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

### Product identifier

**Trade name:** LEYBONOL LVO 200

**Product description:** Synthetic oil (ester oil with additives)

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

**Uses:** Vacuum pump oil, Industrial

**Recommended restrictions on use:** None known.

Order number:	Number	Package Size
	L20001	1 Liter
	L20002	2 Liter
	L20005	5 Liter
	L20020	20 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 (REGULATION (EC) No 1272/2008)

**Chronic aquatic toxicity, Category 3:** H412: Harmful to aquatic life with long lasting effects.

#### Classification (67/548/EEC, 1999/45/EC)

**Dangerous for the environment:** R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

**Hazard statements:** H412 Harmful to aquatic life with long lasting effects.

#### Supplemental Hazard Statements

**Precautionary statements:** Prevention:  
P273 Avoid release to the environment.

Disposal:  
P501 Dispose of contents/ container to an approved waste disposal plant.

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**Additional Labelling:** EUH208 Contains: N-1-naphthylaniline May produce an allergic reaction.

**2.3 Other hazards:** No information available.

### 3. Composition/ information on ingredients

#### 3.2 Mixtures

##### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
N-1-naphthylaniline	90-30-2 201-983-0	Xn; R22 Xi; R43 N; R50/53	Acute Tox. 4; H302 Skin Sens. 1; H317 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	$\geq 0.25 - < 1$
diphenylamine	122-39-4 204-539-4	T; R23/24/25 R33 N; R50-R53	Acute Tox. 3; H331 Acute Tox. 3; H311 Acute Tox. 3; H301 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	$\geq 0.1 - < 0.25$

For the full text of the R-phrases mentioned in this Section, see Section 16.  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### 4. First aid measures

#### 4.1 Description of first aid measures

**General advice:** No hazards which require special first aid measures.

**If inhaled:** Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.  
If symptoms persist, call a physician.

**In case of skin contact:** Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.

**In case of eye contact:** Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.

**If swallowed:** Clean mouth with water and drink afterwards plenty of water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

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

**Symptoms:** None known.

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

**Treatment:** For specialist advice physicians should contact the Poisons Information Service.

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## 5. Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

**Specific hazards during firefighting:** Burning produces noxious and toxic fumes.

### 5.3 Advice for firefighters

**Special protective equipment for firefighters:** In the event of fire, wear self-contained breathing apparatus.

**Further information:** Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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## 6. Accidental release measures

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

**Personal precautions:** Wear suitable protective equipment.

### 6.2 Environmental precautions

**Environmental precautions:** If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3 Methods and materials for containment and cleaning up

**Methods for cleaning up:** Wipe up with absorbent material (e.g. cloth, fleece).  
Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections:** Refer to protective measures listed in sections 7 and 8.

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## 7. Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling:** For personal protection see section 8.  
Dispose of rinse water in accordance with local and national regulations.

**Advice on protection against fire and explosion:** Normal measures for preventive fire protection.

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## 7.2 Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers:**

Keep container tightly closed in a dry and well-ventilated place.

**Other data:**

No decomposition if stored and applied as directed.

## 7.3 Specific end uses

**Specific use(s):**

Raw material for industry

## 8. Exposure controls/ personal protection

### 8.1 Control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Diphenylamine	122-39-4	TWA	10 mg/m <sup>3</sup>	2005-04-06	GB EH40
		STEL	20 mg/m <sup>3</sup>	2005-04-06	GB EH40

### 8.2 Exposure controls

**Personal protective equipment****Respiratory protection:**

Respirator with a vapour filter (EN 141)

**Hand protection:**Polyvinyl alcohol or nitrile- butyl-rubber gloves  
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Before removing gloves clean them with soap and water.**Eye protection:**Eye wash bottle with pure water  
Tightly fitting safety goggles**Skin and body protection:**impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.**Hygiene measures:**Handle in accordance with good industrial hygiene and safety practice.  
Wash hands before breaks and at the end of workday.**Environmental exposure controls****General advice:**

If the product contaminates rivers and lakes or drains inform respective authorities.

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance:	liquid
Colour:	yellow
Odour:	No information available.
Odour Threshold:	No information available.
Flash point:	242 °C Method: ASTM D92
Ignition temperature:	No information available.
Lower explosion limit:	No information available.
Upper explosion limit:	No information available.
Flammability (solid, gas):	No information available.

