agents.

Hazardous decomposition products: No hazardous decomposition products are known.

Section 11. Toxicological information

Acute toxicity:

Component	CAS	Value
Kerosine (petroleum)	8008-20-6	DL ₅₀ Oral: Rabbit = 2835 mg/kg
Kerosine (petroleum), hydrodesulfurized	64742-81-0	DL ₅₀ Oral: Rat = 5000 mg/kg DL ₅₀ Cutaneous: Rabbit = 2000 mg/kg CL ₅₀ Inhalation: Rat = 5280 mg/m ³ - 4h

Acute toxicity (continued):

Component	CAS	Value
Xylene	1330-20-7	DL ₅₀ Oral: Rat = 3523 mg/kg DL ₅₀ Cutaneous: Rabbit = 5000 mg/kg CL ₅₀ Inhalation: Rat = 27.6 mg/L - 4h
Naphtalene	91-20-3	DL ₅₀ Oral: Rat = 490 mg/kg DL ₅₀ Cutaneous: Rabbit = 2000 mg/kg
Toluene	108-88-3	DL ₅₀ Oral: Rat = 636 mg/kg DL ₅₀ Cutaneous: Rat = 12200 mg/kg CL ₅₀ Inhalation: Rat = 28.1 mg/L - 4h
Ethylbenzene	100-41-4	DL ₅₀ Oral: Rat = 3500 mg/kg DL ₅₀ Cutaneous: Rabbit > 15400 mg/kg CL ₅₀ Inhalation: Rat = 17.4 mg/L - 4h

Skin corrosion/irritation:

Kerosine (petroleum): Causes skin irritation.

Xylene: Causes skin irritation.

Toluene: Causes skin irritation.

Ethylbenzene: Causes skin irritation.

Serious eye damage/irritation:

Not applicable

Respiratory or skin sensitisation:

Not applicable

Germ cell mutagenicity:

Not applicable

Carcinogenicity:

Kerosine (petroleum), hydrodesulfurized: Suspected of causing cancer.

Naphtalene: Suspected of causing cancer.

Ethylbenzene: Suspected of causing cancer.

Reproductive toxicity:

Xylene: Suspected of damaging fertility or the unborn child.

Toluene: Suspected of damaging fertility or the unborn child.

STOT- Single exposure:

Xylene: May cause irritation to respiratory tract and may cause drowsiness or dizziness.

Toluene: May cause drowsiness or dizziness.

STOT- repeated exposure:

Xylene: May cause damage to organs through prolonged or repeated exposure cause the hazard.

Naphtalene: May cause damage to organs through prolonged or repeated exposure cause the hazard.

Toluene: May cause damage to organs through prolonged or repeated exposure cause the hazard.

Aspiration hazard:

Kerosine (petroleum): May be fatal if swallowed and enters airways.

Kerosine (petroleum), hydrodesulfurized: May be fatal if swallowed and enters airways.

Xylene: May be fatal if swallowed and enters airways.

Toluene: May be fatal if swallowed and enters airways.

Ethylbenzene: May be fatal if swallowed and enters airways

Information on likely route of exposure:

Skin, eyes, inhalation and ingestion.

Section 12. Ecological information**Ecological data for aquatic environments:**

Component	CAS	Value
Naphtalene	91-20-3	CE ₅₀ - Crustacea (water flea) 1.09 mg/L - 48h
		CL ₅₀ - Fish (pink salmon) 0.95 mg/L - 96h
Toluene	108-88-3	CL ₅₀ - Oncorhynchus kisutch 5.5 mg/L - 96h
		CE ₅₀ - Daphnia magna 11.5 mg/L - 48h
Ethylbenzene	100-41-4	CE ₅₀ - Menidia menidia (atlantic silverside) 5.1 mg/L -
		96h CL ₅₀ - Daphnia magna 1.8 mg/L - 48h
		CE ₅₀ - Skeletonema costatum 4.9 mg/L - 72h

Persistence and degradability:

Ethylbenzene: Easily biodegradable

No data available.

Bioaccumulative potential:

Data not available

Mobility in soil:

Data not available





Other adverse effects:

Data not available

Section 13. Disposal considerations**Waste disposal:**

Dispose of this material and its container to hazardous or special waste collection point. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations. Waste codes should be assigned by the user based on the application for which the product was used. Dispose of in accordance with local regulations. Offer rinsed packaging material to local recycling facilities.

Section 14. Transportation information

TDG			
UN #: UN1863	Proper shipping name: FUEL, AVIATION, TURBINE ENGINE		
Class: 3	Packing group: III		
DOT			
UN #: UN1203	Proper shipping name: FUEL, AVIATION, TURBINE ENGINE		
Class: 3	Packing group: III		
IMDG			
UN #: UN1203	Proper shipping name: FUEL, AVIATION, TURBINE ENGINE		
Class: 3	Packing group: III	EMS-No: F-E, S-E	
Marine pollutant: Yes		Poison Inhalation Hazard:	
IATA			
UN #: UN1203	Proper shipping name: FUEL, AVIATION, TURBINE ENGINE		
Class: 3	Packing group: III		

Section 15. Regulatory information

NFPA Classification:



Health : 3
 Flammable : 3
 Stability : 0
 Special hazards : 0

Legend: 4: Severe, 3: High, 2: Moderate, 1: Slightly, 0: Not hazardous

General product information:

Canada: This product has been classified in accordance with the hazard criteria of the hazard product regulations and the safety data sheet contains all the information required by the hazard product regulations.

Section 16. Additional information

Date of issue:

2021-09-15

Version:

1.00

Elaborated by:

Toxyscan Inc.

Notice to reader:

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