

Product Name: EXXONMOBIL JET A-1  
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## SAFETY DATA SHEET

### SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT

**Product Name:** EXXONMOBIL JET A-1  
**Product Description:** Hydrocarbons and Additives  
**Product Code:** 708126-00  
**Intended Use:** Aviation fuel

#### COMPANY IDENTIFICATION

**Supplier:** EXXON MOBIL CORPORATION  
22777 Springwoods Village Parkway  
Spring, TX 77389 USA

**24 Hour Health Emergency** 609-737-4411  
**Transportation Emergency Phone** 800-424-9300 or 703-527-3887 CHEMTREC  
**Product Technical Information** 800-662-4525  
**MSDS Internet Address** [www.exxon.com](http://www.exxon.com), [www.mobil.com](http://www.mobil.com)

### SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

#### CLASSIFICATION:

Flammable liquid: Category 3.  
Skin irritation: Category 2. Specific target organ toxicant (central nervous system): Category 3. Aspiration toxicant: Category 1.

#### LABEL:

##### Pictogram:



**Signal Word:** Danger

**Hazard Statements:**

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H226: Flammable liquid and vapor. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H336: May cause drowsiness or dizziness.

**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 electrical, ventilating, and lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P261: Avoid breathing mist / vapours. P264: Wash skin thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves and eye / face protection. P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P331: Do NOT induce vomiting. P332 + P313: If skin irritation occurs: Get medical advice/ attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish. P391: Collect spillage. P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up. P501: Dispose of contents and container in accordance with local regulations.

**Contains:** Kerosine (petroleum)

**Other hazard information:**

**HAZARD NOT OTHERWISE CLASSIFIED (HNOC):** None as defined under 29 CFR 1910.1200.

**PHYSICAL / CHEMICAL HAZARDS**

Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

**HEALTH HAZARDS**

High-pressure injection under skin may cause serious damage. May be irritating to the eyes, nose, throat, and lungs. Breathing of high vapor concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness.

**ENVIRONMENTAL HAZARDS**

Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

|                        |           |                 |               |
|------------------------|-----------|-----------------|---------------|
| <b>NFPA Hazard ID:</b> | Health: 2 | Flammability: 2 | Reactivity: 0 |
| <b>HMIS Hazard ID:</b> | Health: 2 | Flammability: 2 | Reactivity: 0 |

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

|                  |   |
|------------------|---|
| <b>SECTION 3</b> | <b>COMPOSITION / INFORMATION ON INGREDIENTS</b> |
|------------------|---|

This material is defined as a mixture.

**Hazardous Substance(s) or Complex Substance(s) required for disclosure**

| Name | CAS# | GHS Hazard Codes |
|------|------|------------------|
|------|------|------------------|

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|                      |           |                          |                                       |
|----------------------|-----------|--------------------------|---------------------------------------|
| Kerosine (petroleum) | 8008-20-6 | Concentration*<br>> 99 % | H226, H304, H336, H315,<br>H401, H411 |
|----------------------|-----------|--------------------------|---------------------------------------|

**Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure**

| Name          | CAS#     | Concentration* | GHS Hazard Codes  |
|---------------|----------|----------------|---|
| ETHYL BENZENE | 100-41-4 | 0.1 - 1%       | H225, H304, H332, H373,<br>H401, H412                         |
| NAPHTHALENE   | 91-20-3  | < 1%           | H228(2), H302, H351,<br>H400(M factor 1), H410(M<br>factor 1) |

\* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

**SECTION 4 FIRST AID MEASURES**

**INHALATION**

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

**SKIN CONTACT**

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

**EYE CONTACT**

Flush thoroughly with water. If irritation occurs, get medical assistance.

**INGESTION**

Seek immediate medical attention. Do not induce vomiting.

**NOTE TO PHYSICIAN**

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

**PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE**

Contains hydrocarbon solvent/petroleum hydrocarbons; skin contact may aggravate an existing dermatitis.

**SECTION 5 FIRE FIGHTING MEASURES**

**EXTINGUISHING MEDIA**

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Streams of Water

## FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Unusual Fire Hazards:** Flammable. Hazardous material. Firefighters should consider protective equipment indicated in Section 8. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger.

