MARATHON PETROLEUM COMPANY LP
SAFETY DATA SHEET(SDS) TERMS & MEANINGS

SECTION 1 IDENTIFICATION

SDS ID NO.: Number assigned in the Wercs Studio® database for each product.
SDS Revision Date: Date that an SDS was significantly updated or changed and a revision was issued.
Name: Most common name or name under which a product is marketed.
Synonyms: Other common chemical or commercial names (aliases) used to identify a product.
Chemical Family: Generic chemical classification or family for a product.
Emergency Phone Numbers: 24 hour / 7 Day emergency assistance number, e.g. accident or spill support.

SECTION 2 HAZARD IDENTIFICATION

OSHA (Occupational Safety & Health Administration) hazard status with physical and chemical hazard classifications according to 2012 Hazard Communication Standard (29CFR1910.1200) criteria.
Emergency Overview: Indicates a product's characteristics, appearance, most significant hazards, pictograms and precautionary statements.

SECTION 3 COMPOSITION

Composition with assigned Chemical Abstracts Service (CAS) Registry numbers and component concentrations. CAS numbers provide a unique, unmistakable identifier for chemical substances

SECTION 4 FIRST AID MEASURES

Recommended immediate care based on the route of exposure and includes the most prominent adverse effects for an overexposed, ill or injured person. Treatment is usually at the scene of the incident, possibly by non-medically trained personnel in an attempt to save lives or to prevent and/or retard further illness or injury. Advice on special treatment and cautions are also provided for physicians.

SECTION 5 FIRE FIGHTING MEASURES

National Fire Protection Association (NFPA) ratings are listed for Health, Flammability and Instability according to NFPA publication #704. Flammability Ratings are as follows: Highly Flammable = 4, Flammable = 3, Combustible = 2, Not Combustible = 1.

SECTION 7 HANDLING AND STORAGE

Static Accumulator: A low conductivity liquid, typically with a conductivity less than 50 pS/m (picoSiemens per meter), capable of accumulating a static charge during transfer or storage. Refer to API Recommended Practice (RP) 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits are listed for concentrations of the product or components in parts of material per million parts of air (ppm) or milligrams of material per cubic meter of air (mg/M^3). **PELs** (Permissible Exposure Limits) are **OSHA** regulatory limits on exposure to concentrations of substances in the air and are based on an 8-hour time weighted average (**TWA**) exposures. A "skin" designation refers to the potential contribution to the overall exposure by the dermal route and serves as a warning that skin absorption should be prevented in order to avoid exceeding the absorbed dose received by inhalation at the PEL. **TLVs** (Threshold Limit Values) are consensus occupational exposure limits on exposure to concentrations of substances in the air from the American Conference of Governmental Industrial Hygienists (**ACGIH**) of which three categories exist: **TWA** is the time-weighted average air concentration for a normal 8 hour workday and a 40 hour work week to which nearly all workers may be repeatedly exposed without adverse effect; **STEL** or short term exposure limit is a 15 minute time-weighted average of air concentration which should not be exceeded at any time during a workday and not repeated more than four times a day and; C (Ceiling limit) is a concentration in air that should not be exceeded at any time during the work period. IDLH (Immediately Dangerous to Life or Health) from the US National Institute for Occupational Safety and Health (**NIOSH**) is an airborne exposure concentration that is "likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment."

