

# SAFETY DATA SHEET

CITGO No. 1 Fuel Oil, All Grades



## Section 1. Identification

**GHS product identifier** : CITGO No. 1 Fuel Oil, All Grades  
**Synonyms** : Fuel Oil No. 1; K-1 Fuel Oil; Grade 1 Distillate Fuel; High Sulfur Fuel Oil  
**Code** : Various  
**MSDS #** : No1FD

**Supplier's details** : CITGO Petroleum Corporation  
P.O. Box 4689  
Houston, TX 77210  
sdsvend@citgo.com

**Emergency telephone number** : Technical Contact: (832) 486-4000  
Medical Emergency: (832) 486-4700  
CHEMTREC Emergency: (800) 424-9300  
(United States Only)

## 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  
ACUTE TOXICITY: INHALATION - Category 4  
SKIN CORROSION/IRRITATION - Category 2  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A  
CARCINOGENICITY - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): INHALATION [blood system] - Category 2  
ASPIRATION HAZARD - Category 1

### GHS label elements

**Hazard pictograms** :



**Signal word** :

Danger

**Hazard statements** :

Flammable liquid and vapor.  
Harmful if inhaled.  
Causes serious eye irritation.  
Causes skin irritation.  
Suspected of causing cancer.  
May be fatal if swallowed and enters airways.  
May cause drowsiness and dizziness.  
May cause damage to organs through prolonged or repeated exposure if inhaled. (blood system)

### Precautionary statements

**Prevention** :

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash hands thoroughly after handling.

## Section 2. Hazards identification

- Response** : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
- Storage** : Store locked up. 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** : Defatting to the skin.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Substance
- Other means of identification** : Fuel Oil No. 1; K-1 Fuel Oil; Grade 1 Distillate Fuel; High Sulfur Fuel Oil
- CAS number/other identifiers**
- CAS number** : 8008-20-6

Ingredient name	%	CAS number
Kerosine (petroleum)	Variable	8008-20-6
Naphthalene	1 - 5	91-20-3
Ethylbenzene	0.5 - 1.5	100-41-4
Xylenes, mixed isomers	0.5 - 1.5	1330-20-7
Cumene	0.5 - 1.5	98-82-8

\* = Various    \*\* = Mixture    \*\*\* = Proprietary

Any concentration shown as a range is to protect confidentiality or is due to process variation.

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

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that gas or vapor is still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar,

## Section 4. First aid measures

tie, belt or waistband.

### Most important symptoms/effects, acute

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting

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

- Notes to physician** : If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.
- Specific treatments** : Treat symptomatically and supportively.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that gas or vapor is 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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : 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. The vapor/gas is heavier than air and will spread along the ground. 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. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray (fog).

## Section 5. Fire-fighting measures

- Unsuitable extinguishing media** : Do not use water jet.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide
- 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 appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. 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.

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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. Take precautionary measures against electrostatic discharges. Empty containers retain product residue

## Section 7. Handling and storage

and can be hazardous. Do not reuse container. Non equilibrium conditions may increase the fire hazard associated with this product. Always bond receiving containers to the fill pipe before and during loading. Always confirm that receiving container is properly grounded. Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards. Carefully review operations that may increase the risks such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. In addition to bonding and grounding, efforts to mitigate the hazards may include, but are not limited to, ventilation, inerting and/or reduction of transfer velocities. Always keep nozzle in contact with the container throughout the loading process. Do NOT fill any portable container in or on a vehicle.

Special precautions, such as reduced loading rates and increased monitoring, must be observed during "switch loading" operations (i.e., loading this material in tanks or shipping compartments that previously contained a dissimilar product).

### Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. 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. 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.

Bulk Storage Conditions: Maintain all storage tanks in accordance with applicable regulations. Use necessary controls to monitor tank inventories. Inspect all storage tanks on a periodic basis. Test tanks and associated piping for tightness. Maintain the automatic leak detection devices to assure proper working condition.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Kerosine (petroleum)	<b>ACGIH TLV (United States, 4/2014). Absorbed through skin.</b>
Naphthalene	TWA: 200 mg/m <sup>3</sup> , (as total hydrocarbon vapor) 8 hours. <b>ACGIH (United States). Absorbed through skin.</b> TWA: 10 ppm 8 hours. STEL: 15 ppm 15 minutes. <b>OSHA (United States).</b> TWA: 10 ppm 8 hours. <b>ACGIH TLV (United States, 4/2014). Absorbed through skin.</b> TWA: 10 ppm 8 hours. TWA: 52 mg/m <sup>3</sup> 8 hours. <b>OSHA PEL (United States, 2/2013).</b> TWA: 10 ppm 8 hours. TWA: 50 mg/m <sup>3</sup> 8 hours.
Ethylbenzene	<b>ACGIH TLV (United States, 4/2014).</b> TWA: 20 ppm 8 hours. <b>OSHA PEL (United States, 2/2013).</b> TWA: 100 ppm 8 hours. TWA: 435 mg/m <sup>3</sup> 8 hours.
Xylenes, mixed isomers	<b>ACGIH TLV (United States, 4/2014).</b> TWA: 100 ppm 8 hours. TWA: 434 mg/m <sup>3</sup> 8 hours.

