

MATERIAL SAFETY DATA SHEET

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CURTIS LUBE PLUS RC-1000

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SUPERSEDES: 11/26/01

24 Hr. Emergency Phone: 1-800-424-9300 (Chemtrec)

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT: CURTIS LUBE PLUS RC-1000 (Part # VO 411, VO 411-1, VO 411-2, VO 411-3)
PRODUCT CATEGORY: Petroleum Lubricating Oil

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based	72623-86-0	Greater than 78%
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	Greater than 20%
Proprietary additives	Mixture	Less than 2%

SEE SECTION 8 FOR EXPOSURE LIMITS

SECTION 3: HAZARDS IDENTIFICATION

OSHA REQUIRED LABEL INFORMATION: In compliance with Hazard Communication and Right-To-Know requirements, where applicable OSHA Hazard Warnings may be found on the label, bill of lading or invoice accompanying this shipment.

Note: Product label may contain non-OSHA related information also.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)	HEALTH	1
	FLAMMABILITY	1
	REACTIVITY	0

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (NFPA)	HEALTH	1
	FLAMMABILITY	1
	REACTIVITY	0

VARIABILITY AMONG INDIVIDUALS: Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE: (Signs and symptoms of exposure) Prolonged or repeated skin contact may cause skin irritation.

“PRE-EXISTING MEDICAL CONDITION” WHICH MAY BE AGGRAVATED BY EXPOSURE: None recognized.

SECTION 4: FIRST AID MEASURES

- EYE CONTACT:** If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.
- SKIN:** In case of skin contact, remove any contaminated clothing and wash skin with soap and water. Launder or dry-clean clothing before reuse. If product is injected into or under skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high-pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.
- INHALATION:** Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.
- INGESTION:** If ingested, DO NOT induce vomiting; call a physician immediately.

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT (MINIMUM): 223 Deg C (433 Deg F) ASTM D 92, Cleveland Open Cup

**AUTOIGNITION
TEMPERATURE:** Not Determined

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR):
Estimated values: Lower Flammable Limit 0.9%
Upper Flammable Limit 7%

**EXTINGUISHING MEDIA
AND FIRE FIGHTING
PROCEDURES:** Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Tenth Edition (1991):

Use water spray, dry chemical, foam or carbon dioxide to extinguish the fire. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for persons attempting to stop a leak. Water spray may be used flush spills away from exposures. Minimize breathing of gases, vapor, fumes, or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

SECTION 5: FIRE-FIGHTING MEASURES, CONTINUED

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS: Fumes, smoke, carbon monoxide, sulfur oxides, nitrogen oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

CLEAN WATER ACT / OIL POLLUTION ACT: This product may be classified as an oil under Section 311 of the Clean Water Act, and under the Oil Pollution Act. Discharges or spills into or leading to surface waters that cause a sheen must be reported to the National Response Center (1800-424-8802).

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Recover free product. Add sand, earth or other suitable absorbent to spill area. Minimize breathing vapors. Minimize skin contact. Open all windows and doors. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas.

Assure conformity with applicable governmental regulations.

SECTION 7: STORAGE AND HANDLING

HANDLING PRECAUTIONS: Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

EMPTY CONTAINER WARNING: "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. **DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION: THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

Do not attempt to refill or clean containers since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding or other contemplated operations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT FOR TOTAL PRODUCT: 5 mg/m³ for oil mist (aerosol) for an 8-Hour workday.

OSHA Regulation 29 CFR 1910.1000 and recommended by the American Conference of Governmental Industrial Hygienists (ACGIH). ACGIH states that air is to be sampled by a method that does not collect vapor; in addition, it lists a 10 mg/m³ STEL.

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION,
CONTINUED**

VENTILATION: Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition sources.

RESPIRATORY PROTECTION: Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES: Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION: Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT: Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS: To prevent fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system in accordance (THE) National Fire Protection Association PUBLICATIONS.

Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

In order to prevent fire or explosion hazards, use appropriate equipment.

Information on electrical equipment appropriate for use with this product may be found in the latest edition of the National Electrical Code (NFPA-70). This document is available from the National Fire Protection Association. Batterymarch Park, Quincy, Massachusetts 02269.