SECTION 9 PHYSICAL & CHEMICAL PROPERTIES

Flash Point: Minimum temperature at which a liquid will give off enough flammable vapor to form an ignitable mixture with air.
Boiling Point: Temperature (or range) at a pressure of 760 mm Hg, where a liquid changes to a vapor.
Explosive Limits: Lower and upper range of a gas or vapor concentration which will burn or explode if an ignition source is present.
Auto-ignition Temperature: Lowest temperature at which the product will initiate self-sustained combustion in the absence of a spark or flame.
Specific Gravity: Ratio of the weight of a volume of product to the weight of an equal volume of water at 39.2°F (4°C).
Vapor Density: Relative density or weight of a vapor or gas compared with an equal volume of air at ambient temperatures.
Vapor Pressure: Pressure of saturated vapor above a liquid product in mm Hg at a specific temperature.
Water Solubility: According to %weight/volume at a specified temperature. Classes include: Negligible = <0.1%, Slight = 0.1-1.0%, Moderate = 1-10%, Appreciable = >10%, Complete.
Melting Point: Temperature (or range) at a pressure of 760 mm Hg, where a solid changes to a liquid.
Partition Coefficient (K_{ow}): At a specified temperature, the ratio of the concentration of a chemical in n-octanol and water at equilibrium
pH: a logarithmic measure of hydrogen ion concentration (0-14) of a substance in aqueous solution and an indication of its acidity (<7) or alkalinity (>7). Pure water has a pH very close to 7.
VOC Content (%): Generally, the percent concentration of the sum of Volatile Organic (Carbon) Compounds in a material excluding carbon monoxide and carbon dioxide. Petroleum hydrocarbons that have carbon chain lengths >12 have very low VOC concentrations, e.g. <1%.

SECTION 10 STABILITY & REACTIVITY

Incompatible Materials: Those materials or conditions that may cause the product to react violently, releasing large amounts of energy or toxic vapors.
Hazardous Polymerization: Indication that the product has the potential to have a reaction at a rate that releases large amounts of energy. Conditions that could promote polymerization are listed.

SECTION 11 TOXICOLOGICAL INFORMATION

Potential acute/short/immediate, delayed or long-term (chronic) adverse health effects by different routes of exposure are described that are either confirmed or suspected, based on observations in humans, animal studies or by deduction from the effects that occur from overexposure to a similar substance.
Acute: Abrupt, rapidly evident health effects due to single or short-term exposures that are usually observed at high levels or concentrations.

- **LD_{50} (Lethal Dose 50%)**: Single acute dose or range of a material that produces death in 50% of the test animals by the oral or dermal routes of exposure.
- **LC_{50} (Lethal Concentration50%)**: Single acute inhalation exposure concentration or range of a material in the air over a specified time period that produces death in 50% of the test animals.

Delayed: Health effects that are manifested after some period of time has passed following the exposure
Chronic: Insidious, slowly evident health effects due to repeated or long-term exposures usually to lower levels or concentrations than those producing acute effects.
Carcinogenicity: Listed classifications for cancer potential:

- **ACGIH** (American Conference of Governmental Industrial Hygienists): A1 = Known Human Carcinogen; A2 = Suspected Human Carcinogen; A3 = Animal Carcinogen; A4 = Not Classifiable
- **IARC** (International Agency for Research on Cancer): Group #1 = Carcinogenic to Humans; 2A = Probably Carcinogenic to Humans; 2B = Probably Carcinogenic to Humans; 3 = Not Classifiable for Carcinogenicity
- **NTP** (National Toxicology Program): Known Carcinogen; Reasonably Anticipated to be a Human Carcinogen
- **OSHA** (Occupational Safety & Health Administration): Classified as a carcinogen (29CFR1910.1200 App. F)

Mutagenic effects: Heritable genetic changes that may increase the frequency of mutations.
Sensitization: Bodily process where, after an initial exposure to a sensitizing chemical, the immune system is provoked to produce allergic responses to even small amounts of that chemical with subsequent exposures.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity refers to the property of chemicals to adversely affect the environment and the plants and animals living in it.
LC_{50} (Lethal Concentration): Single acute exposure to an aqueous concentration or range of a material over a specified time period that produces death in 50% of the test population.
EC_{50} (Effective Concentration): Single acute exposure to an aqueous concentration or range of a material over a specified period of time that effects at least 50% of the test population.
WAF (Water Accommodated Fraction): An aqueous fraction containing the dissolved, suspended and/or emulsified fraction of a multi-component/complex substances or a mixture. WAFs maximize the aqueous solubility of test materials.
Readily Biodegradable: Applies to materials having a 60 percent or greater degradation in 28 days
Inherently Biodegradable: Applies to materials having a maximum half-life of 60 days or less.

