





Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS &amp; 2001/58 EC Standards

MSDS Revision: 2.0

MSDS Revision Date: 06/01/2007

## 1. PRODUCT IDENTIFICATION

**CHEMICAL RESPONSE CARD: 34**

1.1	Product Name:	<b>MOTOR OIL SAVER</b>	RESPONSE TEAM PPE:				
1.2	Chemical Name:	See ingredients listed in section 2					
1.3	Synonyms:	P/N LM2020	WHMIS:				
1.4	Trade Names:	Motor Oil Saver					
1.5	Product Use:	Automotive Lubricant	<b>HEALTH:</b>				<b>2</b>
1.6	Manufacturer's Name:	Liqui Moly GmbH	<b>FLAMMABILITY:</b>				<b>2</b>
1.7	Manufacturer's Address:	1820 Clark Avenue, Long Beach, CA 90815	<b>REACTIVITY:</b>				<b>0</b>
1.8	Business Phone:	+1 (800) 223-1634	<b>PERSONAL PROTECTION:</b>				<b>B</b>
1.9	Emergency Phone:	<b>CHEMTREC +1 (800) 424-9300/ +1 (703) 527-3887</b>					

## 2. HAZARD IDENTIFICATION

2.1	Hazard Identification: <b>This product is classified as a hazardous substance and as dangerous goods according to the classification criteria of NOHSC and ADG Code (Australia). Flammable liquid.</b>						
2.2	Routes of Entry:	Inhalation:	YES	Absorption:	YES	Ingestion:	NO
2.3	Effects of Exposure: <b>EYES:</b> May cause irritation, redness and tearing. Vapors may be irritating to the eyes. <b>SKIN:</b> May cause irritation, defatting, drying and cracking of skin. Prolonged and repeated contact may lead to dermatitis. <b>INGESTION:</b> May cause a burning sensation of the mouth and throat, abdominal pain, gastrointestinal irritation, nausea, vomiting and diarrhea. May also cause kidney damage, cardiac arrhythmia and Central Nervous System effects (see inhalation). Aspiration of material into the lungs may cause chemical pneumonitis, which can be fatal. Can be fatal if inhaled or ingested. <b>INHALATION:</b> Vapors may be irritating to nose, throat and respiratory tract. Excessive inhalation of vapors may cause kidney damage, cardiac arrhythmia and Central Nervous System effects including dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.						
2.4	Symptoms of Exposure: <b>EYES:</b> Irritation, redness, swelling and tearing. <b>SKIN:</b> Irritation, defatting, drying and cracking of skin. <b>INGESTION:</b> Burning sensation of the mouth and throat, abdominal pain, gastrointestinal irritation, nausea, vomiting and diarrhea. <b>INHALATION:</b> Irritation to nose, throat and respiratory tract, dizziness, coughing, wheezing, weakness, fatigue, nausea, headache and possible unconsciousness.						
2.5	Acute Health Effects: <b>EYES:</b> May cause irritation, redness and tearing. Vapors may be irritating to the eyes. Risk of conjunctivitis <b>SKIN:</b> May cause irritation, defatting, drying and cracking of skin. Prolonged and repeated contact may lead to dermatitis. <b>INGESTION:</b> May cause a burning sensation of the mouth and throat, abdominal pain, gastrointestinal irritation, nausea, vomiting and diarrhea. May also cause kidney damage, cardiac arrhythmia and Central Nervous System effects (see inhalation). Aspiration of material into the lungs may cause chemical pneumonitis, which can be fatal. Can be fatal if inhaled or ingested. <b>INHALATION:</b> Vapors may be irritating to nose, throat and respiratory tract. Excessive inhalation of vapors may cause kidney damage, cardiac arrhythmia and Central Nervous System effects including dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.						
2.6	Chronic Health Effects: <b>Prolonged or repeated skin contact may lead to dermatitis.</b>						
2.7	Target Organs: <b>None reported by the manufacturer.</b>						

See Section 16 for Additional Definitions of Terms Used.

NOTE: All WHMIS required information is included - it is located in appropriate sections based on the ANSI Z400.1-2004 format.