**Hazardous Combustion Products:** Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

## FLAMMABILITY PROPERTIES

**Flash Point [Method]:** >38°C (100°F) [ASTM D-93]

**Flammable Limits (Approximate volume % in air):** LEL: 0.7 UEL: 5.0

**Autoignition Temperature:** 250°C (482°F) [ASTM E659]

## SECTION 6

## ACCIDENTAL RELEASE MEASURES

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

### PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H<sub>2</sub>S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

### SPILL MANAGEMENT

**Land Spill:** Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

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**Water Spill:** Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7

## HANDLING AND STORAGE

### HANDLING

Avoid all personal contact. Do not siphon by mouth. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. It is dangerous and/or unlawful to put fuel into unapproved containers. Do not fill container while it is in or on a vehicle. Static electricity may ignite vapors and cause fire. Place container on ground when filling and keep nozzle in contact with container. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices, etc.) during safety critical tasks, such as bulk fuel loading or unloading operations, or in storage areas where vapors may be present, unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

**Static Accumulator:** This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

### STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

## SECTION 8

## EXPOSURE CONTROLS / PERSONAL PROTECTION

## EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

| Substance Name                                    | Form            | Limit / Standard |                       |         | NOTE | Source     |
|---|-----------------|------------------|-----------------------|---------|------|------------|
| ETHYL BENZENE                                     |                 | TWA              | 435 mg/m <sup>3</sup> | 100 ppm | N/A  | OSHA Z1    |
| ETHYL BENZENE                                     |                 | TWA              | 20 ppm                |         | N/A  | ACGIH      |
| Kerosine (petroleum)                              | Stable Aerosol. | TWA              | 5 mg/m <sup>3</sup>   |         | Skin | ExxonMobil |
| Kerosine (petroleum)                              | Vapor.          | TWA              | 200 mg/m <sup>3</sup> |         | Skin | ExxonMobil |
| Kerosine (petroleum) [as total hydrocarbon vapor] | Non-Aerosol     | TWA              | 200 mg/m <sup>3</sup> |         | Skin | ACGIH      |
| NAPHTHALENE                                       |                 | TWA              | 50 mg/m <sup>3</sup>  | 10 ppm  | N/A  | OSHA Z1    |
| NAPHTHALENE                                       |                 | TWA              | 10 ppm                |         | Skin | ACGIH      |

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

## Biological limits

| Substance     | Specimen                        | Sampling Time | Limit        | Determinant   | Source            |
|---------------|---------------------------------|---------------|--------------|---|-------------------|
| ETHYL BENZENE | Creatinine in urine             | End of shift  | 0.15 g/g     | Sum of mandelic acid and phenylglyoxylic acid             | ACGIH BELS (BEIs) |
| NAPHTHALENE   | No Biological Specimen provided | End of shift  | Not Assigned | 1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis | ACGIH BELS (BEIs) |

## ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

## PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

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**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Note:** Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

### GENERAL INFORMATION

**Physical State:** Liquid

**Color:** Pale Yellow

**Odor:** Petroleum/Solvent

**Odor Threshold:** N/D

### IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

**Relative Density (at 15 °C):** 0.775 - 0.83

**Density (at 15 °C):** 750 kg/m<sup>3</sup> (6.26 lbs/gal, 0.75 kg/dm<sup>3</sup>) - 860 kg/m<sup>3</sup> (7.18 lbs/gal, 0.86 kg/dm<sup>3</sup>) [ASTM D4052]

**Flammability (Solid, Gas):** N/A

**Flash Point [Method]:** >38°C (100°F) [ASTM D-93]

**Flammable Limits (Approximate volume % in air):** LEL: 0.7 UEL: 5.0

**Autoignition Temperature:** 250°C (482°F) [ASTM E659]

**Boiling Point / Range:** > 200°C (392°F) [EN ISO 3405]

**Decomposition Temperature:** N/D

**Vapor Density (Air = 1):** N/D

**Vapor Pressure:** < 0.133 kPa (1 mm Hg) at 20 °C [EN 13016-1]

**Evaporation Rate (n-butyl acetate = 1):** N/D

**pH:** N/A

**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5

**Solubility in Water:** Negligible

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**Viscosity:** 1.1 cSt (1.1 mm<sup>2</sup>/sec) at 40 °C

