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

### Product identifier

**Trade name:** LEYBONOL LVO 240

**Product description:** Synthetic oil (special ester oil)

### Relevant identified uses of the substance or mixture and uses advised against

**Use:** Vacuum pump oil, Additive for plastics / rubber

**REACH Registration number:** 01-2119485386-26-0000

Order number:	Number	Package Size
	L24020	20 Liter
	L24099	208 Liter

### Details of the supplier of the safety data sheet

**Supplier:** Leybold GmbH  
Bonner Strasse 498  
D-50968 Cologne  
Phone +49-221-347-0  
Fax +49-221-347-1250  
Internet www.leybold.com

**E-Mail:** documentation@leybold.com

**Emergency phone number:** +49/ (0)700 24112112 (OLC) |

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## 2. Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

**Classification:** Not classified.

#### Classification according to Directive 67/548/EEC [DSD]

**Classification:** Not classified.

### 2.2 Label elements

**Hazard pictograms:** Not applicable.

**Signal word:** No signal word.

**Hazard statements:** No known significant effects or critical hazards.

**Additional warning phrases:** Not applicable. |

### Precautionary statements

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Other hazards**

**2.3 Other hazards**

**Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII:**

No.

**Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII:**

No.

**Other hazards which do not result in classification:**

Not available.

**3. Composition/ information on ingredients**

**Product definition (REACH):**

UVCB  
Alkyl sulphonic acid ester of phenol (contains up to 2,5 % organically bound chlorine)

Product/ingredient name	Identifiers	%	Einstufung		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
LEYBONOL LVO 240	REACH #: 01- 2119485386-26 EC: 293-728-5 CAS: 91082-17-6	>=95	Not classified.  <b>See Section 16 for the full text of the R-phrases declared above.</b>	Not classified.  <b>See Section 16 for the full text of the H statements declared above.</b>	[*]

Occupational exposure limits, if available, are listed in Section 8.

Type  
[\*] Substance  
[A] Constituent  
[B] Impurity  
[C] Stabilising additive

**4. First aid measures**

**4.1 Description of first aid measures**

**Inhalation:** Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Ingestion:** Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low

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so that vomit does not enter the lungs. Get medical attention if symptoms occur. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin Contact:** Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Eye Contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

#### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

#### 4.3 Indication of any immediate medical attention and special treatment needed

See Section 11 for more detailed information on health effects and symptoms.

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## 5. Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media:** In case of fire, use water spray (fog), foam, dry chemical or CO<sub>2</sub>.

**Unsuitable extinguishing media:** None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture:** In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous combustion products:** Decomposition products may include the following materials:  
carbon oxides  
sulfur oxides

### 5.3 Advice for firefighters

**Special precautions for firefighters:** 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.

### 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.

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## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures:

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment (see Section 8). Hazard of slipping on spilt product.

### 6.2 Environmental precautions:

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the

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product has caused environmental pollution (sewers, waterways, soil or air).

## 6.3 Methods and materials for containment and cleaning up

**Small spill:** Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill:** Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. 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). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal. Contaminated absorbent material may pose the same hazard as the spilt product. |

**6.4 Reference to other sections:** See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment

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## 7. Handling and storage

**7.1 Precautions for safe 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 vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

**7.2 Conditions for safe storage, including any incompatibilities:** Store in accordance with local regulations. 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. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

## 7.3 Specific end use(s)

**Recommendations:** Not available.

**Industrial sector specific solutions:** Not available.

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## 8. Exposure controls/ personal protection

### 8.1 Control parameters

**Exposure limit values:** Not available.

**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

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measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

## 8.2 Exposure controls

### Risk management measures

#### Occupational exposure controls

##### Technical measures:

If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

##### Personal protection measures

##### Respiratory protection:

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.  
Recommended: organic vapour filter (Type A) if product forms vapour/aerosol.

##### Hand protection:

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. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations  
Recommended: (< 1 hour) Nitrile rubber – NBR

##### Eye protection:

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, gases or dusts.  
Recommended: Safety glasses.

##### Skin protection:

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.  
Recommended: Wear protective clothing.

##### 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.

#### Environmental exposure controls

##### Technical measures:

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

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scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General information

#### Appearance

Physical state: Liquid. [Clear viscous liquid.]  
Colour: Yellowish.  
Odour: Odourless.

#### Important health, safety and environmental information

Boiling point: 300 to 400 °C (1013 hPa)  
Flash point: Closed cup: >210°C (>410°F)  
Vapour pressure: <0.0001 hPa (20°C)  
<0.0001 hPa (25°C)  
Density: 1.04 to 1.07 kg/L (20 °C)  
Solubility: 0.0022 g/l (water)  
Partition coefficient: noctanol/ water: 5.7 to 11.3 (measured)  
Viscosity: Dynamic: 122.9 mPa·s  
Decomposition temperature: >300°C

**9.2 Other information:** No additional information.

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## 10. Stability and reactivity

**10.1 Reactivity:** No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability:** The product is stable.

**10.3 Possibility of hazardous reactions:** Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid:** Hazardous decomposition products: sulphur dioxide, phenol

**10.5 Incompatible materials:** No specific data.

**10.6 Hazardous decomposition products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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## 11. Toxicological information

### 11.1 Information on toxicological effects

#### Potential acute health effects

**Inhalation:** No known significant effects or critical hazards.

**Ingestion:** No known significant effects or critical hazards.

**Skin contact:** No known significant effects or critical hazards.

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**Eye contact:** No known significant effects or critical hazards.

