






## 1. PRODUCT IDENTIFICATION

**CHEMICAL RESPONSE CARD: 34**

1.1	Product Name:	<b>VALVE CLEAN</b>	RESPONSE TEAM PPE:				
1.2	Chemical Name:	See ingredients listed in section 2					
1.3	Synonyms:	None reported by the manufacturer	WHMIS:				
1.4	Trade Names:	P/N LM2001					
1.5	Product Use:	Automotive Cleaner	<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:	Jerg-Wielandstraße 4, 89081 Ulm, Germany	<b>REACTIVITY:</b>				<b>0</b>
1.8	Business Phone:	+49 (731) 1420-52	<b>PERSONAL PROTECTION:</b>				<b>B</b>
1.9	Emergency Phone:	<b>CHEMTREC 1-+1 (800) 424-9300/1-+1 (703) 527-3887</b>					

## 2. HAZARD IDENTIFICATION

2.1	Hazard Identification: <b>This product is classified as a hazardous substance but not as dangerous goods according to the classification criteria of NOHSC and ADG Code (Australia). Combustible 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	
SOLVENT NAPHTHA	64742-88-7	WF345000	265-191-7	≤ 60.0	100	NE	100	NE	NA	
PETROLEUM SPIRITS	8002-05-9	SE7175000	232-298-5	≤ 30.0	NA	NA	100	NA	NA	

### 4. FIRST AID MEASURES

4.1	First Aid: <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. <b>SKIN:</b> Wash thoroughly with soap and water. If irritation persists, seek medical attention. Remove contaminated clothing and wash before reuse. <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. <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.															
4.2	Medical Conditions Aggravated by Exposure: None reported by the manufacturer.															
<table border="1"> <tr> <td colspan="2"><b>HEALTH</b></td> <td><b>2</b></td> </tr> <tr> <td colspan="2"><b>FLAMMABILITY</b></td> <td><b>2</b></td> </tr> <tr> <td colspan="2"><b>REACTIVITY</b></td> <td><b>0</b></td> </tr> <tr> <td colspan="2"><b>PROTECTIVE EQUIPMENT</b></td> <td><b>B</b></td> </tr> <tr> <td>EYES</td> <td>SKIN</td> <td></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>	EYES	SKIN	
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<b>FLAMMABILITY</b>		<b>2</b>														
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<b>PROTECTIVE EQUIPMENT</b>		<b>B</b>														
EYES	SKIN															

### 5. FIREFIGHTING MEASURES

5.1	Flashpoint & Method: <b>61 °C (142 °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	Fire & Explosion Hazards: 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.
5.5	Extinguishing Methods: <b>Dry chemical, foam, carbon dioxide, and water fog.</b>
5.6	Firefighting Procedures: 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.



## 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:	0.82 @ 15 °C
9.2	Boiling Point:	180 °C (359 °F)
9.3	Melting Point:	ND
9.4	Evaporation Rate:	NA
9.5	Vapor Pressure:	NA
9.6	Molecular Weight:	NA
9.7	Appearance & Color:	Yellow liquid
9.8	Odor Threshold:	Diesel 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-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway can result in a loss of marine life or create an anaerobic environment. This material contains phosphorus which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.</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>

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS &amp; 2001/58 EC Standards      MSDS Revision: 2.0      MSDS Revision Date: 06/01/2007

## 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/NDL 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. Solvent Naphtha: Flammable (F). R: 10-65 - Flammable. 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:

<b>CAS No.</b>	Chemical Abstract Service Number
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### EXPOSURE LIMITS IN AIR:

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

### FIRST AID MEASURES:

<b>CPR</b>	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:

<b>0</b>	Minimal Hazard
<b>1</b>	Slight Hazard
<b>2</b>	Moderate Hazard
<b>3</b>	Severe Hazard
<b>4</b>	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:

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

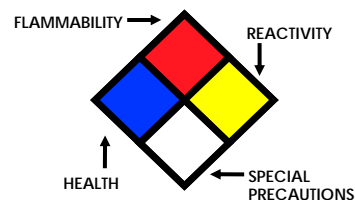
### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

#### 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:

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



### TOXICOLOGICAL INFORMATION:

<b>LD<sub>50</sub></b>	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
<b>LC<sub>50</sub></b>	Lethal concentration (gases) which kills 50% of the exposed animal
<b>ppm</b>	Concentration expressed in parts of material per million parts
<b>TD<sub>10</sub></b>	Lowest dose to cause a symptom
<b>TCLo</b>	Lowest concentration to cause a symptom
<b>TD<sub>10</sub>, LD<sub>10</sub>, &amp; LD<sub>01</sub> or TC, TC<sub>01</sub>, LC<sub>10</sub>, &amp; LC<sub>01</sub></b>	Lowest dose (or concentration) to cause lethal or toxic effects
<b>IARC</b>	International Agency for Research on Cancer
<b>NTP</b>	National Toxicology Program
<b>RTECS</b>	Registry of Toxic Effects of Chemical Substances
<b>BCF</b>	Bioconcentration Factor
<b>TL<sub>m</sub></b>	Median threshold limit
<b>log K<sub>ow</sub> or log K<sub>oc</sub></b>	Coefficient of Oil/Water Distribution

### REGULATORY INFORMATION:

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

### EC INFORMATION:

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