PERSONAL HYGIENE: Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse, discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE: Greater than 316 Deg. C (600 Deg. F) by ASTM D 2887

VAPOR PRESSURE: Less than 0.1 mm Hg @ 20 Deg. C

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES, CONTINUED

SPECIFIC GRAVITY:	0.877 (15.6 Deg. C / 15.6 Deg. C)
VAPOR DENSITY:	Greater than 2 (Air=1)
MOLECULAR WEIGHT:	Not Determined
PERCENT VOLATILE BY VOLUME:	Negligible from open container in 4 hours @ 38 Deg. C (100 Deg. F)
pH:	Not applicable
EVAPORATION RATE:	Not determined
POUR, CONGEALING OR MELTING POINT:	-9 Deg. C (15 Deg. F) Pour Point by ASTM D 97
SOLUBILITY IN WATER:	Negligible, less than 0.1% @ 1 ATM and 25 Deg. C (17 Deg. F)
VISCOSITY:	64.3 cSt @ 40 Deg. C 3.6 cSt @ 100 Deg. C
PRODUCT APPEARANCE AND ODOR:	Clear liquid, light amber color, faint petroleum hydrocarbon odor

SECTION 10: STABILITY AND REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium hypochlorite, etc., as this presents a serious explosion hazard.

SECTION 11: TOXICOLOGICAL INFORMATION

NATURE OF HAZARD AND TOXICITY INFORMATION

Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granular formation, inflammation and increased incidence of infection.

In accordance with the current OSHA Hazard Communication Standard Criteria, this product does require a cancer hazard warning. This is because the product is formulated from base stocks that are severely hydro treated, severely solvent extracted, and/or- processed by mild hydro treatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils, possibly leading to irritation and dermatitis, however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

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SECTION 11: TOXICOLOGICAL INFORMATION, CONTINUED

This product is judged to have an acute oral LD₅₀ (rat) greater than 5 g/kg of body weight, and an acute dermal LD₅₀ (rabbit) greater than 3.16 g/kg of body weight.

SECTION 12: ECOLOGICAL INFORMATION

Do not discharge this product into public waters or waterways unless authorized by a National Pollution Discharge Elimination System (NPDES) permit issued by the Environmental Protection Agency (EPA).

Environmental and Ecological data may be available for this product. Write or call Curtis-Toledo to obtain further information. Refer to Section 6 and Section 15 for Accidental Release information and Regulatory Reporting information.

SECTION 13: DISPOSAL CONSIDERATION

Options for disposal of this product may depend on the conditions under which it was used. To determine the proper method of disposal, refer to RCRA (40 CFR 261), as well as federal EPA and state and local regulations.

Please refer to Sections 5, 6 and 15 for additional information.

SECTION 14: TRANSPORTATION INFORMATION

TRANSPORTATION INCIDENT INFORMATION: For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents.

U.S. DOT HAZARDOUS MATERIALS SHIPPING DESCRIPTION: NOT REGULATED

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUTES

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355 (SARA Sections, 301-304): No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Section 313): No toxic chemical is present greater than 1% or 0.1% (carcinogen).

HAZARDOUS CHEMICAL REPORTING, EPA REGULATION 40 CFR 370 (SARA Sections 311 and 312): EPA Hazard Classification Code: Not Applicable.

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SECTION 15: REGULATORY INFORMATION, CONTINUED

TOXIC SUBSTANCES CONTROL ACT (TSCA)

This product, as manufactured by CURTIS-TOLEDO does not contain polychlorinated biphenyls (PCB's).

All components of this product are listed on the U.S. TSCA inventory.

SECTION 16: OTHER INFORMATION

The health and safety information presented herein must be used in conjunction with the pertinent standards for training, work practices and facilities design established by OSHA, NIOSH, NFPA, API, NEC, NSC, UNDERWRITERS, BUREAU OF MINES and similar organizations.

This information and recommendations contained herein are, to the best of CURTIS-TOLEDO, INC. knowledge and belief, accurate and reliable as of the date issued. CURTIS-TOLEDO does not warrant or guarantee their accuracy or reliability, and CURTIS-TOLEDO, INC. shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the users consideration and examination, and it is the users responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to ensure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section 15 hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by CURTIS-TOLEDO, INC in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with CURTIS-TOLEDO, INC. interpretation of the available data.