

SAFETY DATA SHEET



Section 1. Identification

Product name Jet A
Other means of identification Aviation Kerosine, Aviation Turbine Fuel
Turbine Fuel, Aviation Kerosine Type: Containing Fuel System Icing Inhibitor
SDS # SAV2105
Code SAV2105.

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

Product use Jet fuel, do not use for other purposes.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier BP Products North America
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Naperville, IL 60563
USA

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300 CHEMTREC (USA)
Outside the US: +1 703-527-3887

OTHER PRODUCT INFORMATION 1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

Section 2. Hazards identification

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture FLAMMABLE LIQUIDS - Category 3
SKIN IRRITATION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms



Signal word Danger

Hazard statements Flammable liquid and vapor.
Causes skin irritation.
May be fatal if swallowed and enters airways.
May cause drowsiness and dizziness.

Precautionary statements

General

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

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Section 2. Hazards identification

Prevention	Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Do not breathe vapor. Wear protective gloves and eye protection. Avoid release to the environment.
Response	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, seek medical advice/attention.
Storage	Store in a well-ventilated place. Keep cool.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	Air contaminants may be formed during use of the product.

Section 3. Composition/information on ingredients

A mixture of kerosene streams. May also contain small quantities of proprietary performance additives. Contains small amounts of diethyleneglycol monomethyl ether (DEGME, 2-(2-methoxyethoxy)ethanol) as a fuel icing inhibitor. May contain: Tracer A (LDTA-A).

Substance/mixture Mixture

Ingredient name	CAS number	%
Straight run kerosene	8008-20-6	0 - 100
Kerosene (petroleum), hydrodesulfurized	64742-81-0	0 - 100
2-(2-methoxyethoxy)ethanol	111-77-3	0.1 - 0.15
Ethylbenzene	100-41-4	< 0.15

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.
Inhalation	If inhaled, remove to fresh air. Get medical attention. If exposure to vapor, mists or fumes causes drowsiness, headache, blurred vision or irritation of the eyes, nose or throat, remove immediately to fresh air. Keep patient warm and at rest. If any symptoms persist obtain medical advice.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

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

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Section 4. First aid measures

Notes to physician

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.

Specific treatments

No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media

Do not use water jet.

Specific hazards arising from the chemical

Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. Liquid will float and may reignite on surface of water. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products

Combustion products may include the following:
carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)
other hazardous substances.

Special protective actions for fire-fighters

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.

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Special remarks on explosion hazards

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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

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. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Eliminate all ignition sources.

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

Environmental precautions

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. Collect spillage.

Methods and materials for containment and cleaning up

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Section 6. Accidental release measures

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. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

Large spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Dike spill area and do not allow product to reach sewage system and surface or ground water. 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. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Take precautionary measures against electrostatic discharges. Avoid contact of spilled material and runoff with soil and surface waterways. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. 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.

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. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. 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. 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. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). Explosive air/vapor mixtures may form at ambient temperature. 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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Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Kerosene (petroleum), hydrodesulfurized	ACGIH TLV (United States). Absorbed through skin. TWA: 200 mg/m ³ , (as total hydrocarbon vapor) 8 hours. Issued/Revised: 1/2003
Kerosene (petroleum)	ACGIH TLV (United States). Absorbed through skin. TWA: 200 mg/m ³ , (as total hydrocarbon vapor) 8 hours. Issued/Revised: 1/2003
ethylbenzene	[Air contaminant] ACGIH TLV (United States). TWA: 20 ppm 8 hours. Issued/Revised: 12/2010 OSHA PEL (United States). TWA: 435 mg/m ³ 8 hours. Issued/Revised: 6/1993 TWA: 100 ppm 8 hours. Issued/Revised: 6/1993

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.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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.

Eye/face protection

Recommended: Safety glasses with side shield or chemical goggles.

Skin protection

Hand protection

Wear chemical resistant gloves. Nitrile gloves.

Do not re-use gloves. Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture). Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

Section 8. Exposure controls/personal protection

Body protection

Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Wear suitable protective clothing. Footwear highly resistant to chemicals. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static. When there is a risk of ignition wear inherently fire resistant protective clothes and gloves. Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes. When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be required. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear clothing and footwear that cannot be penetrated by chemicals or oil.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use only with adequate ventilation. If ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter.