## Section 8. Exposure controls/personal protection

Cumene

STEL: 150 ppm 15 minutes.  
 STEL: 651 mg/m<sup>3</sup> 15 minutes.  
**OSHA PEL (United States, 2/2013).**  
 TWA: 100 ppm 8 hours.  
 TWA: 435 mg/m<sup>3</sup> 8 hours.  
**ACGIH TLV (United States, 4/2014).**  
 TWA: 50 ppm 8 hours.  
**OSHA PEL (United States, 2/2013). Absorbed through skin.**  
 TWA: 50 ppm 8 hours.  
 TWA: 245 mg/m<sup>3</sup> 8 hours.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- 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, vapor controls, 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** : Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Splash goggles. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. chemical splash goggles. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers.
- Body protection** : 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.
- 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 a properly fitted, air-purifying or supplied-air 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.

## Section 9. Physical and chemical properties

<b>Physical state</b>	: Liquid. [Viscous liquid.]
<b>Color</b>	: Colorless to light yellow. Clear.
<b>Odor</b>	: Characteristic.
<b>pH</b>	: Not available.
<b>Melting point</b>	: -20°C (-4°F)
<b>Boiling point/boiling range</b>	: 150 to 300°C (302 to 572°F)
<b>Flash point</b>	: Closed cup: 38°C (100.4°F) [Pensky-Martens. (Minimum)]
<b>Evaporation rate</b>	: 0.212138 (butyl acetate = 1)
<b>Lower and upper explosive (flammable) limits</b>	: Lower: 0.7% Upper: 5%
<b>Vapor pressure</b>	: <0.27 kPa (<2 mm Hg) [room temperature]
<b>Vapor density</b>	: 4.5 [Air = 1]
<b>Relative density</b>	: 0.8
<b>Density lbs/gal</b>	: Estimated 6.67 lbs/gal
<b>Gravity, °API</b>	: Estimated 45 @ 60 F
<b>Solubility</b>	: Very slightly soluble in the following materials: cold water.
<b>Auto-ignition temperature</b>	: 228.85°C (443.9°F)
<b>Viscosity</b>	: Kinematic (room temperature): 0.03 cm <sup>2</sup> /s (3 cSt)
<b>Conductivity</b>	: 25 picosiemens/meter (minimum)

## Section 10. Stability and reactivity

<b>Reactivity</b>	: Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: 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	Result	Species	Dose	Exposure
Kerosine (petroleum)	LD50 Oral	Rat	15 g/kg	-
Naphthalene	LD50 Oral	Rat	490 mg/kg	-
Ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
Xylenes, mixed isomers	LC50 Inhalation Gas.	Cat	9500 ppm	2 hours
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6700 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LD50 Oral	Mouse	2119 mg/kg	-

## Section 11. Toxicological information

Cumene	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LC50 Inhalation Vapor	Mouse	10 g/m <sup>3</sup>	7 hours
	LD50 Dermal	Rabbit	12300 uL/kg	-
	LD50 Oral	Rat	2.9 g/kg	-
	LD50 Oral	Rat	4000 mg/kg	-

**Conclusion/Summary** : No additional information.

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Kerosine (petroleum)	Skin - Moderate irritant	Rabbit	-	0.5 Milliliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 Percent	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-
Naphthalene	Skin - Mild irritant	Rabbit	-	495 milligrams	-
Ethylbenzene	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-
Xylenes, mixed isomers	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
Cumene	Skin - Moderate irritant	Rabbit	-	100 Percent	-
	Eyes - Mild irritant	Rabbit	-	86 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 10 milligrams	-

**Skin** : No additional information.

**Eyes** : No additional information.

**Respiratory** : No additional information.

### Sensitization

**Skin** : No additional information.

**Respiratory** : No additional information.

### Mutagenicity

**Conclusion/Summary** : **Naphthalene**: Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) *in vitro*.

### Carcinogenicity

**Conclusion/Summary** : **Naphthalene**: Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract.

### Classification

Product/ingredient name	OSHA	IARC	NTP
Kerosine (petroleum)	-	3	-
Naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.
Ethylbenzene	-	2B	-
Xylenes, mixed isomers	-	3	-
Cumene	-	2B	Reasonably anticipated to be a human carcinogen.

### Reproductive toxicity

**Conclusion/Summary** : No additional information.

### Teratogenicity

**Conclusion/Summary** : No additional information.

### Specific target organ toxicity (single exposure)



## Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Kerosine (petroleum)	Category 3	Not applicable.	Narcotic effects
Ethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
Cumene	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Ethylbenzene	Category 2	Inhalation	ears

### Aspiration hazard

Name	Result
Kerosine (petroleum)	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1
Cumene	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Routes of entry anticipated: Dermal, Inhalation.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting

### Potential chronic health effects

- General** : May cause damage to organs through prolonged or repeated exposure if inhaled.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- 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.

