1 PRODUCT AND COMPANY INFORMATION

Product Name:	Dyed Kerosene
Revision Date:	05/17/2016
SDS Number:	905172
Common Name:	Complex Hydrocarbon Substance
CAS Number:	Blend
Product Code:	905172
Synonyms:	Un-taxed Kerosene, Dyed Kerosene Fuel, #1 Diesel for off-road use.

Company Identification:

Manufactured for:
LYDEN OIL COMPANY
3711 LeHarps Drive
Youngstown, OH 44515

For Product Information:	1-330-792-1100
For Emergencies:	1-800-424-9300
CHEMTREC:	1-800-424-9300 or 1-703-527-3887

2 HAZARDS IDENTIFICATION

Signal Word: **DANGER**

Hazard Classes/Categories:

Flammable liquid, Category 3.
Skin irritant, Category 2.
Carcinogen, Category 2.

Specific target organ toxicity – single exposure, Category 3.
Aspiration hazard, Category 1.
Hazardous to the aquatic environment, Category acute 2.
Hazardous to the aquatic environment, Category chronic 2.

Hazard Statement(s):

H226: Flammable liquid and vapor.
H205: May mass explode in fire.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H351: Suspected of causing cancer.
H336: May cause drowsiness or dizziness.
H411: Toxic to aquatic life with long-lasting effects.

Precaution Statement(s):

P101: If medical advice is needed, have product container or label at hand.
P102: Keep out of reach of children.
P103: Read label before use.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P242: Use only non-sparking tools.
P241: Use explosion-proof electrical/ventilating/light/…/equipment.
P243: Take precautionary measures against static discharge.
P260: Do not breathe mist/vapors/spray.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P264: Wash any exposed skin thoroughly after handling.
P273: Avoid release to the environment.
P308+311: IF exposed or concerned: Call a POISON CENTER/ doctor.
P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P332+313: If skin irritation occurs: Get medical advice/attention.
P363: Wash contaminated clothing before reuse.

P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTER/ doctor if you feel unwell.
P301+310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331: Do NOT induce vomiting.
P370+378: In case of fire: Use water spray, fog, or foam to extinguish.
P403+233: Store in a well ventilated place. Keep container tightly closed.
P405: Store locked up.
P235: Keep cool.
P501: Dispose of contents/container in accordance with local/regional/national/international regulation.

Other Hazard Statement(s):

-NFPA Ratings:
Health = 1
Fire = 2
Reactivity = 0

Repeated exposure may cause skin dryness or cracking. Static accumulating flammable liquid.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients:

Mixture of the substances listed below with nonhazardous additions.

Chemical Name	CAS Number	Percentage
Kerosene, Petroleum	8008-20-6	100
Naphthalene	91-20-3	0.01-0.5

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

4 FIRST AID MEASURES

Description of First Aid Measures:

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 medical attention if irritation persists.

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.

Symptoms and Effects, both acute and delayed:

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

Recommended Actions:

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

Recommended Fire-Extinguishing Equipment:

For small fires, Class B fire extinguishing media such as CO_2, 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.

Possible Hazards During a Fire:

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.

Recommendations to 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 may be ineffective in extinguishing low flash point fires, but can be used to cool exposed surfaces. Avoid excessive water spray application. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Keep run-off water out of sewers and water sources.

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. Avoid contact with skin, eyes, and clothing. Avoid breathing vapors.

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.

Cleanup Procedures:

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

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.

Storage Requirements:

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

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

-Kerosene, Petroleum:

ACGIH TWA – 200mg/m³

-Naphthalene:

ACGIH TWA – 10ppm

Engineering Controls:

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94).

Personal Protective Equipment:

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

Skin and body protection: Use nitrile rubber, viton or PVA gloves for repeated or prolonged skin exposure. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.

Respiratory protection: Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the established exposure limits. 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.

9 PHYSICAL AND CHEMICAL PROPERTIES

Color:	Red
Physical State:	Liquid
Odor:	Hydrocarbon
Odor Threshold:	Data not available
pH:	Data not available
Melting Point:	Data not available
Boiling Point:	182° C / 360° F
Boiling Range:	182-288° C / 360-550° F
Flash Point:	49-88° C / 120-190° F
Evaporation Rate:	Data not available
Flammability:	Flammable
Flammability Limits:	Upper = 5.0 / Lower = 0.7
Vapor Pressure:	1-10 mmHg at 20° C
Vapor Density:	4-5
Relative Density:	0.800
Solubilities:	Insoluble in water
Partition Coefficient:	Data not available
Auto-Ignition Temperature:	254° C / 489° F
Decomposition Temperature:	Data not available
Viscosity:	1.3-2.1 mm^2/sec (kinematic at 50° C)

10 STABILITY AND REACTIVITY

Stability:

Stable under nominal conditions.

Reactivity:

Not reactive under normal conditions.

Conditions to Avoid:

Extreme temperature, sparks, open flame, and direct sunlight.

Hazardous Reactions:

No known hazardous reactions.

Incompatible Materials:

Strong oxidizers.

Decomposition Products:

Hazardous decomposition products are not expected to form.

11 TOXICOLOGICAL INFORMATION

Routes of Exposure:

Irritating to the respiratory system. Causes mild eye irritation. Skin contact Causes skin irritation. May be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract.

Exposure Effects:

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.

MIDDLE DISTILLATES WITH CRACKED STOCKS: Light cracked distillates have been shown to be carcinogenic in animal tests and have tested positive with in vitro genotoxicity tests. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation

with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function.

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: Chronic inhalation studies of whole diesel engine exhaust in mice and rats produced a significant increase in lung tumors. Combustion of kerosine and/or diesel fuels produces gases and particulates which include carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur and hydrocarbons. Significant exposure to carbon monoxide vapors decreases the oxygen carrying capacity of the blood and may cause tissue hypoxia via formation of carboxyhemoglobin.

Measures of Toxicity:

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/m^3 (Rat) 1 h

Carcinogenic/Mutagenic Precautions:

#2 Diesel Fuel: Carcinogenic category 3 (IARC).
Kerosine, Petroleum: Carcinogenic category 3 (IARC).
Naphthalene: Carcinogenic category 2B (IARC).

12 ECOLOGICAL INFORMATION

Ecological Precautions:

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

Ecological Effects:

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

13 DISPOSAL CONSIDERATIONS

Disposal Methods:

Dispose of waste material in accordance with all local, state, and federal requirements.

Disposal Containers:

Use properly approved container for disposal.

Special Precautions:

Do not flush to surface waters or drains.

14 TRANSPORT INFORMATION

UN Number: NA1993
UN Shipping Name: Fuel Oil, # 1
Transport Hazard Class: 3
Packing Group: III

Environmental Hazards:

Data not available

Bulk Transport Guidance:

Data not available

Special Precautions:

Placard: COMBUSTIBLE (Bulk Only)

15 REGULATORY INFORMATION

This material and all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substances Control Act.

16 OTHER INFORMATION

Last Revision Date: 05/17/2016

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