

13-JAN-09  
AZOLLA ZS 46

To Whom It May Concern:

As you requested, attached is a copy of a Material Safety Data Sheet covering (our ref. no. 200062) AZOLLA ZS 46.

Title III of the Superfund Amendments and Reauthorizations Act (SARA) requires chemical suppliers of mixtures and trade name products to provide information to their customers sufficient for them to comply with the requirements of Section 313.

Material Safety Data Sheets (MSDS's) have been updated to include the section 313 information.

Erick Aho  
Chemist

## MATERIAL SAFETY DATA SHEET FOR AZOLLA ZS 46

TOTAL Lubricants USA, Inc.  
Airport Road  
Rockingham NC 28379-1058

REVISION DATE  
24-MAR-08

DATE ISSUED  
13-JAN-09

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**IDENTIFICATION AND EMERGENCY INFORMATION**

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PRODUCT NAME: AZOLLA ZS 46	PRODUCT #: 200062
CHEMICAL NAME: N/A - Mixture	CAS #'S: Mixture
PRODUCT APPEARANCE AND ODOR: Amber liquid, petroleum odor	CHEMICAL FAMILY: Petroleum hydrocarbon
SYNONYMS: Petroleum-based hydraulic oil	EMERGENCY TELEPHONE: 910-997-5086

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**COMPONENTS AND HAZARD INFORMATION**

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COMPONENTS:	W/W	HAZARD DATA (TLV, LD50, LC50, ETC.):
Petroleum based lubricating oil CAS No. 64742-54-7		5 mg/m3 ACGIH/OSHA TWA (as an oil mist)

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:**  
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

FLASH POINT (MINIMUM): 177°C (350°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):  
 Estimated values: lower N/E upper 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 product, depending on size or potential size of fire and circumstances related to the situation. 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 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.

### HEALTH AND HAZARD INFORMATION

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

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

BOILING RANGE:  
 Not available

VAPOR PRESSURE:  
 < 0.1 mmHg @ 20°C

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

VAPOR DENSITY (AIR = 1):  
 > 5

MOLECULAR WEIGHT:  
 Wide range

PERCENT VOLATILE BY VOLUME:  
 Negligible

EVAPORATION RATE @ 1 ATM. AND 25°C  
 (77°F) (n-BUTYL ACETATE = 1):  
 Not available

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

### 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 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  
 Open Flames

### TOXICITY

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 IARC, NTP, or OSHA.

All components known to be contained in this product are on the TSCA inventory or are exempt.

PCBs are not present in this product.

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**TOXICITY**

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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.

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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: Erick Aho

CHEMIST

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THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS, AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE AND THE CONDITIONS OF HANDLING AND USE, OR MISUSE BEYOND OUR CONTROL, SELLER MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.