

## MATERIAL SAFETY DATA SHEET FOR ZENIPLEX 0 DRUM

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

REVISION DATE  
31-MAY-06

DATE ISSUED  
27-NOV-06

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IDENTIFICATION AND EMERGENCY INFORMATION  
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PRODUCT NAME: ZENIPLEX 0 DRUM	PRODUCT #: 800138
CHEMICAL NAME: Petroleum-based Grease	CAS #'S: Mixture
PRODUCT APPEARANCE AND ODOR: Amber paste, petroleum odor	CHEMICAL FAMILY: Grease
SYNONYMS: NLGI Grade 0 Lubricating Grease	EMERGENCY TELEPHONE: 1-908-862-9300

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COMPONENTS AND HAZARD INFORMATION  
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COMPONENTS:	W/W%	HAZARD DATA (TLV, LD50, LC50, ETC.):
Lubricant basestock CAS Nos. 64742-53-6 64742-52-5		5 mg/m3 ACGIH/OSHA TWA (as an oil mist)
Aluminum stearoyl benzoyl hydroxide CAS No. n/a		n/e
Sulfur-Phosphorous EP additive CAS No. n/a (mixture)		n/e
Styrene-Ester Copolymer additive CAS No. n/a (mixture)		n/e
Polybutene CAS No. 9003-29-6		n/e

## HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS):

Health	Flammability	Reactivity
1	1	0

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TRANSPORTATION INFORMATION  
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## TRANSPORTATION/SHIPPING INFORMATION:

Department of Transportation (DOT): Not regulated

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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:

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

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 overexposure to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION:

If ingested, do not induce vomiting. Call a physician immediately.

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FIRE AND EXPLOSION HAZARD INFORMATION  
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FLASH POINT (MINIMUM):

BASE OIL

160°C (320°F) Test method: COC

AUTOIGNITION TEMPERATURE:

N/E

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION:

Health	Flammability	Reactivity
1	1	0

FLAMMABLE OR EXPLOSIVE LIMITS (approximate percent by volume in air):

BASE OIL

Estimated values: lower 1% upper 6%

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 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", Eighth Edition (1984):

Use water spray, dry chemical, foam, or carbon dioxide. Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water froth may be used to flush spills away from exposure. Minimize breathing gases, vapor, fumes, or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

n/a

"EMPTY" CONTAINER WARNING:

Empty containers retain residue (liquid or vapor) and can be dangerous. DO NOT PRESSURIZE, WELD, CUT 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

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FIRE AND EXPLOSION HAZARD INFORMATION  
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bunged, and returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with government 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.

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HEALTH AND HAZARD INFORMATION  
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EXPOSURE LIMIT FOR TOTAL PRODUCT: Monitor data listed in the Components and Hazard Information section.

VARIABILITY AMONG INDIVIDUALS:

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which 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 with this product tends to remove skin oils possibly leading to irritation and dermatitis.  
Product contacting the eye may cause irritation.  
Product has a low order of oral and dermal toxicity.  
Possible aspiration hazard.  
Induced vomiting may cause aspiration of product into the lungs.  
(See Emergency First Aid Section).

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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.

BOILING RANGE:  
Wide range

VAPOR PRESSURE:  
< 0.1 @ 38°C/100°F

SPECIFIC GRAVITY (25°C/25°C):  
(WATER = 1)  
< 1.0

VAPOR DENSITY (AIR = 1):  
> 8

MOLECULAR WEIGHT:  
Wide range

PERCENT VOLATILE BY VOLUME:  
Negligible

EVAPORATION RATE @ 1 ATM. AND 25°C  
(77°F) (n-BUTYL ACETATE = 1):  
< 1.0

SOLUBILITY IN WATER @ 1 ATM. and 25°C  
(77°F):  
Negligible

POUR, CONGEALING OR MELTING POINT:  
n/e

FREEZING POINT:  
n/e

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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, oxides of sulfur, aluminum and other decomposition products, in case of incomplete combustion.

CONDITIONS TO AVOID:

Open flames.

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TOXICITY  
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ORAL (Acute)	LD 50 > 500 mg/kg (total body weight)
DERMAL (Acute)	n/e
INHALATION (Acute)	n/a
EYE	Non irritating based on FHSA/OSHA regs.
CHRONIC, SUBCHRONIC, ETC.	n/e

OSHA Primary Skin Irritation Test: Caused moderate reddening of rabbit skin (24 hour exposure), which lasted 72 hours.

OSHA Primary Eye Irritation Test: Caused very mild eye irritation (conjunctiva) in rabbits.

Even though these studies showed some evidence of irritation, the toxicology tests for these products confirm that they are neither eye or skin irritants as defined by OSHA.

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 material is not known to contain any chemicals on the SARA Section 313 list at a concentration greater than 1.0 percent or carcinogenic chemical on that list at a concentration greater than 0.1 percent.

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SPILL OR LEAK PROCEDURES  
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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Keep product out of sewers and watercourses by diking or impounding. Absorb with sand or inert material. Sweep or scoop up and remove. Prevent spread of spill. Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas. Assure conformity with local regulations.

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: (Always maintain below permissible exposure limits.)

Use local exhaust to capture vapor, mist or fumes, if necessary.  
Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air.

RESPIRATORY PROTECTION: (Use only NIOSH approved equipment.)

Normally not needed at ambient temperatures. Use supplied air respiratory protection in confined or enclosed spaces, if needed. Use filter, dust, fume, or mist respirator type under misting conditions. Use can or cartridge; gas or vapor respirator type under conditions exceeding TWA standard.

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.

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.

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PREPARED BY: Steve Smith

REGULATORY MANAGER

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