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
LEYBONOL LVO 240	LD50 Oral	- Rat - Male	> 15900 mg/kg	-	-
LEYBONOL LVO 240	LD50 Dermal	- Rat -	> 5000 mg/kg	-	-

**Conclusion/Summary:** \* Extrapolation according to Regulation (EC) No. 440/2008

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Test	Reversibility
LEYBONOL LVO 240	Eyes - Redness of the conjunctivae	Rabbit	0	-	-	Fully reversible
	Eyes - Oedema of the conjunctivae	Rabbit	0	-	-	Fully reversible
	Eyes – Iris lesion	Rabbit	0	-	-	Fully reversible
	Eyes – Cornea Opacity	Rabbit	0	-	-	Fully reversible

**Skin:** Non-irritating

**Eyes:** Non-irritating

### Sensitiser

Product/ingredient name	Route of exposure	Species	Result	Test description
LEYBONOL LVO 240	Skin	Guinea pig	Not sensitizing	(OECD Guideline 406); GPMT according to MAGNUSSON-KLIGMAN

### Potential chronic health effects

#### Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
LEYBONOL LVO 240	Sub-chronic NOAEL Oral	Rat	3000 mg/kg	90 days; 7 days per week

**Mutagenicity**

Product/ingredient name	Test	Experiment	Result
LEYBONOL LVO 240	Ames test with metabolic activation / without metabolic activation	Experiment: In vitro Subject: Bacteria Cell: Somatic	Negative
	Chromosomal aberration assay	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	HPRT test with metabolic activation / without metabolic activation	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative

**Reproductive toxicity**

**Conclusion/Summary:** Not considered to be toxic to the reproductive system.

**Remarks:** No carcinogenic effect.

**12. Ecological information**
**12.1 Ecotoxicity data**

Product/ingredient name	Test	Result	Species	Exposure
LEYBONOL LVO 240	EU C.2 (Acute Toxicity for Daphnia)	Acute EC0 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50 >10000 mg/l	Bacteria - adapted and activated sludge microorganism	3 hours
	EU C.3	Acute IC0 >2 mg/l	Algae - Desmodesmus subspicatus	72 hours
	EU C.1	Acute LC0 >2 mg/l Fresh water	Fish - Danio rerio	96 hours

**Conclusion/Summary:** Not available.

**12.2 Persistence and degradability**

Product/ingredient name	Rate of degradation/ elimination (%)	Period (days)	Test
Alkyl sulphonic acid ester of phenol	61 %	47 days	OECD 301F Ready Biodegradability - Manometric Respirometry Test
	49 %	28 days	OECD 301F Ready Biodegradability - Manometric Respirometry Test

**Conclusion/Summary:** Not available.

## Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Alkyl sulphonic acid ester of phenol	>6	7 to 212	low

## 12.4 Mobility in soil

**Soil/water partition coefficient (KOC):** 4.7 to 9.3

**Mobility:** Not available.

## 12.5 Results of PBT and vPvB assessment

**PBT:** No.

**vPvB:** No.

## 12.6 Other adverse effects

**Environmental effects:** This product shows a low bioaccumulation potential. |

**Other adverse effects:** Not available.

**AOX:** The product contains organically bound halogens and can contribute to the AOX value in waste water.

**Remarks:** No harmful effect in the area of water solubility.  
The product does not contain heavy metals in concentrations of concern for waste water.  
The product does not release nitrogen which can contribute to eutrophication.  
The product does not contain phosphates or organophosphorus compounds.

## 13. Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal:** Examine possibilities for re-utilisation. Product residues and uncleaned empty containers should be packaged, sealed, labelled, and disposed of or recycled according to relevant national and local regulations. Where large quantities are concerned, consult the supplier. When uncleaned empty containers are passed on, the recipient must be warned of any possible hazard that may be caused by residues. For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the European Waste List (EWL).

**Hazardous waste:** Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

## Packaging

**Methods of disposal:** The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions:** This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## 14. Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
<b>14.1 UN number</b>	-	-	-	-
<b>14.2 UN proper shipping name</b>	-	-	-	-
<b>14.3 Transport hazard class(es)/Marks</b>	-	-	-	-
<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	No	No	No	No
<b>14.6 Special precautions for user/Additional information</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not available.

**Hazard notes:** Not dangerous cargo.  
Keep separated from foodstuffs.

## 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or Mixture

**EU Regulation (EC) No. 1907/2006 (REACH)  
Annex XIV - List of substances subject to authorisation  
Annex XIV**

None of the components are listed. |

**Substances of very high concern:** None of the components are listed. |

#### Other EU regulations

**Seveso III Directive:** This product is not controlled under the Seveso III Directive. |

**15.2 Chemical Safety Assessment:** Not applicable. |

## 16. Other information

**Abbreviations and acronyms:** ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation  
[Regulation (EC) No. 1272/2008]  
DNEL = Derived No Effect Level

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EUH statement = CLP-specific Hazard statement  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number  
vPvB = Very Persistent and Very Bioaccumulative

**History:****Date of issue:** April 20, 2009**Date of revision:** April 09, 2015**Version:** C0

| Indicates information that has changed from previously issued version.

**Notice to reader**

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The information contained therein is protected by copyright and must not be reproduced or amended without the express written approval of Leybold. This document may be passed on only to the extent required by law. Any dissemination of our safety datasheets (e.g. as a document for download from the Internet) beyond this legally required extent is not permitted without express written consent.

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