




SAFETY DATA SHEET

1. Identification

Product identifier	K-1 Kerosene
Other means of identification Synonyms	Kerosene * White Kerosene * Petroleum Distillate * Mixture of Paraffinic, Olefinic, Naphthenic, and Aromatic Hydrocarbon
Recommended use	Fuel.
Recommended restrictions	Uses other than the recommended use.
Manufacturer/Importer/Supplier/Distributor information	
Company name	CHS Inc.
Address	P.O. Box 64089 Mail Station 525 St. Paul, MN 55164-0089 United States of America
Telephone numbers	Transportation Emergency (CHEMTREC): 1-800-424-9300 Technical Information: 1-651-355-8443 SDS Information: 1-651-355-8445

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Skin corrosion/irritation	Category 2
	Carcinogenicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	
Label elements		

Signal word Danger

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

Precautionary statement

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 mist/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed or concerned: Get medical advice/attention. In case of fire: Use appropriate media to extinguish. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Naphthalene	91-20-3	0.3 - 3
Kerosine (Petroleum)	8008-20-6	≥ 90

Composition comments Any concentration shown as a range is to protect confidentiality or is due to batch variation. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Call a poison center or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure. May cause drowsiness or dizziness. Headache. Nausea, vomiting. Diarrhea. Direct contact with eyes may cause temporary irritation. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS. The product is insoluble in water.

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Naphthalene (CAS 91-20-3)	PEL	50 mg/m ³ 10 ppm

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Kerosine (Petroleum) (CAS 8008-20-6)	TWA	200 mg/m ³	Non-aerosol.
Naphthalene (CAS 91-20-3)	TWA	10 ppm	

NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended

Components	Type	Value
Naphthalene (CAS 91-20-3)	IDLH	0.9 % 250 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Kerosine (Petroleum) (CAS 8008-20-6)	TWA	100 mg/m3
Naphthalene (CAS 91-20-3)	STEL	75 mg/m3
		15 ppm
	TWA	50 mg/m3
		10 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines**US - California OELs: Skin designation**

Naphthalene (CAS 91-20-3) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Kerosine (Petroleum) (CAS 8008-20-6) Danger of cutaneous absorption

Naphthalene (CAS 91-20-3) Danger of cutaneous absorption

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear chemical splash goggles, face shield, or safety glasses with side shields as appropriate for risk of exposure.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Skin protection

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. When there is a risk of ignition from static electricity, wear antistatic protective clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapor cartridge and full facepiece. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Physical state Liquid.
Form Liquid.
Color Water-white, light or pale yellow.

Odor Mild hydrocarbon.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 340 - 572 °F (171.11 - 300 °C)

Flash point > 100 °F (> 37.78 °C) Pensky-Martens Closed Cup Closed cup

Evaporation rate > 1 (Butyl acetate = 1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits**Explosive limit - lower (%)** 0.7 %**Explosive limit - upper (%)** 5 %**Vapor pressure** < 6.7 kPa (100.04 °F (37.8 °C))**Vapor density** > 1 (Air = 1)**Relative density** 0.8**Solubility(ies)****Solubility (water)** Insoluble.**Partition coefficient
(n-octanol/water)** Not applicable, product is a mixture.**Auto-ignition temperature** 485 - 495 °F (251.67 - 257.22 °C)**Decomposition temperature** Not available.**Viscosity** Not available.**Other information****Explosive properties** Not explosive.**Oxidizing properties** Not oxidizing.**10. Stability and reactivity****Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.**Chemical stability** Material is stable under normal conditions.**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.**Conditions to avoid** Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.**Incompatible materials** Strong oxidizing agents.**Hazardous decomposition products** No hazardous decomposition products are known.**11. Toxicological information****Information on likely routes of exposure****Inhalation** May cause drowsiness or dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.**Skin contact** Causes skin irritation.**Eye contact** Direct contact with eyes may cause temporary irritation.**Ingestion** Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.**Symptoms related to the physical, chemical and toxicological characteristics** Aspiration may cause pulmonary edema and pneumonitis. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure. May cause drowsiness or dizziness. Headache. Nausea, vomiting. Diarrhea. Direct contact with eyes may cause temporary irritation. Skin irritation. May cause redness and pain.**Information on toxicological effects****Acute toxicity**

Components	Species	Test Results
Naphthalene (CAS 91-20-3)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2500 mg/kg
Inhalation		
<i>Vapor</i>		
LC50	Rat	> 0.4 mg/l, 4 Hours
Oral		
LD50	Mouse	553 mg/kg
Skin corrosion/irritation	Causes skin irritation.	

Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Naphthalene (CAS 91-20-3) 2B Possibly carcinogenic to humans.

NTP Report on Carcinogens

Naphthalene (CAS 91-20-3) Known To Be Human Carcinogen.
Reasonably Anticipated to be a Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity	Toxic to aquatic life with long lasting effects.
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Components		Species	Test Results
Naphthalene (CAS 91-20-3)			
Aquatic			
Algae	EC50	Diatom (Skeletonema costatum)	0.4 mg/l, 72 Hours
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	2.16 mg/l, 48 hours
Fish	LC50	Pimephales promelas	6.08 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	NOEC	Water flea (Daphnia pulex)	0.59 mg/l, 125 days
Fish	NOEC	Coho salmon,silver salmon (Oncorhynchus kisutch)	0.37 mg/l, 40 days
Terrestrial			
Bacteria	IC50	Nitrosomonas sp.	29 mg/l, 24 Hours

Persistence and degradability	No data is available on the degradability of this product.
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Bioaccumulative potential	No data available on bioaccumulation.
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Partition coefficient n-octanol / water (log Kow)

Naphthalene (CAS 91-20-3) 3.3

Mobility in soil	The product is insoluble in water.
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Other adverse effects	Oil spills are generally hazardous to the environment. The product contains volatile organic compounds which have a photochemical ozone creation potential. This product contains one or more substances identified as hazardous air pollutants (HAPs) per the US Federal Clean Air Act (see section 15).
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13. Disposal considerations

Disposal instructions	Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
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Local disposal regulations	Dispose in accordance with all applicable regulations.
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Hazardous waste code	D001: Waste Flammable material with a flash point <140 F The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1223
UN proper shipping name	Kerosene
Transport hazard class(es)	
Class	3
Subsidiary hazard	-
Label(s)	3
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	144, B1, IB3, T2, TP2
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

UN number	UN1223
UN proper shipping name	Kerosene
Transport hazard class(es)	
Class	3
Subsidiary hazard	-
Packing group	III
Environmental hazards	Yes
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1223
UN proper shipping name	KEROSENE
Transport hazard class(es)	
Class	3
Subsidiary hazard	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA)

All components of the mixture on the TSCA 8(b) inventory are designated "active".

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)
Aspiration hazard

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Naphthalene	91-20-3	0.3 - 3

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Naphthalene (CAS 91-20-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. Massachusetts RTK - Substance List**

Kerosine (Petroleum) (CAS 8008-20-6)

Naphthalene (CAS 91-20-3)

US. New Jersey Worker and Community Right-to-Know Act

Kerosine (Petroleum) (CAS 8008-20-6)

Naphthalene (CAS 91-20-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Kerosine (Petroleum) (CAS 8008-20-6)

Naphthalene (CAS 91-20-3)

US. Rhode Island RTK

Kerosine (Petroleum) (CAS 8008-20-6)

Naphthalene (CAS 91-20-3)

California Proposition 65

WARNING: This product can expose you to Naphthalene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

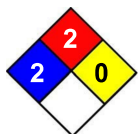
California Proposition 65 - CRT: Listed date/Carcinogenic substance

Naphthalene (CAS 91-20-3)

Listed: April 19, 2002

16. Other information, including date of preparation or last revision

Issue date 22-August-2024
Revision date -
Version # 01
HMIS® ratings Health: 3*
Flammability: 3
Physical hazard: 0

NFPA ratings

Disclaimer

Notice to reader:

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