SAFETY DATA SHEET

SDS ID NO.: 0121MAR019
Revision Date: 05/14/2015

1. IDENTIFICATION

Product Name: Marathon Petroleum K-1 Kerosene 400 ppm Sulfur Max

Synonym: 1-K Kerosine 400 ppm Sulfur Max; 1-K Kerosene 400 ppm Sulfur Max; Kerosine K-1 400 ppm Sulfur Max; Kerosene K-1 400 ppm Sulfur Max; Kerosene K-1; K-1 Kerosene; K-1 Kerosene, Non-Road Use, Undyed

Chemical Family: Complex Hydrocarbon Substance

Recommended Use: Fuels.
Use Restrictions: All others.

Supplier Name and Address:
MARATHON PETROLEUM COMPANY LP
539 South Main Street
Findlay, OH 45840

SDS information: 1-419-421-3070

Emergency Telephone: 1-877-627-5463

2. HAZARD IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Skin corrosion/irritation	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Aspiration toxicity	Category 1
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2

Hazards Not Otherwise Classified (HNOC)
Static accumulating flammable liquid

Label elements

EMERGENCY OVERVIEW

Danger

FLAMMABLE LIQUID AND VAPOR
May accumulate electrostatic charge and ignite or explode

May be fatal if swallowed and enters airways
Causes skin irritation
Suspected of causing cancer
May cause drowsiness or dizziness
Toxic to aquatic life with long lasting effects

Appearance Clear or Amber Liquid **Physical State** Liquid **Odor** Slight Hydrocarbon

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Wash hands and any possibly exposed skin thoroughly after handling
Avoid release to the environment

Precautionary Statements - Response
IF exposed or concerned: Get medical attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation occurs: Get medical attention
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting
In case of fire: Use water spray, fog or regular foam for extinction
Collect spillage

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Keep cool
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container at an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

1-K Kerosine is a complex mixture of paraffins, cycloparaffins, olefins and aromatic hydrocarbons having hydrocarbon chain lengths predominantly in the range of nine to sixteen carbons. May contain a trace amount of benzene (<0.01%). Contains a trace amount of sulfur (15-400 ppm).

Composition Information:

Name	CAS Number	Weight %
Kerosine, Petroleum	8008-20-6	100
Naphthalene	91-20-3	0.01-0.5

4. FIRST AID MEASURES

First Aid Measures

General advice

In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).

Inhalation:

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Skin Contact:

Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. May be absorbed through the skin in harmful amounts. Get medical attention if irritation persists. Any injection injury from high pressure equipment should be evaluated immediately by a physician as potentially serious (See NOTES TO PHYSICIAN).

Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties. Destroy contaminated, non-chemical resistant footwear.

Eye Contact:

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. GET IMMEDIATE MEDICAL ATTENTION.

Ingestion:

Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Most important signs and symptoms, both short-term and delayed with overexposure

Adverse Effects:

Acute: Headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue.
Delayed: Dry skin and possible irritation with repeated or prolonged exposure.

Indication of any immediate medical attention and special treatment needed

NOTES TO PHYSICIAN:

SKIN: Leaks or accidents involving high-pressure equipment may inject a stream of material through the skin and initially produce an injury that may not appear serious. Only a small puncture wound may appear on the skin surface but, without proper treatment and depending on the nature, original pressure, volume, and location of the injected material, can compromise blood supply to an affected body part. Prompt surgical debridement of the wound may be necessary to prevent irreversible loss of function and/or the affected body part. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES.

INGESTION: This material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

For small fires, Class B fire extinguishing media such as CO2, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Unsuitable extinguishing media
Do not use straight water streams to avoid spreading fire.

Specific hazards arising from the chemical
This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard and should be handled accordingly. May accumulate electrostatic charge and ignite or explode. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Hazardous combustion products
Smoke, carbon monoxide, and other products of incomplete combustion.

Explosion data
Sensitivity to Mechanical Impact No.
Sensitivity to Static Discharge Yes.

