

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500Date of issue: June 08, 2011

1. Identification of the substance/mixture and of the company/ undertaking

As of the revision date above, this (M)SDS meets the regulations in the United Kingdom & Ireland.

Product identifier**Trade name:** LEYBONOL LVO 500**Product description:** White oil, free of additives**Relevant identified uses of the substance or mixture and uses advised against****Uses:** Cosmetic, Lubricant, Pharmaceutical, Plastics, Rubber applications, subject to applicable laws and regulations**Identified Uses:** Manufacture of substance
Distribution of substance
Formulation and (re)packing of substances and mixtures
Lubricants - Industrial
Functional Fluids - Industrial
Rubber production and processing
Polymer production - Industrial
Lubricants - Professional (Low Release)
Lubricants - Professional (High Release)

As this product is not classified it may be used in ways other than the above. All product uses should be consistent with the safety guidance in this SDS.

Uses advised against: None unless specified elsewhere in this SDS.**Registration name:** White mineral oil (petroleum)**Registration number:** 01-2119487078-27

Order number:	Number	Package Size
	L50001	1 Liter
	L50005	5 Liter
	L50020	20 Liter

Details of the supplier of the safety data sheet

Supplier	Oerlikon Leybold Vacuum GmbH Bonner Str. 498 D-50968 Cologne Phone +49-221-347-0 Fax +49-221-347-1250 Internet www.oerlikon.com/leyboldvacuum
-----------------	--

E-Mail: documentation.vacuum@oerlikon.com**Emergency phone number:** +49/ (0)700 24112112 (OLC)

2. Hazards identification**Classification of substance or mixture****Classification according to Regulation (EC) No 1272/2008:** Not Classified

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500

Date of issue: June 08, 2011

**Classification according to
EU Directive 67/548/EEC / 1999/45 EC:**

Not Classified

Label elements:

No Label elements according to Regulation (EC) No 1272/2008

Other hazards

Physical / Chemical Hazards:

No significant hazards.

Health Hazards:

High-pressure injection under skin may cause serious damage.
Excessive exposure may result in eye, skin, or respiratory irritation.

Environmental Hazards:

No significant hazards. Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

3. Composition/ information on ingredients

Substances

This material is defined as a substance.

No Hazardous Substance(s) required for disclosure.

Mixtures

Not Applicable. This product is regulated as a substance.

4. First aid measures

Description of first aid measures

Inhalation:

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Skin contact:

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Eye contact:

Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion:

First aid is normally not required. Seek medical attention if discomfort occurs.

**Most important symptoms and effects,
both acute and delayed:**

Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.

**Indication of any immediate medical
attention and special treatment needed:**

The need to have special means for providing specific and immediate medical treatment available in the workplace is not expected.

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500

Date of issue: June 08, 2011

5. Firefighting measures

Extinguishing media

Suitable Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Unsuitable Extinguishing Media: Straight streams of water

Special hazards arising from the substance or mixture

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Incomplete combustion products, Oxides of carbon

Advice for fire fighters

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Flammability properties

Flash Point [Method]: >250C (482F) [ASTM D-92]

Upper/Lower Flammable Limits
(Approximate volume % in air):

UEL: 7.0

LEL: 0.9 [Estimated]

Autoignition Temperature:

No data available

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Notification procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Protective measures: Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500

Date of issue: June 08, 2011

Environmental precautions

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

References to other sections: See Section 6

7. Handling and storage

Precautions for safe handling: Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

Conditions for safe storage, including any incompatibilities: The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

Specific end uses: Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500

Date of issue: June 08, 2011

8. Exposure controls/ personal protection

Control parameters

Exposure limits/standards for materials that can be formed when handling this product:

When mists/aerosols can occur the following is recommended:
5 mg/m³ - ACGIH TLV (inhalable fraction).

Note:

Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):
UK Health and Safety Executive (HSE)

Exposure controls

Engineering controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.

Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

Personal protection

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection:

Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection:

If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection:

Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500

Date of issue: June 08, 2011

Specific Hygiene Measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Environmental controls:

See Sections 6, 7, 12, 13.

9. Physical and chemical properties**Note:**

Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

Information on basic physical and chemical properties

Physical State:	Liquid
Colour:	Colourless
Odour:	Odourless
Odour Threshold:	No data available
pH:	Not technically feasible
Melting Point:	Not technically feasible
Freezing Point:	No data available
Initial Boiling Point / and Boiling Range:	No data available
Flash Point [Method]:	>250C (482F) [ASTM D-92]
Evaporation Rate (n-butyl acetate = 1):	No data available
Flammability (Solid, Gas):	Not technically feasible
Upper/Lower Flammable Limits (Approximate volume % in air):	UEL: 7.0 LEL: 0.9 [Estimated]
Vapour Pressure:	< 0.013 kPa (0.1 mm Hg) at 20°C [Estimated]
Vapour Density (Air = 1):	> 2 at 101 kPa [Estimated]
Relative Density (at 15 C):	0.87 [test method unavailable]
Solubility(ies):	water: Negligible
Partition coefficient (n-Octanol/Water Partition Coefficient):	> 3.5 [Estimated]
Autoignition Temperature:	No data available
Decomposition Temperature:	No data available
Viscosity:	90 cSt (90 mm ² /sec) at 40°C - 110 cSt (110 mm ² /sec) at 40°C 11 cSt (11 mm ² /sec) at 100C [test method unavailable]
Explosive Properties:	None
Oxidizing Properties:	None
Other information	
Pour Point:	-12°C (10°F) [test method unavailable]
DMSO Extract (mineral oil only), IP-346:	< 3 %wt

10. Stability and reactivity**Reactivity:**

See sub-sections below.

Chemical stability:

Material is stable under normal conditions.