If operating conditions cause high vapor concentrations or the TLV is exceeded, use NIOSH-certified, supplied-air respirator.

Use with adequate ventilation.

In case of insufficient ventilation, wear suitable respiratory equipment.

If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Recommended: If ventilation is inadequate, use respirator that will protect against organic vapor and dust/mist.

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Color	Clear
Odor	Hydrocarbon.
Odor threshold	Not available.
pH	Not available.
Melting point	<-40°C (<-40°F)
Boiling point	140 to 280°C (284 to 536°F)
Flash point	Closed cup: ≥38°C (≥100.4°F) [Pensky-Martens.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.

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Section 9. Physical and chemical properties

Vapor density	Not available.
Density	775 to 840 kg/m ³ (0.775 to 0.84 g/cm ³) at 15°C
Solubility	Very slightly soluble in water.
Partition coefficient: n-octanol/water	>3
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: <7 mm ² /s (<7 cSt) at 40°C Kinematic: 1 to 8 mm ² /s (1 to 8 cSt) at -20°C

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Avoid excessive heat.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials, halogenated compounds.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Exposure	Remarks
Kerosene (petroleum), hydrodesulfurized	LC50 Inhalation Vapor	Rat	>5.28 mg/l Mortality and Systemic Effects	4 hours	Based on Straight run kerosene
	LD50 Dermal	Rabbit	>2000 mg/kg Mortality and Systemic Effects	-	Based on Thermocracked kerosene
	LD50 Oral	Rat	>5000 mg/kg	-	Based on Thermocracked kerosene
Kerosene (petroleum)	LC50 Inhalation Vapor	Rat	>5.28 mg/l Mortality and Systemic Effects	4 hours	Based on Straight run kerosene
	LD50 Dermal	Rabbit	>2000 mg/kg Mortality and Systemic Effects	-	Based on Thermocracked kerosene
	LD50 Oral	Rat	>5000 mg/kg	-	Based on Thermocracked kerosene
2-(2-methoxyethoxy) ethanol	LD50 Dermal	Rabbit	6540 mg/kg	-	-

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Conclusion/Summary Not available.

Irritation/Corrosion

Product/ingredient name	Species	Result	Score	Exposure	Observation	Conc.	Remarks
Kerosene (petroleum), hydrodesulfurized	Rabbit	Skin - Non-irritant to skin.	-	4 hours 100 %	-	100 %	Based on Kerosene
	Rabbit	Skin - Irritation	-	24 hours 100%	-	100%	Based on Heating Oil.
	Rabbit	Eyes - Non-irritating to the eyes.	-	100%	-	100%	Based on Thermocracked kerosene
Kerosene (petroleum)	Rabbit	Skin - Non-irritant to skin.	-	4 hours 100 %	-	100 %	Based on Kerosene
	Rabbit	Skin - Irritation	-	24 hours 100%	-	100%	Based on Heating Oil.
	Rabbit	Eyes - Non-irritating to the eyes.	-	100%	-	100%	Based on Thermocracked kerosene

Sensitizer

Product/ingredient name	Route of exposure	Species	Result	Remarks
Kerosene (petroleum), hydrodesulfurized	skin	Guinea pig	Not sensitizing	Based on Thermocracked kerosene
Kerosene (petroleum)	skin	Guinea pig	Not sensitizing	Based on Thermocracked kerosene

Mutagenicity

Product/ingredient name	Test	Experiment	Result	Remarks
Kerosene (petroleum), hydrodesulfurized	Equivalent to OECD 476	Experiment: In vitro	Negative	Based on Hydrosulfurized Kerosene
		Subject: Mammal - species unspecified		
	Equivalent to OECD 476	Experiment: In vitro	Negative	Based on Hydrosulfurized Kerosene
		Subject: Mammal - species unspecified		
	Equivalent to OECD 471	Experiment: In vitro	Negative	Based on Hydrosulfurized Kerosene
		Subject: Non-mammalian species		
Equivalent to OECD 475	Experiment: In vivo	Negative	Based on Straight run kerosene	
	Subject: Unspecified Cell: Germ			
Equivalent to OECD 478	Experiment: In vivo	Negative	Based on Straight run kerosene	
	Subject: Unspecified Cell: Germ			

