



Keystone Lubricants Division  
TOTAL Lubricants USA, Inc.  
5 N. Stiles Street, Linden NJ 07036

REVISION DATE  
27-JAN-06

DATE ISSUED  
22-MAR-06

IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME: PENKOTE, OSYRIS 312 S	PRODUCT #: 200167
CHEMICAL NAME: N/A - Mixture	CAS #'S: Mixture
PRODUCT APPEARANCE AND ODOR: Amber liquid, solvent odor	CHEMICAL FAMILY: Petroleum hydrocarbon
SYNONYMS: Petroleum Solvent Based Lubricant and Rust Preventive	EMERGENCY TELEPHONE: 1-908-862-9300

COMPONENTS AND HAZARD INFORMATION

BASE OIL COMPONENTS:	W/W	HAZARD DATA (TLV, LD50, LC50, ETC.):
Aliphatic hydrocarbons CAS# 8052-41-3, 64742-47-8		100 ppm ACGIH/OSHA TWA
Petroleum-based lubricating oil CAS# 64742-52-5		5 mg/m3 ACGIH/OSHA TWA (as an oil mist)
Barium oxidate CAS# N/A (Mixture)		n/e
Barium sulfonate CAS# N/A (Mixture)		n/e
Paraffin wax CAS# 8002-74-2		2 mg/m3 ACGIH TWA
1,2,4-Trimethylbenzene CAS# 95-63-6		25 ppm ACGIH TWA
Oleic Acid CAS No. 112-80-1		n/e

For further information see the Toxicity section.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS):

Health	Flammability	Reactivity
1	2	0

TRANSPORTATION INFORMATION

TRANSPORTATION INFORMATION:  
DOT PROPER SHIPPING NAME:  
Combustible Liquid, N.O.S. (Petroleum distillate), NA 1993, PG III  
DOT HAZARD CLASS: Combustible Liquid



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TRANSPORTATION INFORMATION

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DOT IDENTIFICATION NUMBER: NA 1993  
NAME: COMBUSTIBLE LIQUID, N.O.S.

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EMERGENCY FIRST AID

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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 CONTACT:

In case of skin contact, remove contaminated clothing and wash skin thoroughly with soap and water.

INHALATION:

If overcome by vapor, remove from exposure and call a physician immediately. If breathing is irregular or has stopped, start resuscitation, administer oxygen, if available.

INGESTION:

If ingested, DO NOT induce vomiting; call a physician immediately. Possible aspiration hazard.

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FIRE AND EXPLOSION HAZARD INFORMATION

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FLASH POINT (MINIMUM)

COMBUSTIBLE - Per DOT 49 CFR 173.115  
104°F  
ASTM D 56, Tag Closed Cup

AUTOIGNITION TEMPERATURE

Approximately 254°C (490°F)  
ASTM D 2155

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity
1	2	0

HANDLING PRECAUTIONS

Keep product away from heat, sparks, pilot lights, static electricity, and open flame.

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)

Estimated values: Lower Flammable Limit N/E Upper Flammable Limit N/E

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. Water may be ineffective, but water should be used to keep fire-exposed containers cool. If a leak or spill has ignited, use water spray to disperse the vapors and to protect men attempting to stop a leak. Water spray may be used to flush spills away from exposures.

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FIRE AND EXPLOSION HAZARD INFORMATION

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Minimize breathing gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed. Note: The inclusion of the phrase "water may be ineffective" is to indicate that although water can be used to cool and protect exposed material, water may not extinguish the fire unless used under favorable conditions by experienced fire fighters trained in fighting all types of flammable liquid fires.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.

"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, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

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HEALTH AND HAZARD INFORMATION

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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.

POTENTIAL HEALTH EFFECTS

EYE CONTACT: May cause slight eye irritation.

SKIN CONTACT: Occasional brief contact with the liquid will not result in significant irritation unless evaporation is impeded. May aggravate an existing dermatitis condition. Prolonged or repeated contact tends to remove skin oils possibly leading to irritation and dermatitis.

INHALATION: High vapor/aerosol concentrations (greater than approximately 1000 ppm) are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death. Low order of toxicity.

INGESTION: Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death. Minimal toxicity.

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PHYSICAL DATA

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

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PHYSICAL DATA

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BOILING RANGE: Approximately 152-202°C (305-396°F)	VAPOR PRESSURE: Less than 10 mm Hg @ 25°C ASTM D 2879
SPECIFIC GRAVITY (15.6°C/15.6°C): Approximately 0.79	VAPOR DENSITY (AIR = 1): Approximately 4.8
MOLECULAR WEIGHT: n/e	PERCENT VOLATILE BY VOLUME: Approximately 75 @ 1 ATM. AND 25°C (77°F)
pH: Essentially neutral	EVAPORATION RATE @ 1 ATM. AND 25°C (77°F): (n-BUTYL ACETATE = 1) 0.1
POUR, CONGEALING OR MELTING POINT: Less than -18°C (0°F) Pour Point by ASTM D 97	SOLUBILITY IN WATER @ 1 ATM. AND 25°C (77°F): Negligible; less than 0.1%
VISCOSITY: 0.95 cP @ 25°C ASTM D 445	

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REACTIVITY

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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 or calcium hypochlorite.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, carbon monoxide, and other decomposition products, in the case of incomplete combustion.

CONDITIONS TO AVOID

Keep product away from ignition sources, such as heat, sparks, pilot lights, static electricity, and open flames.

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TOXICITY

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ORAL (Acute)	N/E
DERMAL (Acute)	N/E
EYE	N/E
INHALATION (Acute)	N/E
CHRONIC, SUBCHRONIC, ETC.	N/E

Medical Conditions Aggravated by Exposure: Unknown

This product does NOT contain any ingredients identified as carcinogenic by IRAC, NTP, or OSHA.

SARA Section 313 Status: This product contains the following  
Section 313 reportable ingredients:

Component:	CAS No.:	% (wt.)
1,2,4-Trimethylbenzene	95-63-6	1.5 max



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TOXICITY

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Barium compounds                      n/a                      6.0

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SPILL OR LEAK PROCEDURES

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
Shut off and eliminate all ignition sources. Keep people away. Recover free product. Add sand, earth or other suitable absorbent to spill area. Minimize breathing vapors. Minimize skin contact. Ventilate confined spaces. 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 local regulations. Continue to observe precautions for volatile, combustible vapors from absorbed material.

WASTE DISPOSAL METHOD: (Consult federal, state, or local authorities for proper disposal procedures.)  
Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste site or facility.

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PROTECTION AND PRECAUTIONS

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VENTILATION:  
Use only with ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapors in air. No smoking, flame or other ignition sources.

RESPIRATORY PROTECTION: (Use only NIOSH/MSHA approved equipment.)  
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:  
Keep containers closed when not in use. Do not handle near heat, sparks, flame or strong oxidants. To prevent fire or explosion risk from static accumulation and discharge, effectively ground product transfer system in accordance with the National Fire Protection Association standard for petroleum products.

PERSONAL HYGIENE:  
Minimize breathing vapor, mist, or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse.



MATERIAL SAFETY DATA SHEET  
FOR PENKOTE, OSYRIS 312 S

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PROTECTION AND PRECAUTIONS

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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.

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PREPARED BY: Steve Smith

REGULATORY MANAGER

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