Special protective equipment and precautions for firefighters
Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources.

NFPA:	Health 1	Flammability 2	Instability 0	Special Hazards -

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. All contaminated surfaces will be slippery.
Protective Equipment:	Use personal protection measures as recommended in Section 8.
Emergency Procedures:	Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.
Environmental precautions:	Avoid release to the environment. Avoid subsoil penetration.
Methods and materials for containment:	Contain liquid with sand or soil.
Methods and materials for cleaning up:	Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids. Recover and return free product to proper containers. When recovering free liquids ensure all equipment is grounded and bonded. Use only non-sparking tools.

7. HANDLING AND STORAGE

Safe Handling Precautions:

NEVER SIPHON THIS PRODUCT BY MOUTH. Use appropriate grounding and bonding practices. Static accumulating flammable liquid. Bonding and grounding may be insufficient to eliminate the hazard from static electricity. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking. Avoid repeated and prolonged skin contact. Use personal protection measures as recommended in Section 8. Use only non-sparking tools. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignition of vapors or mists without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

Portable containers should never be filled while in or on a motor vehicle or marine craft. Containers should be placed on the ground. Static electric discharge can ignite fuel vapors when filling non-grounded containers or vehicles on trailers. The nozzle spout must be kept in contact with the container before and during the entire filling operation. Use only approved containers.

A buildup of static electricity can occur upon re-entry into a vehicle during fueling especially in cold or dry climate conditions. The charge is generated by the action of dissimilar fabrics (i.e., clothing and upholstery) rubbing across each other as a person enters/exits the vehicle. A flash fire can result from this discharge if sufficient flammable vapors are present. Therefore, do not get back in your vehicle while refueling.

Cellular phones and other electronic devices may have the potential to emit electrical charges (sparks). Sparks in potentially explosive atmospheres (including fueling areas such as gas stations) could cause an explosion if sufficient flammable vapors are present. Therefore, turn off cellular phones and other electronic devices when working in potentially explosive atmospheres or keep devices inside your vehicle during refueling.

High-pressure injection of any material through the skin is a serious medical emergency even though the small entrance wound at the injection site may not initially appear serious. These injection injuries can occur from high-pressure equipment such as paint spray or grease or guns, fuel injectors, or pinhole leaks in hoses or hydraulic lines and should all be considered serious. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES (See First Aid Section 4).

Storage Conditions: Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	ACGIH TLV	OSHA PELS:	OSHA - Vacated PELs	NIOSH IDLH
Kerosine, Petroleum 8008-20-6	200 mg/m³ TWA Skin - potential significant contribution to overall exposure by the cutaneous route	-	-	-
Naphthalene 91-20-3	10 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route	TWA: 10 ppm TWA: 50 mg/m³	10 ppm TWA 50 mg/m³ TWA 15 ppm STEL 75 mg/m³ STEL	250 ppm

Notes: The manufacturer has voluntarily elected to provide exposure limits contained in OSHA's 1989 air contaminants standard in its SDSs, even though certain of those exposure limits were vacated in 1992.

Engineering measures: Local or general exhaust required in an enclosed area or with inadequate ventilation. Use mechanical ventilation equipment that is explosion-proof.

Personal protective equipment

Eye protection: Use goggles or face-shield if the potential for splashing exists.

Skin and body protection: Wear neoprene, nitrile or PVA gloves to prevent skin contact. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.

Respiratory protection: Use an approved organic vapor chemical cartridge or supplied air respirators when material produces vapors that exceed permissible exposure limits or excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for fire fighting.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Clear or Amber Liquid
Color	Clear or Amber
Odor	Slight Hydrocarbon
Odor Threshold	No available data.

