



## MATERIAL SAFETY DATA SHEET

### Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHS Inc.  
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Transportation Emergency (CHEMTREC): 1-800-424-9300  
Technical Information: 1-651-355-8443  
MSDS Information: 1-651-355-8438

PRODUCT NAME: K-1 KEROSENE

MSDS: 0145 - M4A0 – Rev. H, 05/02/2012

COMMON NAME: K-1 Kerosene; Kerosene; White Kerosene

CHEMICAL FORMULA: Mixture

CHEMICAL NAME: Petroleum Distillate

CHEMICAL FAMILY: Mixture of Paraffinic, Olefinic, Naphthenic, and Aromatic Hydrocarbon

### Section 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENTS	PERCENTAGES (by weight)	PEL (OSHA)	TLV (ACGIH)	CAS #
Kerosene	> 98	N/D ppm TWA	N/D ppm TWA	8008-20-6
Naphthalene	0.01-0.5	10 ppm TWA	10 ppm TWA	91-20-3

Note: The National Institute for Occupational Safety and Health published a Recommended Exposure Limit (REL) for Kerosene at 100 mg/m<sup>3</sup> time weighted over ten hours. (TWA) - Time Weighted Average is the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded. (STEL) - Short Term Exposure Limit is the employee's 15-minute time weighted average exposure which shall not be exceeded at any time during a work day unless another time limit is specified.

### Section 3 - HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Combustible liquid and vapor; vapor may cause flash fire; vapors, fumes, or mists may cause respiratory tract irritation. May be harmful or fatal if swallowed. May cause lung damaged.

#### OSHA HAZARD CLASSES

Based on OSHA definitions, the following ingredients in this product are hazardous. The OSHA physical and health hazard categories are shown below.

Kerosene: Combustible, toxic (moderate), target organ (skin).

#### POTENTIAL HEALTH EFFECTS

**ROUTES OF ENTRY:** Eye Contact, Dermal, Inhalation, Ingestion.

#### **ACUTE EFFECTS OF OVER EXPOSURE:**

**Eyes** - Expected to be irritation.

**Skin** - Expected to be slight irritant.

**Inhalation** - Vapors may cause dizziness or asphyxiation.

**Ingestion** - Central nervous system depression, peripheral nervous system depression, narcosis, asphyxiation, gastrointestinal disturbances. Aspiration of vomitus can cause serious pneumonitis, particularly in young children.

**CHRONIC EFFECTS OF OVER EXPOSURE:** Dermatitis from chronic exposure. Products of similar composition were tested on laboratory animals, and weak to moderately positive results were found in mouse skin cancer studies, mixed and inconsistent results were found in mutagenicity studies, and negative results were found in rat teratology studies. This material is not listed as a carcinogen by NTP, IARC, or OSHA.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** May aggravate pre-existing dermatitis, respiratory illness, or other conditions which have the same symptoms or effects as stated above.

**Note:** The International Agency for Research on Cancer (IARC) and the EPA have determined that naphthalene is a possible human carcinogen.

## Section 4 - FIRST AID MEASURES

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### EMERGENCY AND FIRST AID PROCEDURES:

**Eye Contact** - If material comes in contact with the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids until medical attention can be obtained.

**Skin Contact** - If material comes in contact with skin, promptly wash the contaminated skin with water. If material penetrates the clothing, promptly remove the clothing and wash the skin with water. If irritation persists after washing, get medical attention.

**Inhalation** - Move person to fresh air. If a large amount has been inhaled, keep victim warm and get medical attention. Apply rescue breathing procedures if not breathing.

**Ingestion** - Do NOT induce vomiting. Get medical attention immediately. If spontaneous vomiting occurs, lower victim's head in an effort to prevent vomitus from entering the lungs. Never give anything by mouth to an unconscious person.

## Section 5 - FIRE - FIGHTING MEASURES

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**FLASH POINT:** > 100°F (PMCC) (typical 145°F)

**AUTO IGNITION TEMP:** 485 - 495°F

**FLAMMABLE LIMITS IN AIR**  
% BY VOLUME

**LOWER**  
0.7

**UPPER**  
5.0

**EXTINGUISHING MEDIA:** Dry Chemical, Foam, Carbon Dioxide (CO<sub>2</sub>), Water (fog pattern).

**SPECIAL FIRE FIGHTING PROCEDURES:** Water may be ineffective on flames, but should be used to keep fire-exposed containers cool. Water or foam sprayed into container of hot burning product could cause frothing and endanger fire fighters. Large fires, such as tank fires, should be fought with caution. If possible, pump the contents from the tank and keep adjoining structures cool with water. Avoid spreading burning liquid with water used for cooling purposes. Do not flush down public sewers. Avoid inhalation of vapors. Firefighters should wear self-contained breathing apparatus.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Vapors are heavier than air and may travel along the ground to a source of ignition (pilot light, heater, electric motor) some distance away. Containers, drums (even empty) can explode when heat (welding, cutting, etc.) is applied.

<b>HAZARD RATINGS:</b>	<b>NFPA 704:</b>	Health <u>1</u>	Fire <u>2</u>	Reactivity <u>0</u>
	<b>HMIS:</b>	Health <u>2</u>	Fire <u>2</u>	Reactivity <u>0</u>

## Section 6 - ACCIDENTAL RELEASE MEASURES

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**STEPS TO TAKE IF MATERIAL IS RELEASED OR SPILLED:** REMOVE ALL SOURCES OF IGNITION. Notify emergency response personnel as appropriate. If facility or operation has an "Oil or Hazardous Substance Contingency Plan", "Spill Prevention Control & Countermeasures (SPCC) Plan" or equivalent, activate its procedures. Prohibit persons not wearing protective equipment from entering the area. Stop leak at source, contain spill to prevent spreading. Small spills can be removed with inert absorbent. Dike area of large spill to prevent runoff to sewers, streams, etc. Ventilate area. Avoid breathing vapors.

