

Material Safety Data Sheet



L Series

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Revised: 2-20-03
MSDS#: LSeries

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: LSeries
General Uses: Process oil, Chemical Carrier, Lubricant.
Product Description: Amber Liquid, Hydrocarbon Odor.

MANUFACTURER:

Cross Oil Refining & Marketing, Inc.
484 East Sixth Street
Smackover, Arkansas 71762
MSDS prepared by: Clark B. Smith

EMERGENCY TELEPHONE NUMBERS

(870) 881-8700, Ext. 1163 [USA]
(870) 881-8700, Ext. 1128

2. COMPOSITION INFORMATION

| | | |
|---|------------------------------------|---------------|
| CHEMICAL FAMILY: Petroleum Hydrocarbon | Common Name: Naphthenic Oil | <u>% Vol.</u> |
| HAZARDOUS INGREDIENTS: None Known | Exposure Limits (Oil Mist): | <u>TWA</u> |
| CAS #: Grades <100 64742-53-6 | ACGIH, TLV (ppm) | 5 |
| Grades >100 64742-52-5 | OSHA, PELS (ppm) | 5 |
| | NIOSH, TWA (ppm) | 5 |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Clear light to dark amber liquid. Mild hydrocarbon odor. Can burn in a fire.

POTENTIAL HEALTH EFFECTS:

INHALATION: Will not produce vapors unless heated to temperatures of ~300 °F.

EYE CONTACT: Irritating, but will not permanently injure eye tissue.

SKIN CONTACT: Prolonged or repeated contact may cause skin irritation.

INGESTION: Small amounts (tablespoonful) swallowed are not likely to cause injury. Larger amounts may cause nausea and vomiting. Consult a physician promptly.

CHRONIC (CANCER) INFORMATION: IARC Monographs state that when laboratory animals are exposed to severely hydrotreated oils, such as these product(s), there is **insufficient evidence** for cancer. Thus, these oils are **Unlabeled** in accordance with 29 CFR 1910.1200.

4. FIRST AID MEASURES

EYE CONTACT: Flush eyes with plenty of water for several minutes. Get medical attention if eye irritation persists.

SKIN: Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

INGESTION: If more than several mouthfuls have been swallowed, give two glasses of water (16 Oz.). Get medical attention.

INHALATION: If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or symptoms persist.

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5. FIRE FIGHTING MEASURES

| | |
|--------------------------|----------------|
| Flash Point, °F (Method) | See Section 9 |
| Ignition Temp. °F | Not Determined |
| Flammability Limits (%) | Not Determined |

RECOMMENDED FIRE EXTINGUISHING AGENTS AND SPECIAL PROCEDURES

According to NFPA Guide, use water spray, dry chemical, foam, or carbon dioxide. Water or foam may cause frothing. Use water to cool fire exposed containers. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for persons attempting to stop the leak.

UNUSUAL OR EXPLOSIVE HAZARDS: None

6. ACCIDENTAL RELEASE MEASURES

Notify the appropriate authorities immediately. Contain spill, if possible. Avoid breathing vapor. Use self-contained breathing apparatus or supplied air for large spills or in confined areas. Wipe up or use suitable absorbent material and shovel into appropriate container for disposal. Prevent entry into sewers or waterways. Avoid contact with skin, eyes or clothing.

7. HANDLING AND STORAGE

PRECAUTIONS: Minimum feasible handling temperatures should be maintained. Periods of exposure to high temperature should be minimized. Water contamination should be avoided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Chemical-type goggles or face shield recommended to prevent eye exposure.

SKIN PROTECTION: Workers should wash exposed skin several times daily with soap and water. Soiled clothing should be laundered or dry-cleaned at least weekly.

RESPIRATORY PROTECTION: Airborne concentrations should be kept to lowest levels. If vapor is generated, use respirator approved by OSHA or NIOSH as appropriate. Supplied air respiratory protection should be used for cleaning large spills or upon entry into tanks, vessels, or other confined spaces. See Exposure Limit below.

VENTILATION: Must be adequate to meet exposure limits below.

EXPOSURE LIMIT (TOTAL PRODUCT)

5 mg/m³ for mineral oil mist over an 8 hour daily exposure (ACGIH).