Property	**Values (Method)**
Melting Point / Freezing Point	No available data.
Initial Boiling Point / Boiling Range	182-288 °C / 360-550 °F
Flash Point	49-88 °C / 120-190 °F
Evaporation Rate	No available data.
Flammability (solid, gas)	Not applicable.
Flammability Limit in Air (%)	
Upper Flammability Limit:	5.0
Lower Flammability Limit:	0.7
Vapor Pressure	1-10 mm Hg @ 20°C
Vapor Density	4-5
Specific Gravity / Relative Density	C.A. 0.8
Water Solubility	No available data.
Solubility in other solvents	Negligible
Partition Coefficient	No available data.
Decomposition temperature:	No available data.
pH:	Not applicable
Autoignition Temperature	254 °C / 489 °F
Kinematic Viscosity	1.3-2.1 @ 50°C
Dynamic Viscosity	No available data.
Explosive Properties	No available data.
Softening Point	No available data.
VOC Content (%)	10%
Density	6.76 lbs/gal
Bulk Density	Not applicable.

10. STABILITY AND REACTIVITY

Reactivity	The product is non-reactive under normal conditions.
Chemical stability	The material is stable at 70°F, 760 mmHg pressure.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	Will not occur.
Conditions to avoid	Excessive heat, sources of ignition, open flame.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	None known under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Potential short-term adverse effects from overexposures

Inhalation	Inhalation of high vapor concentrations may cause irritation of the respiratory system. May cause drowsiness or dizziness.
Eye contact	Causes mild eye irritation.
Skin contact	Causes skin irritation. Effects may become more serious with repeated or prolonged contact. May be absorbed through the skin in harmful amounts.
Ingestion	May be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract.

Acute Toxicological data

Name	Oral LD50	Dermal LD50	Inhalation LC50
Kerosine, Petroleum 8008-20-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Naphthalene 91-20-3	490 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 340 mg/m³ (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffer's Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline.

MIDDLE DISTILLATES, PETROLEUM: Long-term repeated (lifetime) skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents. The relevance of these findings to humans is not clear at this time.

ISOPARAFFINS: Studies in laboratory animals have shown that long-term exposure to similar materials (isoparaffins) can cause kidney damage and kidney cancer in male laboratory rats. However, in-depth research indicates that these findings are unique to the male rat, and that these effects are not relevant to humans.

NAPHTHALENE: Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from overexposure to naphthalene. Persons with glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have been reported in persons overexposed to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect. Hemolytic anemia has been observed in laboratory animals exposed to 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. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of 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. Naphthalene has been classified as Possibly Carcinogenic to Humans (2B) by IARC, based on findings from studies in laboratory animals.

DIESEL EXHAUST: The combustion of diesel fuels produces gases including carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur, and hydrocarbons that can be irritating and hazardous with overexposure. Long-term occupational overexposure to diesel exhaust and diesel exhaust particulate matter has been associated with an increased risk of **respiratory disease, including lung cancer, and is characterized as a "known human carcinogen" by the International Agency for Research on Cancer (IARC), as "a reasonably anticipated human carcinogen" by the National Toxicology Program, and as "likely to be carcinogenic to humans" by the EPA, based upon animal and occupational exposure** studies. However, uncertainty exists with these classifications because of deficiencies in the supporting occupational exposure/epidemiology studies, including reliable exposure estimates. Lifetime animal inhalation studies with pulmonary overloading exposure concentrations of diesel exhaust emissions have produced tumors and other adverse health effects. However, in more recent long-term animal inhalation studies of diesel exhaust emissions, no increase in tumor incidence and in fact a substantial reduction in adverse health effects along with significant reductions in the levels of hazardous material emissions were observed and are associated with fuel composition alterations coupled with new technology diesel engines.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs & Symptoms Nausea, vomiting, signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue.

Sensitization Not expected to be a skin or respiratory sensitizer.

Mutagenic effects None known.

Carcinogenicity Cancer designations are listed in the table below.

Name	ACGIH (Class)	IARC (Class)	NTP	OSHA

Kerosine, Petroleum 8008-20-6	Confirmed animal carcinogen (A3)	Not Classifiable (3)	Not Listed	Not Listed
Naphthalene 91-20-3	Confirmed animal carcinogen (A3)	Possible human carcinogen (2B)	Reasonably anticipated to be a human carcinogen	Not Listed

Reproductive toxicity None known.

