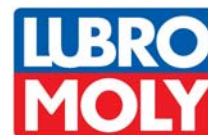


Material Safety Data Sheet

Motor Oil Saver



1. Product and company identification

Product name	: Motor Oil Saver
Supplier/Manufacturer	: LIQUI MOLY GmbH Jerg-Wieland-Strasse 4 D-89081 Ulm-Lehr Germany Tel.: +49(0)731 / 1420-0 Fax: +49(0)731 / 1420-88
Material uses	: Additives to lubricating agents.
Code	: 2020
Validation date	: 8/31/2009.
Responsible name	: Chemical Check GmbH
In case of emergency	: +49(0)731 / 1420-0
Product type	: Liquid.

2. Hazards identification

Emergency overview

Color	: Yellow. Clear.
Physical state	: Liquid. [Paste-like.]
Odor	: Characteristic.
Signal word	: WARNING!
Hazard statements	: COMBUSTIBLE LIQUID AND VAPOR. CAUSES EYE IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE RESPIRATORY TRACT AND SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.
Precautions	: Keep away from heat, sparks and flame. Do not get in eyes. Avoid breathing vapor or mist. Avoid contact with skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry	: Dermal contact. Eye contact. Inhalation.

Potential acute health effects

Inhalation	: Slightly irritating to the respiratory system.
Ingestion	: No known significant effects or critical hazards.
Skin	: Harmful in contact with skin. Slightly irritating to the skin.
Eyes	: Severely irritating to eyes. Risk of serious damage to eyes.

Potential chronic health effects

Chronic effects	: Contains material that can cause target organ damage.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

2. Hazards identification

Target organs : Contains material which causes damage to the following organs: eye, lens or cornea. Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver, lymphatic system, upper respiratory tract, skin, central nervous system (CNS).

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	%
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	30 - 60
Ethanol, 2-butoxy-, 1-acetate	112-07-2	5 - 10
Methacrylate copolymer		5 - 10
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, branched	69011-36-5	0.5 - 1.5
Distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

4. First aid measures

5. Fire-fighting measures

- Flammability of the product** : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
Cool closed containers exposed to fire with water.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
Hydrocarbons
Toxic pyrolysis products
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Special remarks on fire hazards** : Hot product gives off combustible vapors.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

<u>Occupational exposure limits</u>		TWA (8 hours)			STEL (15 mins)			Ceiling			
<u>Ingredient</u>	<u>List name</u>	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	<u>Notations</u>
Ethanol, 2-butoxy-, 1-acetate	US ACGIH 1/2009	20	-	-	-	-	-	-	-	-	[A]
	BC 6/2008	20	-	-	-	-	-	-	-	-	
	ON 6/2008	20	-	-	-	-	-	-	-	-	
Distillates (petroleum), solvent-dewaxed heavy paraffinic	US ACGIH	-	5	-	-	10	-	-	-	-	[a]
	AB 6/2008	-	5	-	-	10	-	-	-	-	[b]
	ON 6/2008	-	5	-	-	10	-	-	-	-	[c]
	QC 6/2008	-	5	-	-	10	-	-	-	-	[c]
Distillates (petroleum), solvent-refined heavy paraffinic	US ACGIH	-	5	-	-	10	-	-	-	-	[a]
	AB 6/2008	-	5	-	-	10	-	-	-	-	[b]
	ON 6/2008	-	5	-	-	10	-	-	-	-	[c]
	QC 6/2008	-	5	-	-	10	-	-	-	-	[c]

Form: [a]Mist [b]mist

Notes: [A]Refers to Appendix A -- Carcinogens. ACGIH 2003 Adoption

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

8. Exposure controls/personal protection

- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

- Physical state** : Liquid. [Paste-like.]
- Flash point** : 76°C (168.8°F)
- Auto-ignition temperature** : Not available.
- Flammable limits** : Not available.
- Color** : Yellow. Clear.
- Odor** : Characteristic.
- pH** : Not available.
- Boiling/condensation point** : Not available.
- Melting/freezing point** : Not available.
- Relative density** : Not available.
- Density** : 0.996 g/cm³ [15°C (59°F)]
- Odor threshold** : Not available.
- Viscosity** : Dynamic: 1299 mPa·s (1299 cP)
- Solubility** : Insoluble in the following materials: cold water.

10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : Strong heat. Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Potential acute health effects

- Inhalation** : Slightly irritating to the respiratory system.
- Ingestion** : No known significant effects or critical hazards.
- Eyes** : Severely irritating to eyes. Risk of serious damage to eyes.
- Skin** : Harmful in contact with skin. Slightly irritating to the skin.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethanol, 2-butoxy-, 1-acetate	LD50 Dermal	Rabbit	1500 mg/kg	-
	LD50 Oral	Rat	2400 mg/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Not available.

Conclusion/Summary : Not available.

Irritation/Corrosion

Not available.

Conclusion/Summary : Not available.

Sensitizer

Not available.

Conclusion/Summary : Not available.

Carcinogenicity

Not available.

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Ethanol, 2-butoxy-, 1-acetate	A3	-	-	-	-	-

Mutagenicity

Not available.

Conclusion/Summary : Not available.

Teratogenicity

Not available.

Conclusion/Summary : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary : Not available.

12. Ecological information

Ecotoxicity : Product can form a film on the water surface, which can prevent oxygen exchange.

Aquatic ecotoxicity

Not available.

Conclusion/Summary : Not available.

Persistence/degradability

Not available.

Conclusion/Summary : Not available.

Octanol/water partition coefficient : Not available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

TDG/IMDG/IATA : Not regulated.

15. Regulatory information

United States inventory (TSCA 8b) : Not determined.

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI : The following components are listed: Ethylene glycol butyl ether acetate

CEPA Toxic substances : None of the components are listed.

Canada inventory : Not determined.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

International lists : **Australia inventory (AICS)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory: Not determined.
Korea inventory: Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.

15. Regulatory information

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16. Other information

Label requirements : COMBUSTIBLE LIQUID AND VAPOR. CAUSES EYE IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE RESPIRATORY TRACT AND SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.

Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		2
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.



Date of issue : 8/31/2009.

Date of previous issue : No previous validation

Version : 1

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.