**Oxidizing Properties:** See Hazards Identification Section.

**OTHER INFORMATION**

**Freezing Point:** -47°C (-53°F) - -40°C (-40°F)

**Melting Point:** N/A

|                   |                                 |
|-------------------|---------------------------------|
| <b>SECTION 10</b> | <b>STABILITY AND REACTIVITY</b> |
|-------------------|---------------------------------|

**REACTIVITY:** See sub-sections below.

**STABILITY:** Material is stable under normal conditions.

**CONDITIONS TO AVOID:** Avoid heat, sparks, open flames and other ignition sources.

**MATERIALS TO AVOID:** Alkalies, Halogens, Strong Acids, Strong oxidizers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

|                   |                                  |
|-------------------|----------------------------------|
| <b>SECTION 11</b> | <b>TOXICOLOGICAL INFORMATION</b> |
|-------------------|----------------------------------|

**INFORMATION ON TOXICOLOGICAL EFFECTS**

| <b>Hazard Class</b>   | <b>Conclusion / Remarks</b>  |
|---|--|
| <b>Inhalation</b>   |  |
| Acute Toxicity: (Rat) 4 hour(s) LC50 > 5000 mg/m <sup>3</sup> (Vapor) | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403                                  |
| Irritation: No end point data for material.                           | Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.                      |
| <b>Ingestion</b>  |  |
| Acute Toxicity (Rat): LD50 > 5000 mg/kg                               | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 420                                  |
| <b>Skin</b>   |  |
| Acute Toxicity (Rabbit): LD50 > 2000 mg/kg                            | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402                                  |
| Skin Corrosion/Irritation (Rabbit): Data available.                   | Irritating to the skin. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404                           |
| <b>Eye</b>  |  |
| Serious Eye Damage/Irritation (Rabbit): Data available.               | May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405 |
| <b>Sensitization</b>  |  |
| Respiratory Sensitization: No end point data for material.            | Not expected to be a respiratory sensitizer.   |
| Skin Sensitization: Data available.                                   | Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406             |
| <b>Aspiration:</b> Data available.                                    | May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.  |



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|   |  |
|---|--|
| <b>Germ Cell Mutagenicity:</b> Data available.    | Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 475 476 478 479                     |
| <b>Carcinogenicity:</b> Data available.           | Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451   |
| <b>Reproductive Toxicity:</b> Data available.     | Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 421                             |
| <b>Lactation:</b> No end point data for material. | Not expected to cause harm to breast-fed children.   |
| <b>Specific Target Organ Toxicity (STOT)</b>      |  |
| Single Exposure: No end point data for material.  | May cause drowsiness or dizziness.   |
| Repeated Exposure: Data available.                | Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 410 412 |

## TOXICITY FOR SUBSTANCES

| NAME          | ACUTE TOXICITY   |
|---------------|--|
| ETHYL BENZENE | Inhalation Lethality: 4 hour(s) LC50 17.8 mg/l (Vapor) (Rat); Oral Lethality: LD50 3.5 g/kg (Rat)                          |
| NAPHTHALENE   | Inhalation Lethality: 4 hour(s) LC50 > 0.4 mg/l (Max attainable vapor conc.) (Rat); Oral Lethality: LD50 533 mg/kg (Mouse) |

## OTHER INFORMATION

### For the product itself:

Vapor/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects including death.

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Repeated co-exposure to monoaromatic hydrocarbons contained in this product in excess of recognized occupational exposure limits and noise levels in excess of 85 dB(A) may increase the risk of hearing impairment.

Jet fuel: Some jet fuels have potential in mice to suppress indicators of immune system functionality. The relevance of these effects to humans is uncertain.