## Section 7 - HANDLING AND STORAGE

**HANDLING AND STORAGE:** Transport, handle and store in accordance with OSHA Regulation 29 CFR 1910.106, and applicable D.O.T. Regulation. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool-well ventilated area. Avoid repeated and prolonged skin contact. Never siphon this product by mouth. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

**Caution:** Misuse of empty containers can be hazardous. Empty containers can be hazardous since emptied containers retain product residue (vapor, liquid, and/or solid). Cutting or welding empty containers might cause fire, explosion or toxic fumes from residues.

## Section 8 - EXPOSURE CONTROL - PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Provide adequate local or dilution ventilation to keep vapors below permissible concentrations.

**RESPIRATORY EQUIPMENT:** Personnel should never enter areas of high concentrations without proper respiratory protection. If exposure limits for product or components are exceeded, NIOSH-approved respiratory protection equipment should be worn. Proper selection of respirators should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. Self-contained breathing apparatus or supplied air respiratory protection required for entry into tanks, vessels, or other confined spaces containing kerosene.

**EYE PROTECTION:** Chemical safety goggles or face shield where contact with liquid or mist may occur.

**PROTECTIVE CLOTHING:** Wear impervious clothing and gloves when contact with skin may occur.

**OTHER (SAFETY SHOWERS, EYE WASH STATIONS, ETC.):** Water should be available for flushing and washing where exposure exists.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Pale yellow to water-white liquid

**ODOR:** Mild hydrocarbon odor

**BOILING POINT:** 340°F - 572°F

**SPECIFIC GRAVITY (water=1):** 0.8

**VAPOR PRESSURE:** < 50 mmHg @ 100°F

**VAPOR DENSITY (air=1):** > 1

**SOLUBLE IN WATER:** Insoluble

**EVAPORATION RATE (ether=1):** > 1

**pH:** N/D

## Section 10 - STABILITY AND REACTIVITY

**STABILITY:**

**STABLE**  (At room temperature and pressure. See handling and storage section)

**UNSTABLE**

**INCOMPATIBILITY:**

**CONDITIONS TO AVOID:** Heat, flame, and other ignition sources.

**MATERIALS TO AVOID:** Strong oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, and other petroleum decomposition products.

**HAZARDOUS POLYMERIZATION:** Has not been reported to occur under normal temperatures and pressures.

## Section 11 - TOXICOLOGY INFORMATION

**Note:** CHS has not conducted specific toxicity tests on this product. Our hazard evaluation is based from similar ingredients, technical literature, and/or professional experience

## Section 12 - ECOLOGICAL INFORMATION

**Note:** CHS has not conducted specific ecological tests on this product.

## Section 13 - DISPOSAL CONSIDERATION

**WASTE DISPOSAL PROCEDURES:** Recycle as much of the recoverable product as possible. Do not flush to drain or storm sewer or otherwise release to the environment. Dispose of non-recyclable material according to federal, state and local regulations.

## Section 14 - TRANSPORTATION

**DOT PROPER SHIPPING NAME:** Kerosene

**DOT HAZARD CLASS:** Flammable Liquid

**DOT IDENTIFICATION NUMBER:** UN 1223

**DOT EMER. RESPONSE GUIDE NO.:** 128  
(Formerly #27)

Proper Shipping Name- **Kerosene**; Hazard Class- **3**; UN/NA Identification #- **UN 1223**; Packing Group **III**; Placard- **FLAMMABLE LIQUID**.

## Section 15 - REGULATORY INFORMATION

This product contains the following toxic chemicals subject to the reporting requirements of SARA Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

<u>CAS Number</u>	<u>Chemical Name</u>	<u>Percent by Weight</u>
91-20-3	Naphthalene	0.1% de minimis concentration

### SARA SECTION 311-312 HAZARD CATEGORIES (40 CFR 370.2):

**FIRE:** Yes    **SUDDEN RELEASE OF PRESSURE:** No    **REACTIVE:** No    **ACUTE:** Yes    **CHRONIC:** Yes

**CA Prop 65:** This material may contain the following components which are known to the state of California to cause birth defects or other reproductive harm and may be subject to the requirements of California Proposition: 0.1% Naphthalene.

## Section 16 - OTHER INFORMATION

Date: May 02, 2012                      Supersedes: November 13, 2008

Reason for Issue: Updated Sections 1, 3, 5, 7 and 16

THE INFORMATION CONTAINED IN THIS MSDS RELATES ONLY TO THE SPECIFIC MATERIAL IDENTIFIED. IT DOES NOT COVER USE OF THAT MATERIAL IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY PARTICULAR PROCESS. IN COMPLIANCE WITH 29 C.F.R. 1910.1200(g), CHS HAS PREPARED THIS MSDS IN SEGMENTS, WITH THE INTENT THAT THOSE SEGMENTS BE READ TOGETHER AS A WHOLE WITHOUT TEXTUAL OMISSIONS OR ALTERATIONS. CHS BELIEVES THE INFORMATION CONTAINED HEREIN TO BE ACCURATE, BUT MAKES NO REPRESENTATION, GUARANTEE, OR WARRANTY, EXPRESS OR IMPLIED, ABOUT THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THE INFORMATION OR ABOUT THE FITNESS OF CONTENTS HEREIN FOR EITHER GENERAL OR PARTICULAR PURPOSES. PERSONS REVIEWING THIS MSDS SHOULD MAKE THEIR OWN DETERMINATION AS TO THE MATERIAL'S SUITABILITY AND COMPLETENESS FOR USE IN THEIR PARTICULAR APPLICATIONS.



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