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Kerosene (petroleum)	Equivalent to OECD 476	Experiment: In vitro	Negative	Based on Hydrosulfurized Kerosene
		Subject: Mammal - species unspecified		
	Equivalent to OECD 476	Experiment: In vitro	Negative	Based on Hydrosulfurized Kerosene
		Subject: Mammal - species unspecified		
	Equivalent to OECD 471	Experiment: In vitro	Negative	Based on Hydrosulfurized Kerosene
		Subject: Non-mammalian species		
	Equivalent to OECD 475	Experiment: In vivo	Negative	Based on Straight run kerosene
		Subject: Unspecified Cell: Germ		
	Equivalent to OECD 478	Experiment: In vivo	Negative	Based on Straight run kerosene
		Subject: Unspecified Cell: Germ		

Conclusion/Summary Based on available data, the classification criteria are not met.

Carcinogenicity

Product/ingredient name

Kerosene (petroleum), hydrosulfurized	Equivalent to OECD	451	Mouse	Dermal	2 years	Positive - Dermal - Unspecified	Based on Jet Fuel
	Equivalent to OECD	451	Mouse	Dermal	2 years	Negative - Dermal - Unspecified	Based on Hydrotreated Kerosene
Kerosene (petroleum)	Equivalent to OECD	451	Mouse	Dermal	2 years	Positive - Dermal - Unspecified	Based on Jet Fuel
	Equivalent to OECD	451	Mouse	Dermal	2 years	Negative - Dermal - Unspecified	Based on Hydrotreated Kerosene

Conclusion/Summary Based on available data, the classification criteria are not met. Mechanistic understanding suggests tumors observed in animal models are not relevant to man.

Classification

Product/ingredient name	OSHA	IARC	NTP
Kerosene (petroleum)	-	3	-

OSHA:
+ - Potential occupational carcinogen

IARC:
1 - Carcinogenic to human.
2A - Probable human carcinogen.
2B - Possible carcinogen to human.
3 - Not classifiable as a human carcinogen.
4 - Probably not a human carcinogen.

NTP:
Proven - Known to be human carcinogens
Possible - Reasonably anticipated to be human carcinogens.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Result	Exposure
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Kerosene (petroleum), hydrodesulfurized	-	Negative	-	Rat	Dermal	34 days
	-	Negative	-	Rat	Oral	90 days
	-	-	Negative	Rat	Oral	10 days
	-	-	Negative	Rat	Inhalation	10 days
Kerosene (petroleum)	-	Negative	-	Rat	Dermal	34 days
	-	Negative	-	Rat	Oral	90 days
	-	-	Negative	Rat	Oral	10 days
	-	-	Negative	Rat	Inhalation	10 days

Conclusion/Summary

Development: Based on available data, the classification criteria are not met.
 Fertility: Based on available data, the classification criteria are not met.
 Effects on or via lactation: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Kerosene (petroleum)	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
2-(2-methoxyethoxy)ethanol	Category 2	Skin	liver

Aspiration hazard

Name	Result
Kerosene (petroleum), hydrodesulfurized	ASPIRATION HAZARD - Category 1
Kerosene (petroleum)	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Skin contact

Causes skin irritation.

Inhalation

Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.

Ingestion

Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach. Aspiration hazard if swallowed – harmful or fatal if liquid is aspirated into lungs.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

Skin contact

Adverse symptoms may include the following:
 irritation
 redness

Inhalation

Adverse symptoms may include the following:
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness

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Ingestion

Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects

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.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Potential chronic health effects

General

May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Developmental effects

No known significant effects or critical hazards.

Fertility effects

No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

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.

Additional information

Middle distillate: 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. This product can also be expected to produce skin irritation upon prolonged or repeated skin contact. Personal hygiene measures taken to prevent skin irritation are expected to be adequate to prevent risk of skin cancer.

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.