### Contains:

**Kerosene:** Carcinogenic in animal tests. Lifetime skin painting tests produced tumors, but the mechanism is due to repeated cycles of skin damage and restorative hyperplasia. This mechanism is considered unlikely in humans where such prolonged skin irritation would not be tolerated. Did not cause mutations In vitro. Inhalation of vapors did not result in reproductive or developmental effects in laboratory animals. Inhalation of high concentrations in animals resulted in respiratory tract irritation, lung changes and some reduction in lung function. Non-sensitizing in animal tests.

**NAPHTHALENE:** Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

**ETHYLBENZENE:** Caused cancer in laboratory animal studies. The relevance of these findings to humans is uncertain.

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The following ingredients are cited on the lists below:

| Chemical Name | CAS Number | List Citations |
|---------------|------------|----------------|
| ETHYL BENZENE | 100-41-4   | 5              |
| NAPHTHALENE   | 91-20-3    | 2, 5           |

--REGULATORY LISTS SEARCHED--

1 = NTP CARC

2 = NTP SUS

3 = IARC 1

4 = IARC 2A

5 = IARC 2B

6 = OSHA CARC

|                   |                               |
|-------------------|-------------------------------|
| <b>SECTION 12</b> | <b>ECOLOGICAL INFORMATION</b> |
|-------------------|-------------------------------|

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

**ECOTOXICITY**

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

**MOBILITY**

Majority of components -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Majority of components -- Low potential to migrate through soil.

**PERSISTENCE AND DEGRADABILITY**

**Biodegradation:**

Material -- Expected to be inherently biodegradable

**Atmospheric Oxidation:**

Majority of components -- Expected to degrade rapidly in air

**BIOACCUMULATION POTENTIAL**

Majority of components -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

**ECOLOGICAL DATA**

**Ecotoxicity**

| Test                     | Duration   | Organism Type                   | Test Results                                  |
|--------------------------|------------|---------------------------------|---|
| Aquatic - Acute Toxicity | 48 hour(s) | Daphnia magna                   | EL50 1 - 100 mg/l: data for similar materials |
| Aquatic - Acute Toxicity | 96 hour(s) | Oncorhynchus mykiss             | LL50 1 - 100 mg/l: data for similar materials |
| Aquatic - Acute Toxicity | 72 hour(s) | Pseudokirchneriella subcapitata | EL50 1 - 100 mg/l: data for similar materials |

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|                            |            |                                 |   |
|----------------------------|------------|---------------------------------|---|
| Aquatic - Chronic Toxicity | 21 day(s)  | Daphnia magna                   | NOELR 0.48 mg/l: data for similar materials   |
| Aquatic - Chronic Toxicity | 72 hour(s) | Pseudokirchneriella subcapitata | NOELR 1 - 10 mg/l: data for similar materials |

**Persistence, Degradability and Bioaccumulation Potential**

| Media | Test Type              | Duration  | Test Results                             |
|-------|------------------------|-----------|--|
| Water | Ready Biodegradability | 28 day(s) | Percent Degraded < 60 : similar material |

**SECTION 13 DISPOSAL CONSIDERATIONS**

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

**DISPOSAL RECOMMENDATIONS**

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

**REGULATORY DISPOSAL INFORMATION**

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

**Empty Container Warning** Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

**SECTION 14 TRANSPORT INFORMATION**

**LAND (DOT)**

**Proper Shipping Name:** FUEL, AVIATION, TURBINE ENGINE

**Hazard Class & Division:** 3

**ID Number:** 1863

**Packing Group:** III

**Marine Pollutant:** Yes

**ERG Number:** 128

**Label(s):** 3

**Transport Document Name:** UN1863, FUEL, AVIATION, TURBINE ENGINE, 3, PG III, MARINE POLLUTANT (Kerosene)

Footnote: The flash point of this material is greater than 100 F. Regulatory classification of this material varies. DOT: Flammable liquid or combustible liquid. OSHA: Combustible liquid. IATA/IMO: Flammable liquid.

