

## MATERIAL SAFETY DATA SHEET FOR VULSOL 4001 S

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

REVISION DATE  
22-FEB-10

DATE ISSUED  
11-MAY-12

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**IDENTIFICATION AND EMERGENCY INFORMATION**

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PRODUCT NAME:  
VULSOL 4001 S

PRODUCT #:  
201628

CHEMICAL NAME:  
N/A - Mixture

CAS #'S:  
Mixture

PRODUCT APPEARANCE AND ODOR:  
Clear blue-green liquid, glycol odor

CHEMICAL FAMILY:  
Synthetic Fluid

SYNONYMS:  
Synthetic metal removal fluid

EMERGENCY TELEPHONE:  
CHEMTREC 1-800-424-9300

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**COMPONENTS AND HAZARD INFORMATION**

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COMPONENTS: W/W HAZARD DATA (TLV, LD50, LC50, ETC.):

Water n/e  
CAS No. 7732-18-5

Amine salts of organic acids n/e  
CAS No. n/a (mixture)

Triethanolamine 5 mg/m3 ACGIH TWA  
CAS No. 102-71-6

Nitric acid, reaction products with n/e  
cyclododecanol and cyclododecanone  
CAS No. 72162-23-3

Grotan n/e  
CAS No. 4719-04-4

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS):

Health	Flammability	Reactivity
1	0	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.

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**EMERGENCY FIRST AID**

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**SKIN CONTACT:**

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

**INHALATION:**

For effects produced by overexposure, remove to fresh air. If effects persist, obtain medical advice.

**INGESTION:**

If ingested, call a physician immediately. Possible aspiration hazard.

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**FIRE AND EXPLOSION HAZARD INFORMATION**

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FLASH POINT (MINIMUM):  
N/A

AUTOIGNITION TEMPERATURE:  
N/A

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION:

Health	Flammability	Reactivity
1	0	0

FLAMMABLE OR EXPLOSIVE LIMITS (approximate percent by volume in air):  
Estimated values: N/A

**EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES:**

Foam, water spray (fog), dry chemical, carbon dioxide 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. Wear self contained breathing apparatus and full turn out gear. Cool fire exposed containers with water spray. Dried material can burn.

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.

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**HEALTH AND HAZARD INFORMATION**

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EXPOSURE LIMIT FOR TOTAL PRODUCT: N/E

**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

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### HEALTH AND HAZARD INFORMATION

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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.

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:  
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:  
Not calculated

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

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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, etc., as this represents an explosion hazard.  
DO NOT MIX WITH NITRITES due to the possible formation of nitrosamines.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS:

Fumes, smoke, carbon monoxide, 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)	N/E
DERMAL (Acute)	N/E
EYE	N/E
INHALATION (Acute)	N/E

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#### TOXICITY

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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.  
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.

RESPIRATORY PROTECTION: (Use only NIOSH approved equipment.)  
Normally not needed at ambient temperatures.

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. DO NOT MIX WITH NITRITES OR PRODUCTS WHICH CONTAIN NITRITES.

PERSONAL HYGIENE:

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Page 5

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PROTECTION AND PRECAUTIONS

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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. 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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