### 3. COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m <sup>3</sup> )					
					ACGIH - ppm		OSHA - ppm			OTHER
					TLV	STEL	PEL	STEL	IDLH	
bis-(2-ETHYLHEXYL) SEBACATE	122-62-3	VS1000000	204-558-8	NA	NA	NA	NA	NA	NA	
2-BUTOXYETHANOL	111-76-2	KJ8575000	203-905-0	NA	50	NA	500	NA	1600	

### 4. FIRST AID MEASURES

4.1	<p>First Aid:</p> <p><b>EYES:</b> Immediately flush eyes with plenty of running water for at least 15 minutes, lifting upper and lower lids, occasionally. If irritation persists, repeat flushing. Get medical attention.</p> <p><b>SKIN:</b> Wash thoroughly with soap and water. If irritation persists, seek medical attention. Remove contaminated clothing and wash before reuse.</p> <p><b>INGESTION:</b> Do not include vomiting. Have conscious person rise out mouth with water, then drink 1 or 2 glasses of water. Never give an unconscious person anything to ingest. If vomiting spontaneously occurs, have victim lean forward with head down to avoid breathing in the vomitus (vapors from vomit) into the lungs. Rinse out mouth and administer more water. Guard against aspiration into the lungs. Aspiration of material into lungs due to vomiting may cause chemical pneumonitis which can be fatal. Get immediate medical attention.</p> <p><b>INHALATION:</b> Remove affected person to fresh air. If breathing is difficult, administer oxygen. If breathing stops give artificial respiration. Keep person warm, quiet and get medical attention.</p>										
4.2	<p>Medical Conditions Aggravated by Exposure:</p> <p>None reported by the manufacturer.</p> <table border="1" style="width: 100%;"> <tr> <td style="background-color: #0000FF; color: white;"><b>HEALTH</b></td> <td style="text-align: center;"><b>2</b></td> </tr> <tr> <td style="background-color: #FF0000; color: white;"><b>FLAMMABILITY</b></td> <td style="text-align: center;"><b>2</b></td> </tr> <tr> <td style="background-color: #FFFF00; color: black;"><b>REACTIVITY</b></td> <td style="text-align: center;"><b>0</b></td> </tr> <tr> <td style="background-color: #000000; color: white;"><b>PROTECTIVE EQUIPMENT</b></td> <td style="text-align: center;"><b>B</b></td> </tr> <tr> <td><b>EYES</b></td> <td><b>SKIN</b></td> </tr> </table>	<b>HEALTH</b>	<b>2</b>	<b>FLAMMABILITY</b>	<b>2</b>	<b>REACTIVITY</b>	<b>0</b>	<b>PROTECTIVE EQUIPMENT</b>	<b>B</b>	<b>EYES</b>	<b>SKIN</b>
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<b>EYES</b>	<b>SKIN</b>										

### 5. FIREFIGHTING MEASURES

5.1	Flashpoint & Method: <b>64.5 °C (147.2 °F), UNK</b>
5.2	Autoignition Temperature: <b>NA</b>
5.3	Flammability Limits: Lower Explosive Limit (LEL): <b>NA</b> Upper Explosive Limit (UEL): <b>NA</b>
5.4	<p>Fire &amp; Explosion Hazards:</p> <p>This material can burn but will not readily ignite. This material will release vapors when heated above the flash point temperature that can ignite when exposed to a source of ignition. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may burn at temperatures below the flash point. Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur and nitrogen. Also, depending upon the conditions of use, low concentrations of hydrogen sulfide can be released.</p>
5.5	Extinguishing Methods: <b>Dry chemical, foam, carbon dioxide, and water fog.</b>
5.6	<p>Firefighting Procedures:</p> <p>Keep containers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personal. Avoid spraying water directly into storage containers because of danger of boilover. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.</p>



## 6. ACCIDENTAL RELEASE MEASURES

6.1	Spills: <b>When accidentally discharged, prevent the product from flowing. Contain spillage with sand or inert absorbent and arrange safe disposal. Prevent from fire and explosion risk. Eliminate any possible cause of fire. Absorb in earth or sand, skim on water surface. Elimination treatment will have to be made by an agreed collector.</b>
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## 7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices: <b>Wear gloves, glasses and self-contained mask. Warn about risk of vapor inhalation. Wash hands with water and soap immediately after handling then rinse in case of contact. When using, do not eat, drink or smoke.</b>
7.2	Storage & Handling: <b>Use and keep away from flame, heat sources and functioning electrical devices. Use in a well ventilated area. Store in original packaging. Keep out of reach of children. Do not store in temperatures above 50°C. Keep out of direct sunlight.</b>
7.3	Special Precautions: <b>Do not spray on a naked flame or any incandescent material. When using do not smoke. Avoid breathing vapors or spray mists. Avoid any contact.</b>

## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1	Ventilation & Engineering Controls: <b>Avoid breathing the vapors generated by this product. Use in a well-ventilated location (e.g., local exhaust ventilation, fans. Do not eat, drink, or smoke while handling this product. Ensure that safety shower, hand washing sink and eye bath are near work area.</b>
8.2	Respiratory Protection: <b>Use respiratory protection (e.g., organic vapor-acid gas cartridge respirator). Use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member states, or Australia.</b>
8.3	Eye Protection: <b>Safety goggles.</b>
8.4	Hand Protection: <b>Solvent resistant or other impervious gloves. Wear boots, clothing with long sleeves, etc. as appropriate.</b>
8.5	Body Protection: <b>Wear protective clothing (e.g., apron)</b>

## 9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Density:	0.88 @ 15 °C
9.2	Boiling Point:	NA
9.3	Melting Point:	ND
9.4	Evaporation Rate:	≤ 5.0 mbar @ 20 °C
9.5	Vapor Pressure:	NA
9.6	Molecular Weight:	NA
9.7	Appearance & Color:	Viscous, yellow liquid
9.8	Odor Threshold:	Mild odor
9.9	Solubility:	Insoluble
9.10	pH	NA
9.11	Viscosity:	NA
9.12	Other Information:	NA

## 10. STABILITY & REACTIVITY

10.1	Stability: <b>This product is chemically stable under normal conditions of storage and use.</b>
10.2	Hazardous Decomposition Products: <b>Fumes, smoke, carbon monoxide, and trace hydrocarbons.</b>
10.3	Hazardous Polymerization: <b>Will not occur.</b>
10.4	Conditions to Avoid: <b>Do not exposure this product to temperatures above 140°C.</b>
10.5	Incompatible Substances: <b>Strong oxidizing agents.</b>

## 11. TOXICOLOGICAL INFORMATION

11.1	Toxicity Data: <b>None reported by the manufacturer.</b>
11.2	Acute Toxicity: <b>None reported by the manufacturer.</b>
11.3	Chronic Toxicity: <b>None reported by the manufacturer.</b>
11.4	Suspected Carcinogen: <b>No</b>
11.5	Reproductive Toxicity:
	Mutagenicity: <b>This product is not reported to cause mutagenic effects in humans.</b>
	Embryotoxicity: <b>This product is not reported to cause embryotoxic effects in humans.</b>
	Teratogenicity: <b>This product is not reported to cause teratogenic effects in humans.</b>
	Reproductive Toxicity: <b>This product is not reported to cause reproductive harm in humans.</b>
11.6	Irritancy of Product: <b>See section 2.3</b>
11.7	Biological Exposure Indices: <b>NA</b>
11.8	Physician Recommendations: <b>Treat symptomatically.</b>

## 12. ECOLOGICAL INFORMATION

12.1	Environmental Stability: <b>Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.</b>
12.2	Effect on Plants & Animals: <b>An environmental fate analysis has not been conducted on this specific product. However, plants and animals may experience harmful or fatal effects when coated with petroleum-based products.</b>
12.3	Effect on Aquatic Life: <b>Petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.</b>

## 13. DISPOSAL CONSIDERATIONS



13.1	Waste Disposal: <b>Dispose of in a safe matter, in accordance with local and national regulations.</b>
13.2	Special Considerations: <b>U.S. EPA Characteristic Waste (Ignitable) - D001</b>

## 14. TRANSPORTATION INFORMATION



The basic description (proper shipping name, hazard class & division, ID Number, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

14.1	49 CFR (GND): <b>NOT REGULATED</b>	
14.2	IATA (AIR): <b>NOT REGULATED</b>	
14.3	IMDG (OCN): <b>NOT REGULATED</b>	
14.4	TDGR (Canadian GND): <b>NOT REGULATED</b>	
14.5	ADR/RID (EU): <b>NOT REGULATED</b>	
14.6	MEXICO (SCT): <b>NOT REGULATED</b>	

## 15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements: <b>This product does not contain any substances subject to SARA reporting requirements.</b>	
15.2	SARA Threshold Planning Quantity: <b>NA</b>	
15.3	TSCA Inventory Status: <b>The components of this product are listed on the TSCA inventory.</b>	
15.4	CERCLA Reportable Quantity (RQ): <b>NA</b>	
15.5	Other Federal Requirements: <b>NA</b>	
15.6	Other Canadian Regulations <b>All chemical substances of this product are listed on the CEPA DSL/NDSL or are exempt from list requirements. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.</b>	
15.7	State Regulatory Information: <b>NA</b>	
15.8	67/548/EEC (European Union) Requirements: <b>The primary components of this product are not listed in Annex I of EU Directive 67/548/EEC. 2-Butoxyethanol: Harmful (Xn). R: 65 Harmful - may cause lung damage if swallowed. S: 23-24-62 - Do not inhale gas, fumes, vapor or spray. Avoid contact with skin. If swallowed, do not induce vomiting - Seek medical advice immediately and show this container or label.</b>	