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Section 12. Ecological information

Toxicity

Product/ingredient name	Species	Test/Result	Exposure	Effects	Remarks
Kerosene (petroleum), hydrodesulfurized	Algae	EL50 1 to 3 mg/l Nominal Fresh water	72 hours	cell number	Based on Solvent naphtha (petroleum), heavy aromatic
	Micro-organism	LL50 677.9 mg/l Nominal Fresh water	72 hours	growth inhibition	Based on Kerosene
	Algae	LOEL 1 mg/l Nominal Fresh water	72 hours	cell number	Based on Solvent naphtha (petroleum), heavy aromatic
	Algae	NOEL 1 mg/l Nominal Fresh water	24 hours	cell number	Based on Solvent naphtha (petroleum), heavy aromatic
	Algae	NOEL 1 mg/l Nominal Fresh water	48 hours	cell number	Based on Solvent naphtha (petroleum), heavy aromatic
	Micro-organism	NOEL 1.641 mg/l Nominal Fresh water	72 hours	growth inhibition	Based on Kerosene
	Other	Unspecified 677.9 mg/l Nominal Fresh water	72 hours	growth inhibition	-
	Daphnia	Acute EL50 1.4 mg/l Nominal Fresh water	48 hours	Mobility	Based on Kerosene (petroleum), hydrodesulfurized
	Fish	Acute LL50 2 to 5 mg/l Fresh water	96 hours	Mortality	Based on Heavy aromatic solvent naphtha
	Daphnia	Acute NOEL 0.3 mg/l Nominal Fresh water	48 hours	Mobility	Based on Kerosene (petroleum), hydrodesulfurized
	Fish	Acute NOEL 2 mg/l Fresh water	96 hours	Mortality	Based on Solvent naphtha (petroleum), heavy aromatic
	Daphnia	Chronic EL50 0.89 mg/l Fresh water	21 days	Reproduction	Based on Kerosene (petroleum), hydrodesulfurized
	Daphnia	Chronic EL50 0.81 mg/l Fresh water	21 days	Immobilization	Based on Kerosene (petroleum), hydrodesulfurized
Daphnia	Chronic LOEL 1.2 mg/l Fresh water	21 days	Reproduction	Based on Kerosene (petroleum),	

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					hydrodesulfurized
	Daphnia	Chronic LOEL 0.48 mg/l Fresh water	21 days	Adult Length	Based on Kerosene (petroleum), hydrodesulfurized
	Daphnia	Chronic NOEL 0.48 mg/l Fresh water	21 days	Reproduction	Based on Kerosene (petroleum), hydrodesulfurized
	Daphnia	Chronic NOEL 1.2 mg/l Fresh water	21 days	Adult Length	Based on Kerosene (petroleum), hydrodesulfurized
	Fish	Chronic NOEL 0.098 mg/l Nominal Fresh water	28 days	Mortality	Based on Kerosene
Kerosene (petroleum)	Algae	EL50 1 to 3 mg/l Nominal Fresh water	72 hours	cell number	Based on Solvent naphtha (petroleum), heavy aromatic
	Micro-organism	LL50 677.9 mg/l Nominal Fresh water	72 hours	growth inhibition	Based on Kerosene
	Algae	LOEL 1 mg/l Nominal Fresh water	72 hours	cell number	Based on Solvent naphtha (petroleum), heavy aromatic
	Algae	NOEL 1 mg/l Nominal Fresh water	24 hours	cell number	Based on Solvent naphtha (petroleum), heavy aromatic
	Algae	NOEL 1 mg/l Nominal Fresh water	48 hours	cell number	Based on Solvent naphtha (petroleum), heavy aromatic
	Micro-organism	NOEL 1.641 mg/l Nominal Fresh water	72 hours	growth inhibition	Based on Kerosene
	Daphnia	Acute EL50 1.4 mg/l Nominal Fresh water	48 hours	Mobility	Based on Kerosene (petroleum), hydrodesulfurized
	Fish	Acute LL50 2 to 5 mg/l Fresh water	96 hours	Mortality	Based on Heavy aromatic solvent naphtha
	Daphnia	Acute NOEL 0.3 mg/l Nominal Fresh water	48 hours	Mobility	Based on Kerosene (petroleum), hydrodesulfurized
	Fish	Acute NOEL 2 mg/l Fresh water	96 hours	Mortality	Based on Solvent naphtha (petroleum), heavy aromatic