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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Bright , clear liquid, mineral odor

FREEZING POINT: Not Applicable

% VOLATILES: Essentially Zero

VAPOR DENSITY (Air =1): 1+

pH: Not available

SOLUBILITY IN WATER: Insoluble

| <u>GRADE</u> | <u>VISCOSITY,</u> <u>ctSt @ 40°C</u> | <u>FLASH, °C</u> <u>(COC)</u> | <u>SPECIFIC</u> <u>GRAVITY</u> | <u>VOC, % Wt.</u> <u>ASTM D-972</u> | <u>Vapor Pressure,</u> <u>torr @ 24°C</u> | <u>BOILING</u> <u>POINT, °C</u> |
|--------------|---|----------------------------------|-----------------------------------|--|--|------------------------------------|
| L-40 | 4.45 | 127 | .889 | 46.0 | 14 X 10 ⁻³ | 249 |
| L-50 | 7.71 | 132 | .899 | 32.0 | < 14 X 10 ⁻³ | 260 |
| L-60 | 9.57 | 151 | .904 | 15.0 | 7 X 10 ⁻³ | 316 |
| L-100 | 20.05 | 165 | .910 | 8.0 | < 7 X 10 ⁻³ | 327 |
| L-150 | 29.89 | 172 | .915 | 6.1 | < 7 X 10 ⁻³ | 360 |
| L-200 | 41.8 | 181 | .917 | 5.0 | < 6.4 X 10 ⁻³ | 368 |
| L-240 | 45.72 | 180 | .919 | 4.2 | < 6.0X 10 ⁻³ | 370 |
| L-GS46 | 47.0 | 180 | .919 | 4.2 | < 5.3 X 10 ⁻³ | 374 |
| L-GSO | 60.1 | 192 | .921 | Not Avail. | < 5.3 X 10 ⁻³ | 377 |
| L-300 | 60.0 | 192 | .921 | 4.6 | <0.0001 | 374 |
| L-400 | 77.6 | 204 | .924 | N/A | <0.0001 | N/A |
| L-500 | 99.0 | 206 | .923 | 2.6 | <0.0001 | 388 |
| L-630 | 123.9 | 204 | .927 | 2.0 | <0.0001 | 399 |
| L-750 | 144.5 | 215 | .930 | 1.3 | <0.0001 | 404 |
| L-800 | 156.9 | 218 | .929 | 1.2 | <0.0001 | 407 |
| L-1200 | 232.0 | 232 | .925 | 0.9 | <0.0001 | 416 |
| L-1500 | 295.0 | 238 | .927 | 0.3 | <0.0001 | 421 |
| L-2000 | 369.0 | 242 | .930 | 0.3 | <0.0001 | 427 |
| L-2400 | 441.7 | 248 | .927 | 0.3 | <0.0001 | 432 |
| L-2800 | 500.83 | 252 | .930 | 0.2 | <0.0001 | 435 |
| L-3500 | 604.9 | 258 | .930 | 0.2 | <0.0001 | 438 |
| L-4000 | 726.06 | 255 | .932 | 0.1 | <0.0001 | 450 |
| L-5000 | 908.0 | 258 | .933 | 0.1 | <0.0001 | 457 |

10. STABILITY AND REACTIVITY

- This material reacts violently with strong oxidizers.
- Evolves toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and keytones when heated to combustion.
- Hazardous polymerization does not occur.

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11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

| | |
|--|---|
| Median Lethal Dose (LD50 LC50) (Species) | |
| Oral: | Believed to be >5g/kg (rat); practically non-toxic |
| Inhalation: | Not Determined |
| Dermal: | Believed to be >3 g/kg (rat); practically non-toxic. |
| Irritation Index | Estimation of Irritation (Species). |
| Skin: | Believed to be <0.5/8.0 (rabbit); no appreciable effect |
| Eyes: | Believed to be <15/110 (rabbit); no appreciable effect |
| Sensitization: | Not Available |
| Other: | None |

12. ECOLOGICAL INFORMATION

No data is available on the adverse effects of this material on the environment. A film or sheen will cause discoloration of the water surface or adjoining shoreline.

13. DISPOSAL CONSIDERATIONS

This product has been evaluated for RCRA characteristics and *does not* meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This product is subject in service to chemical alteration, which may render the resulting material hazardous.

14. TRANSPORT INFORMATION

| <u>PRODUCT</u> | <u>DOT</u> | | <u>PACKAGING</u> |
|----------------|--------------|--------------------|------------------|
| | <u>CLASS</u> | <u>PLACARD NO.</u> | |
| Not App. | Not App | Not App. | Not App. |

15. REGULATORY INFORMATION

| | |
|--------------|--|
| TSCA: | All components of this material are listed in the U.S. TSCA Inventory. |
| OSHA: | IARC Monographs state that when laboratory animals are exposed to severely hydrotreated oils, such as these product(s), there is insufficient evidence for cancer. Thus, these oils are Unlabeled in accordance with 29 CFR 1910.1200. |

SARA TITLE III

| | |
|---|------|
| Section 302/304 Extremely Hazardous Substance | None |
| Section 313 Toxic Chemicals | None |

CERCLA

| | |
|------------------------------------|---|
| Section 102(a) Hazardous Substance | No Reportable Quantity (RQ) Substances |
|------------------------------------|---|

CANADIAN DOMESTIC SUBSTANCES LIST - - All components of this material are listed.