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## LAND (TDG)

**Proper Shipping Name:** FUEL, AVIATION, TURBINE ENGINE  
**Hazard Class & Division:** 3  
**UN Number:** 1863  
**Packing Group:** III  
**Special Provisions:** 17, 150

## SEA (IMDG)

**Proper Shipping Name:** FUEL, AVIATION, TURBINE ENGINE  
**Hazard Class & Division:** 3  
**EMS Number:** F-E, S-E  
**UN Number:** 1863  
**Packing Group:** III  
**Marine Pollutant:** Yes  
**Label(s):** 3  
**Transport Document Name:** UN1863, FUEL, AVIATION, TURBINE ENGINE, 3, PG III, (38°C c.c.), MARINE POLLUTANT (Kerosene)

## AIR (IATA)

**Proper Shipping Name:** FUEL, AVIATION, TURBINE ENGINE  
**Hazard Class & Division:** 3  
**UN Number:** 1863  
**Packing Group:** III  
**Label(s) / Mark(s):** 3  
**Transport Document Name:** UN1863, FUEL, AVIATION, TURBINE ENGINE, 3, PG III

|                   |                               |
|-------------------|-------------------------------|
| <b>SECTION 15</b> | <b>REGULATORY INFORMATION</b> |
|-------------------|-------------------------------|

**OSHA HAZARD COMMUNICATION STANDARD:** This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

**Listed or exempt from listing/notification on the following chemical inventories:** AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

**SARA 302:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

**CERCLA:** This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

**SARA (311/312) REPORTABLE GHS HAZARD CLASSES:** Aspiration Hazard, Flammable (gases, aerosols, liquids, or solids), Skin Corrosion or Irritation, Specific Target Organ toxicity (single or repeated exposure)

**SARA (313) TOXIC RELEASE INVENTORY:**

| Chemical Name | CAS Number | Typical Value |
|---------------|------------|---------------|
|---------------|------------|---------------|

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|               |          |          |
|---------------|----------|----------|
| ETHYL BENZENE | 100-41-4 | 0.1 - 1% |
| NAPHTHALENE   | 91-20-3  | < 1%     |

The following ingredients are cited on the lists below:

| Chemical Name        | CAS Number | List Citations   |
|----------------------|------------|------------------|
| ETHYL BENZENE        | 100-41-4   | 1, 4, 10, 17, 19 |
| Kerosine (petroleum) | 8008-20-6  | 1, 18            |
| NAPHTHALENE          | 91-20-3    | 1, 4, 10, 17, 19 |

--REGULATORY LISTS SEARCHED--

- |               |                  |                   |             |
|---------------|------------------|-------------------|-------------|
| 1 = ACGIH ALL | 6 = TSCA 5a2     | 11 = CA P65 REPRO | 16 = MN RTK |
| 2 = ACGIH A1  | 7 = TSCA 5e      | 12 = CA RTK       | 17 = NJ RTK |
| 3 = ACGIH A2  | 8 = TSCA 6       | 13 = IL RTK       | 18 = PA RTK |
| 4 = OSHA Z    | 9 = TSCA 12b     | 14 = LA RTK       | 19 = RI RTK |
| 5 = TSCA 4    | 10 = CA P65 CARC | 15 = MI 293       |             |

Code key: CARC=Carcinogen; REPRO=Reproductive

|                   |                          |
|-------------------|--------------------------|
| <b>SECTION 16</b> | <b>OTHER INFORMATION</b> |
|-------------------|--------------------------|

**WARNING:** Cancer - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov). Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

**KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):**

- H225: Highly flammable liquid and vapor; Flammable Liquid, Cat 2
- H226: Flammable liquid and vapor; Flammable Liquid, Cat 3
- H228(2): Flammable solid; Flammable Solid, Cat 2
- H302: Harmful if swallowed; Acute Tox Oral, Cat 4
- H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
- H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
- H332: Harmful if inhaled; Acute Tox Inh, Cat 4
- H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic
- H351: Suspected of causing cancer; GHS Carcinogenicity, Cat 2
- H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
- H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
- H401: Toxic to aquatic life; Acute Env Tox, Cat 2
- H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
- H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
- H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

Composition: Component Table information was modified.

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Section 04: First Aid Inhalation information was modified.  
Section 06: Accidental Release - Spill Management - Land information was modified.  
Section 07: Handling and Storage - Handling information was modified.  
Section 12: information was modified.  
Section 14: Special Provisions information was modified.  
Section 16: HCode Key information was modified.

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PPEC: C

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