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Daphnia	Chronic EL50 0.89 mg/l Fresh water	21 days	Reproduction	Based on Kerosene (petroleum), hydrodesulfurized
Daphnia	Chronic EL50 0.81 mg/l Fresh water	21 days	Immobilization	Based on Kerosene (petroleum), hydrodesulfurized
Daphnia	Chronic LOEL 1.2 mg/l Fresh water	21 days	Reproduction	Based on Kerosene (petroleum), hydrodesulfurized
Daphnia	Chronic LOEL 0.48 mg/l Fresh water	21 days	Adult Length	Based on Kerosene (petroleum), hydrodesulfurized
Daphnia	Chronic NOEL 0.48 mg/l Fresh water	21 days	Reproduction	Based on Kerosene (petroleum), hydrodesulfurized
Daphnia	Chronic NOEL 1.2 mg/l Fresh water	21 days	Adult Length	Based on Kerosene (petroleum), hydrodesulfurized
Fish	Chronic NOEL 0.098 mg/l Nominal Fresh water	28 days	Mortality	Based on Kerosene

Conclusion/Summary

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Persistence and degradability

Inherently biodegradable

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Jet A	-	-	Inherent
2-(2-methoxyethoxy)ethanol	-	-	Readily

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Mobility in soil

Soil/water partition coefficient (K_{oc})

Not available.

Mobility

Spillages may penetrate the soil causing ground water contamination.

Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.







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Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1863	UN1863	UN1863	UN1863
UN proper shipping name	FUEL, AVIATION, TURBINE ENGINE	FUEL, AVIATION, TURBINE ENGINE	FUEL, AVIATION, TURBINE ENGINE	FUEL, AVIATION, TURBINE ENGINE
Transport hazard class(es)	3  	3 	3  	3 
Packing group	III	III	III	III
Environmental hazards	Yes.	No.	Yes.	No.
Additional information	This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids, that are marine pollutants, are not regulated as hazardous materials in package sizes less than the product reportable	-	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules (EmS) F-E, S-E	The environmentally hazardous substance mark may appear if required by other transportation regulations.

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	<p>quantity, unless transported by vessel.</p> <p>The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes.</p> <p>Reportable quantity 33219.1 lbs / 15081.5 kg [4933.9 gal / 18676.7 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.</p>				
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Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Proper shipping name

MARPOL Annex 1 rules apply for bulk shipments by sea. Category: Kerosene

Section 15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b)

All components are listed or exempted.

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification

Fire hazard
 Immediate (acute) health hazard

SARA 313

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Section 15. Regulatory information

	Product name	CAS number	Concentration
Form R - Reporting requirements	ethylbenzene	100-41-4	0.15012 - 0.15026
Supplier notification	ethylbenzene	100-41-4	0.15012 - 0.15026

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts

The following components are listed: Kerosine

New Jersey

The following components are listed: Kerosene; Fuel Oil #1; Ethyl Benzene; Benzene, Ethyl-

Pennsylvania

The following components are listed: Kerosine (Petroleum); Benzene, Ethyl-

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.
ethylbenzene; naphthalene

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
toluene; Toluene; Methanol

Other regulations

Australia inventory (AICS)

All components are listed or exempted.

Canada inventory

Contact supplier for regulatory information.

China inventory (IECSC)

All components are listed or exempted.

Japan inventory (ENCS)

All components are listed or exempted.

Korea inventory (KECI)

All components are listed or exempted.

Philippines inventory (PICCS)

Not determined.

Taiwan inventory (CSNN)

Not determined.

REACH Status

For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	2
Flammability	2
Physical hazards	0
Personal protection	X

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.)



History

Date of issue/Date of revision 02/03/2015.

Date of previous issue 01/09/2015.

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Section 16. Other information

Key to abbreviations

ACGIH = American Conference of Industrial Hygienists
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS Number = Chemical Abstracts Service Registry Number
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OEL = Occupational Exposure Limit
SDS = Safety Data Sheet
STEL = Short term exposure limit
TWA = Time weighted average
UN = United Nations
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

▣ 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.

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