## 16. OTHER INFORMATION

16.1	Other Information: <b>NA</b>	
16.2	Terms & Definitions: <b>Please see last page of this Material Safety Data Sheet.</b>	
16.3	Disclaimer: This Material Safety Data Sheet complies with U.S. OSHA's Hazard Communication Standard, 29 CFR §1910.1200 & Health Canada's Workplace Hazardous Materials Information System (WHMIS). To the best of ShipMate's or Worldpac's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product. Contact the manufacturer for additional information.	
16.4	Prepared for: <b>WorldPac, Inc. 37137 Hickory Street Newark, CA 94560 510-608-5525 phone 510-742-9262 fax <a href="http://www.worldpac.com/">http://www.worldpac.com/</a></b>	
16.5	Prepared by: <b>Steven Charles Hunt ShipMate, Inc. 18436 Hawthorne Blvd, Suite 201 Torrance, CA 90504 USA Phone: +1 (310) 370-3600 Fax: +1 (310) 370-5700 e-mail: <a href="mailto:shipmate@shipmate.com">shipmate@shipmate.com</a></b>	

## DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these that are commonly used include the following:

### GENERAL INFORMATION:

CAS No.	Chemical Abstract Service Number
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### EXPOSURE LIMITS IN AIR:

ACGIH	American Conference on Governmental Industrial Hygienists
TLV	Threshold Limit Value
OSHA	U.S. Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
IDLH	Immediately Dangerous to Life and Health

### FIRST AID MEASURES:

CPR	Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.
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### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

#### HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard



#### PERSONAL PROTECTION RATINGS:

<b>A</b>		<b>G</b>	
<b>B</b>		<b>H</b>	
<b>C</b>		<b>I</b>	
<b>D</b>		<b>J</b>	
<b>E</b>		<b>K</b>	
<b>F</b>		<b>X</b>	Consult your supervisor or S.O.P. for special handling directions.

Note: the dotted circle indicates that this respiratory protective equipment is required for high concentrations or for large volume spills or releases of product.

### OTHER STANDARD ABBREVIATIONS:

NA	Not Available
NR	No Results
NE	Not Established
ND	Not Determined
ML	Maximum Limit
SCBA	Self-Contained Breathing Apparatus

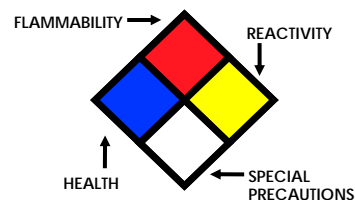
### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

#### FLAMMABILITY LIMITS IN AIR:

<b>Autoignition Temperature</b>	Minimum temperature required to initiate combustion in air with no other source of ignition
<b>LEL</b>	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
<b>UEL</b>	Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source

#### HAZARD RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard
ACD	Acidic
ALK	Alkaline
COR	Corrosive
-W	Use No Water
OX	Oxidizer



#### TOXICOLOGICAL INFORMATION:

LD <sub>50</sub>	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
LC <sub>50</sub>	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD <sub>10</sub>	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD <sub>10</sub> , LD <sub>10</sub> , & LD <sub>0</sub> or TC, TC <sub>0</sub> , LC <sub>10</sub> , & LC <sub>0</sub>	Lowest dose (or concentration) to cause lethal or toxic effects
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances
BCF	Bioconcentration Factor
TL <sub>m</sub>	Median threshold limit
log K <sub>ow</sub> or log K <sub>oc</sub>	Coefficient of Oil/Water Distribution

#### REGULATORY INFORMATION:

WHMIS	Canadian Workplace Hazardous Material Information System
DOT	U.S. Department of Transportation
TC	Transport Canada
EPA	U.S. Environmental Protection Agency
DSL	Canadian Domestic Substance List
NDSL	Canadian Non-Domestic Substance List
PSL	Canadian Priority Substances List
TSCA	U.S. Toxic Substance Control Act
EU	European Union (European Union Directive 67/548/EEC)

#### EC INFORMATION:

C	E	F	N	O	T+	Xi	Xn
Corrosive	Explosive	Flammable	Harmful	Oxidizing	Toxic	Irritant	Harmful