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Autoignition temperature:	No information available.
pH:	No information available.
Pour point :	-49 °C
Vapour pressure:	No information available.
Density:	0,924 g/cm <sup>3</sup>
Relative density:	No information available.
Water solubility:	No information available.
Partition coefficient: noctanol/ water:	No information available.
Solubility in other solvents:	No information available.
Viscosity, kinematic:	28,5 mm <sup>2</sup> /s at 40 °C Method: ASTM D 445 5,4 mm <sup>2</sup> /s at 100 °C Method: ASTM D 445
Relative vapour density:	No information available.
Evaporation rate:	No information available.

## 9.2 Other information

**Oxidising potential:** Note: No information available.

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## 10. Stability and reactivity

**10.1 Reactivity:** Stable under recommended storage conditions.

**10.2 Chemical stability:** No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

**Hazardous reactions:** Note: No decomposition if used as directed.

### 10.4 Conditions to avoid

**Conditions to avoid:** No data available

### 10.5 Incompatible materials

**Materials to avoid:** Oxidizing agents

### 10.6 Hazardous decomposition products

**Hazardous decomposition products:** Carbon oxides

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## 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

**Acute oral toxicity:** Remarks: Not classified due to lack of data.

#### Acute oral toxicity

**N-1-naphthylaniline:** LD50: 1,625 mg/kg  
Species: rat

**diphenylamine:** Acute toxicity estimate: 100 mg/kg  
Method: Converted acute toxicity point estimate  
LD50: 2.72 mg/kg  
Species: Rat

**Acute inhalation toxicity:** Remarks: Not classified due to lack of data.

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<b>Acute dermal toxicity:</b>	Remarks: Not classified due to lack of data.	
<b>Acute dermal toxicity</b>		
<b>N-1-naphthylaniline:</b>	LD50 Dermal: > 5,000 mg/kg Species: rabbit	
<b>diphenylamine:</b>	Acute toxicity estimate: 300 mg/kg Method: Converted acute toxicity point estimate LD50: > 2,000 mg/kg Species: Rabbit	
<b>Skin corrosion/irritation</b>		
<b>Skin irritation:</b>	Remarks: According to the classification criteria of the European Union, the product is not considered as being a skin irritant.	
<b>Skin irritation</b>		
<b>N-1-naphthylaniline:</b>	Species: rabbit Result: No skin irritation Method: Draize Test	
<b>diphenylamine:</b>	Species: rabbit Result: Mild skin irritation	
<b>Serious eye damage/eye irritation</b>		
<b>Eye irritation:</b>	Remarks: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.	
<b>Eye irritation</b>		
<b>N-1-naphthylaniline:</b>	Species: rabbit Result: No eye irritation Method: OECD Test Guideline 405	
<b>Respiratory or skin sensitization</b>		
<b>Sensitisation:</b>	Maximisation Test (GPMT) Species: Guinea pig Classification: May cause sensitisation by skin contact. Result: May cause sensitisation by skin contact. Patch Test Species: Human Classification: May cause sensitisation by skin contact. Result: May cause sensitisation by skin contact.	
<b>diphenylamine:</b>	Species: Guinea pig Result: Does not cause skin sensitisation.	
<b>Germ cell mutagenicity</b>		
<b>N-1-naphthylaniline:</b>	Ames test Result: negative Chinese Hamster Ovary (CHO) Result: negative	
<b>Genotoxicity in vivo</b>		
<b>N-1-naphthylaniline:</b>	in vivo assay Species: mouse Result: negative	

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**Mutagenicity Assessment**

Remarks: Not classified due to lack of data.

**Carcinogenicity Assessment**

Remarks: Not classified due to lack of data.

**Reproductive toxicity Assessment**

Remarks: Not classified due to lack of data.

**Target Organ Systemic Toxicant - Single exposure**

Remarks: Not classified due to lack of data.