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16. OTHER INFORMATION

Hazard Ratings Recommended for Containers

| <u>NFPA</u> | | <u>HMIS</u> | |
|-----------------|------|---------------------------|---|
| Fire | 1 | Flammability | 1 |
| Health | 1 | Health | 1 |
| Reactivity | 0 | Reactivity | 0 |
| Specific Hazard | none | Personal Protection Index | B |

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NA = Not Available

Not App. = Not Applicable

17. PRODUCT LABEL

Product Trade Name L Series

Date: 2-20-03

Tank Car Number: NA

Cross Truck Loading Manifest No: NA

WARNING

Avoid Prolonged Breathing of Mist or Spray. Average exposure to airborne mist for an 8 hour workday should not exceed 5.0 milligrams of mist per cubic meter of air.

Avoid Eye and Skin Contact: Wear oil-impervious protective clothing. If clothes become contaminated, change to clean clothing after thoroughly washing exposed skin with soap and warm water.

FIRST AID

Inhalation: If overcome by fumes, remove from exposure immediately and call a physician.

Skin: Wash with warm water and soap until the exposed area is clean.

Eyes: Flush with water for at least fifteen (15) minutes. See physician if symptoms persist.

Ingestion: Do not induct vomiting. Obtain medical assistance. Small amounts that accidentally enter through the mouth should be rinsed out until no taste of it remains.

FIRE CONTROL

Use water spray or fog, chemical foam, dry powder or carbon dioxide.

SPILL / LEAK

Add absorbent (sand, sawdust, etc.) to the spill area. Contain spill. Advise State Environmental Protection Agency, if required. Put recovered material in an appropriate container and dispose of according to federal, state, and local regulations. For guidance call Cross Oil Refining & Marketing Co. at (870)881-8700, Ext.1163

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Section 17 continued

STORAGE

Store in original or equivalent container. Store at the lowest practical temperature. Keep container closed when not in use. Do not apply heat or flame to the container

CROSS**OIL REFINING &
MARKETING, INC.**484 EAST 6TH STREET
SMACKOVER, ARKANSAS 71762
800-343-6361 • 870-725-3611
FAX 870-725-3405**PRODUCT DATA**Revised: 2-3-03
Supersedes: New**L- 60
Product Specification**

| TEST NAME | TEST METHOD | SPECIFICATIONS | | |
|----------------------------------|-------------|----------------|-----------|-----------|
| | | Minimum | Maximum | Typical |
| Viscosity, cSt @ 40° C | D-445 | 9.06 | 11.09 | 9.89 |
| Viscosity, cSt @ 100° C | D-445 | | | 2.40 |
| Viscosity, SUS @ 100° F | D-2161 | 58 | 66 | 61.2 |
| Viscosity, SUS @ 210° F | D-2161 | | | 34.3 |
| Gravity, API, 60° F | D-4052 | 22.6 | 27.6 | 25.6 |
| Specific Gravity, 60/60° F | D-1250 | | | .9007 |
| Pounds per Gallon @ 60° F | D-1250 | | | 7.500 |
| Flash, COC, °C (°F) | D-92 | 143 (290) | | 154 (310) |
| Pour Point, °C (°F) | D-97 | | -51 (-60) | -57 (-70) |
| Color | D-1500 | | L 1.5 | L 0.5 |
| Aniline Point, °C (°F) | D-611 | | | 67 (153) |
| Viscosity-Gravity Constant | D-2501 | | | .877 |
| Molecular Weight | D-2502 | | | 240 |
| Refractive Index @ 20° C | D-1747 | | | 1.496 |
| Refractivity Intercept | D-2159 | | | 1.047 |
| Aromatic Carbon Atoms, %Ca | D-2140 | | | 16 |
| Naphthenic Carbon Atoms, %Cn | D-2140 | | | 42 |
| Paraffinic Carbon Atoms, %Cp | D-2140 | | | 42 |
| Asphaltenes, Mass % | D-2007 | | | 0 |
| Polar Compounds, Mass % | D-2007 | | | 0.10 |
| Aromatics, Mass % | D-2007 | | | 29.9 |
| Saturates, Mass % | D-2007 | | | 70.0 |
| Sulfur, Mass % | D-4294 | | 0.10 | 0.01 |
| UV Absorptivity, 260 NM | D-2008 | | | 0.40 |
| Volatility, 22 hr/225° F, % Mass | D-972 | | | 15.0 |