Possibility of hazardous reactions:

Hazardous polymerization will not occur.

Conditions to avoid:

Excessive heat. High energy sources of ignition.

Incompatible materials:

Strong oxidisers

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500

Date of issue: June 08, 2011

Hazardous decomposition products: Material does not decompose at ambient temperatures.

11. Toxicological information

Acute Toxicity

<u>Hazard class</u>	<u>Conclusion / Remarks</u>
INHALATION	
Acute Toxicity: (Rat) 4 hour(s) LC50 > 5000 mg/m ³ (Aerosol) Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
INGESTION	
Acute Toxicity (Rat): LD50 > 5000 mg/kg Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 > 2000 mg/kg Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation (Rabbit): Data available. Test scores or other study results do not meet criteria for classification.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation (Rabbit): Data available. Test scores or other study results do not meet criteria for classification.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	
Respiratory Sensitization: No end point data.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline Test method unavailable. 471 473 474 476
Carcinogenicity: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 453
Reproductive Toxicity: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline Test method unavailable. 414 415 421
Lactation: No end point data.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline Test method unavailable. 408 411 412 453

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500

Date of issue: June 08, 2011

Chronic/ other effects

For the product itself:

White mineral oil medium/high viscosity: Not carcinogenic in animal tests. Not carcinogenic in lifetime animal skin painting tests and oral feeding tests. Did not cause mutations In Vitro or In Vivo. Animals fed high concentrations did not display any reproductive effects and there were no developmental effects in the offspring of animals fed high concentrations of this oil. High oral doses in certain strains of rats (F-344) resulted in microscopic inflammatory (microgranuloma) changes in the liver, spleen, and lymph nodes. These animals also had some accumulation of saturated mineral hydrocarbons in certain tissues. Similar effects were not observed to the same degree in other rodent strains or in other species. Non-sensitizing in animal tests and human subjects. International regulatory/scientific bodies have established acceptable daily intakes for these oils.

Additional information is available by request.

12. Ecological information

The information given is based on data available for the material, the components of the material, and similar materials.

Toxicity

Material: Not expected to be harmful to aquatic organisms.

Persistence and degradability

Biodegradation:

Material: Expected to be inherently biodegradable

Bioaccumulation potential

Material: Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

Mobility in soil

Material: Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

Material: Low potential to migrate through soil.

Persistence, bioaccumulation and toxicity for substance(s):

This product is not, or does not contain, a substance that is a PBT or a vPvB.

Other adverse effects:

No adverse effects are expected.

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500

Date of issue: June 08, 2011

Ecological data

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	96 hour(s)	Fish	LL0 100 - 10000 mg/l: data for similar materials
Aquatic - Acute Toxicity	48 hour(s)	Daphnia magna	EL0 100 mg/l: data for similar materials
Aquatic - Acute Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	EL0 100 mg/l: data for similar materials
Aquatic - Chronic Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	NOELR 100 mg/l: data for similar materials
Aquatic - Chronic Toxicity	21 day(s)	Daphnia magna	NOELR 10 - 1000 mg/l: data for similar materials

Persistence, Degradability and Bioaccumulation Potential

Media	Test Type	Duration	Test Results: Basis
Water	Ready Biodegradability	28 day(s)	Percent Degraded < 60 : similar material

13. Disposal considerations

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Waste treatment methods:

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

Regulatory disposal information

European Waste Code:

13 02 05*

Note:

These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

Empty Container Warning Empty Container Warning (where applicable):

Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500

Date of issue: June 08, 2011

14. Transport information

LAND (ADR/RID): Not Regulated for Land Transport

INLAND WATERWAYS (ADNR/ADN): Not Regulated for Inland Waterways Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

SEA (MARPOL 73/78 Convention - Annex II)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not classified according to Annex II

AIR (IATA): Not Regulated for Air Transport

15. Regulatory information

Regulatory status and applicable laws and regulations

Complies with the following national/regional chemical inventory requirements: KECI, AICS, DSL, EINECS, PICCS, ENCS, TSCA, IECSC

Applicable EU Directives and Regulations: 1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]
1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

Refer to the relevant EU/national regulation for details of any actions or restrictions required by the above Regulation(s)/Directive(s).

Chemical safety assessment

REACH Information: A Chemical Safety Assessment has not been carried out for the substance(s) that make up this material or for the material itself.

16. Other information

References: Sources of information used in preparing this SDS included one or more of the following: results from supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

SAFETY DATA SHEET

Trade name:

LEYBONOL LVO 500Date of issue: June 08, 2011

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

Acronym	Full text
N/A	Not applicable
N/D	Not determined
NE	Not established
AICS	Australian Inventory of Chemical Substances
AIHA WEEL	American Industrial Hygiene Association Workplace Environmental Exposure Limits
ASTM	ASTM International, originally known as the American Society for Testing and Materials (ASTM)
DSL	Domestic Substance List (Canada)
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of Notified Chemical Substances
ENCS	Existing and new Chemical Substances (Japanese inventory)
IECSC	Inventory of Existing Chemical Substances in China
KECI	Korean Existing Chemicals Inventory
NDSL	Non-Domestic Substances List (Canada)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
TLV	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	Toxic Substances Control Act (U.S. inventory)
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials

This safety data sheet contains the following revisions

Safety Data Sheet updated in accordance with the provisions of REACH Annex II (EU No 453/2010).

History**Date of issue:** June 08, 2011**Version:** A0

The information and recommendations contained herein are, to the best of Oerlikon Leybold Vacuum GmbH's knowledge and belief, accurate and reliable as of the date issued. You can contact Oerlikon Leybold Vacuum GmbH to insure that this document is the most current available from Oerlikon Leybold Vacuum GmbH. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.
