

K-1 Kerosene Safety Data Sheet



Synonyms: Kerosene; K-1 Kerosene; 1-K Kerosene 400 ppm Sulfur Max; Kerosene K-1 400 ppm Sulfur Max; Kerosene K-1; K-1 Kerosene

Section 1 - Product and Company Identification

Manufacturer Information: Various Refineries

Distributor: Crystal Flash, Inc.
1754 Alpine Ave NW
Grand Rapids, MI 49504

Phone: (616)363-4851
Emergency # 800-535-5053 INFOTRAC
www.crystalflash.com

Section 2 - Hazards Identification

GHS Classification:

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 and Chronic Aquatic Toxicity – Category 2

Hazards Not Otherwise Classified (HNOC)

Static accumulating flammable liquid

GHS LABEL ELEMENTS

Symbol(s)/Pictograms:



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

Signal Word:

DANGER

Hazard Statements:

FLAMMABLE LIQUID AND VAPOR • May accumulate electrostatic charge and ignite or explode • May be fatal if swallowed and enters airways • Causes skin irritation
May cause respiratory irritation • May cause drowsiness or dizziness • Suspected of causing cancer • *Toxic to aquatic life with long lasting effects*

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

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

Storage:

Store in a well-ventilated place. Keep container tightly closed • Keep cool • Store locked up

Disposal:

Dispose of contents/container at an approved waste disposal plant

Section 3 – Composition/Information on Ingredients

CAS#	Component	Percent
8008-20-6	Kerosene, Petroleum	100
91-20-3	Naphthalene	0.3-2.6

1-K Kerosene 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).

Section 4 – First Aid Measures

General:

In case of accident or if you feel unwell, seek medical advice

First Aid: Eyes

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 medical attention if irritation persists.

First Aid: Skin

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).

First Aid: 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.

First Aid: 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. If symptoms occur get medical attention.

Most important signs and symptoms, both short-term and delayed with overexposure**Adverse Effects:**

Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking.

Indication of any immediate medical attention and special treatment needed**Notes To Physician:**

INHALATION: This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.

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.

Section 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 Emergency Response Guidebook 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.

Additional Firefighting Tactics

FIRES INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after the fire is out. Do not direct water at source of

leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles: if this is impossible, withdraw from area and let fire burn.

EVACUATION: Consider initial downwind evacuation for at least 1000 feet. If tank, rail car or tank truck is involved in a fire, ISOLATE for 5280 feet (1 mile) in all directions; also, consider initial evacuation of 5280 feet (1 mile) in all directions.

NFPA Health 1 Flammability 2 Instability 0 Special Hazard -

Section 6 – Accidental Release Measures

Materials and Methods for Containment:

Contain liquid with sand or soil. Prevent spilled material from entering storm drains, sewers and open waterways

Emergency Procedures:

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. 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.

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.

Environmental Precautions:

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire-fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Materials and Methods for Clean-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.

Section 7 – Handling and Storage

Handling Procedures:

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. Vapors may travel along the ground or be moved by ventilation. Flashback may occur along vapor trails. No smoking. Use only non-sparking tools. Avoid repeated and prolonged skin contact. Avoid breathing vapors or mists. Use only with adequate ventilation. Use personal protection measures as recommended in Section 8. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water. 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 Procedures:

Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area. Do not store near an open flame, heat or other sources of ignition.

Incompatibilities:

Keep away from strong oxidizers.

Section 8 – Exposure Controls/Personal Protection

Name	ACGIH TLV	OSHA PELs:	OSHA - Vacated PELs	NIOSH IDLH
Kerosene, Petroleum 8008-20-6	200 mg/m ³ 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/m ³	10 ppm TWA 50 mg/m ³ TWA 15 ppm STEL 75 mg/m ³ STEL	250 ppm

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: Respiratory

Use a NIOSH approved organic vapor chemical cartridge or supplied air respirators when there is the potential for airborne exposures to exceed permissible exposure limits or if 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.

Personal Protective Equipment: Eyes

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

Personal Protective Equipment: Skin and Body

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.

Section 9 – Physical and Chemical Properties

Appearance:	Clear or amber colored liquid	Odor:	Slight hydrocarbon
Physical State:	Liquid	pH:	NA
Vapor Pressure:	No data available	Vapor Density:	No data available
Boiling point:	134-294 °C / 274-562 °F	Melting Point/ Freezing Point:	-56 to -39 °C / -68 to -39 °F (ASTM D5949)
Solubility (H₂O):	No data available	Specific Gravity:	0.70-0.82 (ASTM D4052)
Evaporation Rate:	No data available	VOC:	No data available
Flash Point:	46-71 °C / 116-159 °F (ASTM D93)	Auto Ignition:	210 °C / 410 °F
Upper Flammability Limit in Air (UFL):	5.0	Lower Flammability Limit in Air(LFL):	0.4

Section 10 – Chemical Stability & Reactivity Information

Reactivity:

The product is non-reactive under normal conditions.

Chemical Stability:

The material is stable at 70°F, 760 mmHg pressure.

Hazardous Reaction Potential:

None under normal processing.

Conditions to Avoid :

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products:

Keep away from strong oxidizers.

Hazardous Decomposition Products:

None known under normal conditions of use.

Section 11 – Toxicological Information

Potential short-term adverse effects from overexposures

Inhalation:

May cause irritation of respiratory tract. May cause drowsiness or dizziness. Breathing high concentrations of this material, for example, in a confined space or by intentional abuse, can cause irregular heartbeats which can cause death.

Eye contact:

Exposure to vapor or contact with liquid may cause mild eye irritation, including tearing, stinging, and redness.

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
Kerosene, 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/m ³ (Rat) 1 h

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

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. 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.

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 and Symptoms:

Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking.

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
Kerosene, Petroleum	Confirmed animal carcinogen (A3)	Not Classifiable (3)	Not Listed	Not Listed
8008-20-6	Confirmed animal carcinogen (A3)	Possible human carcinogen	Reasonably anticipated to be a human carcinogen	Not Listed

Reproductive toxicity:

None known.

Specific Target Organ Toxicity (STOT) - single exposure:

Respiratory system. Central nervous system.

Specific Target Organ Toxicity (STOT) - repeated exposure:

Not classified.

Aspiration Hazard:

May be fatal if swallowed or vomited and enters airways.

Section 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
Kerosene, Petroleum	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
8008-20-6	-	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/Degradability:

Expected to be inherently biodegradable.

Bioaccumulation:

No information available.

Mobility in Soil:

May partition into air, soil and water.

Section 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.

Section 14 – Transportation Information

DOT Information:

Shipping Name: Kerosene

Placard:

NA #: 1223

Hazard Class: 3

Packing Group: III



Section 15 – Regulatory Information

Regulatory Information:**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
Kerosene, Petroleum	NA
Naphthalene	NA

SARA Section 304:

This product may contain component(s) identified either as an EHS or a CERCLA Hazardous.

Name	Hazardous Substances RQs
Kerosene, 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 • Chronic Health Hazard • Fire 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:
Kerosene, Petroleum	None
Naphthalene	0.1 % de minimis concentration

Section 16 – Other Information

Other Information:

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.