## Section 11. Toxicological information

**Fertility effects** : No known significant effects or critical hazards.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Kerosine (petroleum)	Acute EC50 1.4 mg/l	Daphnia	48 hours
	Acute EC50 1600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Naphthalene	Acute LC50 2350 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 213 µg/l Fresh water	Fish - Melanotaenia fluviatilis - Larvae	96 hours
Ethylbenzene	Chronic NOEC 0.67 ppm Fresh water	Fish - Oncorhynchus kisutch	40 days
	Acute EC50 4600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 3600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 2930 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 5200 µg/l Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 4200 µg/l Fresh water Chronic NOEC 1000 µg/l Fresh water	Fish - Oncorhynchus mykiss Algae - Pseudokirchneriella subcapitata	96 hours 96 hours
Xylenes, mixed isomers	Acute EC50 90 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 8.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 15700 µg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
Cumene	Acute LC50 19000 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 16940 µg/l Fresh water	Fish - Carassius auratus	96 hours
	Acute EC50 2600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 7400 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 10600 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2700 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

**Conclusion/Summary** : Not available.

### Persistence and degradability

**Conclusion/Summary** : Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Naphthalene	3.4	36.5 to 168	low
Ethylbenzene	3.6	-	low
Xylenes, mixed isomers	3.12	8.1 to 25.9	low
Cumene	3.55	94.69	low

## Section 12. Ecological information

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations





**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. 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.

RCRA classification : D001, D018

### United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Naphthalene	91-20-3	Listed	U165

## Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	NA 1993	UN 1993	UN 1993
UN proper shipping name	Fuel Oil No. 1, Combustible Liquid, NA1993, PG III	Fuel Oil No. 1, Flammable Liquid, UN 1993, PG III	Fuel Oil No. 1, Flammable Liquid, UN 1993, PG III
Transport hazard class(es)	3 	3  	3 
Packing group	III	III	III
Environmental hazards	No.	Yes.	No.
Additional information	No additional remark.	-	-

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 12(b) one-time export:** Nonane, all isomers  
**United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 307:** Naphthalene; Ethylbenzene; Toluene; Benzene  
**Clean Water Act (CWA) 311:** Naphthalene; Ethylbenzene; Xylenes, mixed isomers; Toluene; Benzene  
 This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

### SARA 302/304

#### Composition/information on ingredients

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Fire hazard  
 Immediate (acute) health hazard  
 Delayed (chronic) health hazard

#### Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Kerosine (petroleum)	Yes.	No.	No.	Yes.	Yes.
Naphthalene	Yes.	No.	No.	Yes.	Yes.
Ethylbenzene	Yes.	No.	No.	Yes.	Yes.
Xylenes, mixed isomers	Yes.	No.	No.	Yes.	Yes.
Cumene	Yes.	No.	No.	Yes.	Yes.

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	Naphthalene	91-20-3	<5
	Ethylbenzene	100-41-4	<2
<b>Supplier notification</b>	Naphthalene	91-20-3	<5
	Ethylbenzene	100-41-4	<2

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 York** : The following components are listed: Naphthalene; Ethylbenzene; Cumene; Benzene, 1-methylethyl-  
**New Jersey** : The following components are listed: KEROSINE; FUEL OIL #1  
**Pennsylvania** : The following components are listed: KEROSINE (PETROLEUM)  
**California Prop. 65**

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

**WARNING:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

## Section 15. Regulatory information

Ingredient name	%	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Naphthalene	<5	Yes.	No.	Yes.	No.
Ethylbenzene	<2	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.
Cumene	<2	Yes.	No.	No.	No.
Toluene	<0.1	No.	Yes.	No.	7000 µg/day (ingestion)
Benzene	<0.1	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)
Diesel exhaust particulate		Yes.	No.	No.	No.

### International regulations

#### International lists

- : **Australia inventory (AICS)**: All components are listed or exempted.
- : **China inventory (IECSC)**: All components are listed or exempted.
- : **Japan inventory**: Not determined.
- : **Korea inventory**: All components are listed or exempted.
- : **Malaysia Inventory (EHS Register)**: Not determined.
- : **New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
- : **Philippines inventory (PICCS)**: All components are listed or exempted.
- : **Taiwan inventory (CSNN)**: Not determined.

#### Canada inventory

- : All components are listed or exempted.

#### EU Inventory

- : All components are listed or exempted.

#### WHMIS (Canada)

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

## Section 16. Other information

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



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### History

**Date of issue/Date of revision** : 2/26/2015.

### Key to abbreviations

- : ATE = Acute Toxicity Estimate
- : BCF = Bioconcentration Factor
- : 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

## Section 16. Other information

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

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