Specific Target Organ Toxicity (STOT) - single exposure Central nervous system.

Specific Target Organ Toxicity (STOT) - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed or vomited and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity This product should be considered toxic to aquatic organisms, with the potential to cause long lasting adverse effects in the aquatic environment.

Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Kerosine, Petroleum 8008-20-6	72-hr EL50 = 5.0-11 mg/l Algae	96-hr LL50 = 18-25 mg/l Fish	-	48-hr EL50 = 1.4-21 mg/l Invertebrates
Naphthalene 91-20-3	-	96-hr LC50 = 0.91-2.82 mg/l Rainbow trout (static) 96-hr LC50 = 1.99 mg/l Fathead minnow (static)	-	48-hr LC50 = 1.6 mg/l Daphnia magna

Persistence and degradability Expected to be inherently biodegradable.

Bioaccummulation Has the potential to bioaccumulate.

Mobility in soil May partition into air, soil and water.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of Waste Residues
This material may be a flammable liquid waste.

Safe Handling of Wastes
Handle in accordance with applicable local, state, and federal regulations. Use personal protection measures as required. Use appropriate grounding and bonding practices. Use only non-sparking tools. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking.

Disposal of Wastes / Methods of Disposal
The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance with federal, state and local regulations.

Methods of Contaminated Packaging Disposal
Empty containers should be completely drained and then discarded or recycled, if possible. Do not cut, drill, grind or weld on empty containers since explosive residues may be present. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT (49 CFR 172.101):
UN Proper shipping name: Kerosene
UN/Identification No: UN 1223

Transport Hazard Class(es): 3
Packing group: III

TDG (Canada):
UN Proper shipping name: Kerosene
UN/Identification No: UN 1223
Transport Hazard Class(es): 3
Packing group: III

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List.

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Kerosine, Petroleum	NA
Naphthalene	NA

SARA Section 304: This product may contain component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Kerosine, Petroleum	NA
Naphthalene	100 lb final RQ 45.4 kg final RQ

SARA: The following EPA hazard categories apply to this product:

Acute Health Hazard
Fire Hazard
Chronic Health Hazard

SARA Section 313: This product may contain component(s), which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

Name	CERCLA/SARA 313 Emission reporting:
Kerosine, Petroleum	None
Naphthalene	0.1 % de minimis concentration

State and Community Right-To-Know Regulations:
The following component(s) of this material are identified on the regulatory lists below:

Kerosine, Petroleum
Louisiana Right-To-Know: Not Listed.
California Proposition 65: Not Listed.
New Jersey Right-To-Know: SN 1091
Pennsylvania Right-To-Know: Present
Massachusetts Right-To Know: Present
Florida Substance List: Not Listed.
Rhode Island Right-To-Know: Not Listed.
Michigan Critical Materials Register List: Not Listed.
Massachusetts Extraordinarily Hazardous Substances: Not Listed.

California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.
New Jersey - Environmental Hazardous Substances List:	SN 1091 TPQ: 10000 lb (Under N.J.A.C. 7:1G, environmental hazardous substances in mixtures such as gasoline or new and used petroleum oil may be reported under these categories)
Illinois - Toxic Air Contaminants	Not Listed.
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.

Naphthalene

Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Carcinogen, initial date 4/19/02
New Jersey Right-To-Know:	SN 1322 SN 3758
Pennsylvania Right-To-Know:	Environmental hazard Present (particulate)
Massachusetts Right-To Know:	Present
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Carcinogen
New Jersey - Environmental Hazardous Substances List:	SN 1322 TPQ: 500 lb (Reportable at the de minimis quantity of >0.1%)
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	100 lb RQ (air); 1 lb RQ (land/water)

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Canadian Regulatory Information: "This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the (M)SDS contains all the information required by the Controlled Products Regulations."

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Kerosine, Petroleum	B3,D2B	1%
Naphthalene	B4,D2A	0.1%

NOTE: Not Applicable.

16. OTHER INFORMATION

Prepared By Toxicology and Product Safety
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Revision Note:

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.