**Target Organ Systemic Toxicant - Repeated exposure**

diphenylamine: Species: Mouse, male  
Application Route: Oral  
Target Organs: Blood, Liver, Kidney  
Exposure time: (90 d)  
NOEL: 1.7 mg/kg  
Lowest observed effect level: 93.8 mg/kg

Species: Mouse, female  
Application Route: Oral  
Target Organs: Blood, Liver, Kidney  
Exposure time: (90 d)  
NOEL: 2.1 mg/kg  
Lowest observed effect level: 107 mg/kg  
Remarks: Not classified due to lack of data.

**Aspiration hazard****Aspiration toxicity:** No aspiration toxicity classification**Toxicology Assessment****Further information:** no data available**12. Ecological information****12.1 Toxicity****Toxicity to fish:** Remarks: no data available**Toxicity to fish****N-1-naphthylaniline:** LC50: 0.44 mg/l  
Exposure time: 96 hSpecies: Oncorhynchus mykiss (rainbow trout)  
semi-static test Analytical monitoring: yes**diphenylamine:** LC50: 2.2 mg/l  
Exposure time: 96 h  
Species: Oncorhynchus mykiss (rainbow trout)**Toxicity to daphnia and other aquatic invertebrates:**

Remarks: no data available

**Toxicity to daphnia and other aquatic invertebrates.****N-1-naphthylaniline:** EC50: 0.68 mg/l  
Exposure time: 48 h  
Species: Daphnia magna (Water flea)  
semi-static test Analytical monitoring: yes

**diphenylamine:** EC50: 1.2 mg/l  
Exposure time: 48 h  
Species: Daphnia magna (Water flea)

### Toxicity to daphnia and other aquatic invertebrates. (Chronic toxicity)

**N-1-naphthylaniline:** NOEC: 0.02 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Analytical monitoring: yes

### 12.2 Persistence and degradability

**Biodegradability:** Result: no data available

#### Biodegradability

**N-1-naphthylaniline:** aerobic  
Result: According to the results of tests of biodegradability this product is not readily biodegradable.  
0 %  
Method: OECD Test Guideline 301

### 12.3 Bioaccumulative potential

**Bioaccumulation:** Test substance: no data available

#### Bioaccumulation

**N-1-naphthylaniline:** Species: Cyprinus carpio (Carp)  
Exposure time: 56 d  
Temperature: 25 °C  
Concentration: 0.1 mg/l  
Bioconcentration factor (BCF): 427 – 2,730

### 12.4 Mobility in soil

**Mobility:** Remarks: No data available

### 12.5 Results of PBT and vPvB assessment:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

**Additional ecological information:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 13. Disposal considerations

### Waste treatment methods

**Product:** The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Offer surplus and non-recyclable solutions to a licensed disposal company.



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**Contaminated packaging:** Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

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## 14. Transport information

**ADR:** Not dangerous goods  
**IATA:** Not dangerous goods  
**IMDG:** Not dangerous goods  
**RID:** Not dangerous goods  
**Special precautions for user:** Not classified as dangerous in the meaning of transport regulations. |

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## 15. Regulatory information

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

#### Notification status

**US.TSCA:** On TSCA Inventory  
**DSL:** All components of this product are on the Canadian DSL list.  
**AICS:** On the inventory, or in compliance with the inventory  
**NZIoC:** Not in compliance with the inventory  
**ENCS:** On the inventory, or in compliance with the inventory  
**KECI:** On the inventory, or in compliance with the inventory  
**PICCS:** On the inventory, or in compliance with the inventory  
**IECSC:** On the inventory, or in compliance with the inventory

**15.2 Chemical Safety Assessment:** No information available.

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## 16. Other information

### Safety data sheet according to Regulation (EC) No. 1907/2006

#### Full text of R-phrases referred to under sections 2 and 3

R22 Harmful if swallowed.  
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
R33 Danger of cumulative effects.  
R43 May cause sensitization by skin contact.  
R50 Very toxic to aquatic organisms.  
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R53 May cause long-term adverse effects in the aquatic environment.

#### Full text of H-Statements referred to under sections 2 and 3.

H301 Toxic if swallowed.  
H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H317 May cause an allergic skin reaction.  
H331 Toxic if inhaled.  
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.  
H412 Harmful to aquatic life with long lasting effects.

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**History**

<b>Date of issue:</b>	June 16, 2010
<b>Date of revision:</b>	February 06, 2015
<b>Version:</b>	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.