



## Material Safety Data Sheet

According to CE 1907/2006/CE Regulation, Article 31 and 453/2010/EC

Substance: Oil for vacuum pump

Stand: 11.07.2016. Rev.-Nr. 06

<p><b>1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING</b></p> <p><b>1.1 Product identifier</b> <b>Trade name:</b></p> <ul style="list-style-type: none"><li>- DV-44 / oil for vacuum pumps RL-2/4/8 / 4495340</li><li>- DV-45 / oil for vacuum pumps RL-2/4/8 / 4495358</li><li>- DV-46 / oil for vacuum pumps RL-2/4/8 / 4495366</li><li>- DV-46-Y / oil for vacuum pumps RL-2/4/8 / 4495323</li><li>- DV-48 / oil for vacuum pumps RL-2/4/8 / 4495331</li></ul> <p><b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b> No further information available.</p> <p><b>Application of the substance / the preparation:</b> For industrial use only Lubricant VD-L-Oil</p> <p><b>1.3 Details of the supplier of the safety data sheet</b> <b>REFCO Manufacturing Ltd.</b> Industriestrasse 11   6285 Hitzkirch Switzerland Tel.: +41 41 919 72 82   Fax: +41 41 919 72 83 Mail: <a href="mailto:info@refco.ch">info@refco.ch</a></p> <p><b>1.4 Emergency telephone number</b> Schweizerisches Toxikologisches Informationszentrum Zurich Telephone number in urgent matters: 145 or +41 44 251 51 51 Not urgent matters: +41 44 251 66 66</p>
<p><b>* 2. HAZARDS IDENTIFICATION</b></p> <p><b>2.1 Classification of the substance or mixture</b> <b>Classification according to Regulation (EC) No 1272/2008</b> The product is not classified according to the CLP regulation.</p> <p><b>2.2 Label elements</b> <b>Labelling according to Regulation (EC) No 1272/2008</b> The product does not meet the criteria which leads to a labeling.</p> <p><b>Hazard pictograms</b> Void <b>Signal word</b> Void <b>Hazard statements</b> Void</p> <p><b>2.3 Other hazards</b> None <b>Results of PBT and vPvB assessment</b> <b>PBT:</b> Not applicable. <b>vPvB:</b> Not applicable.</p>
<p><b>* 3. COMPOSITION/INFORMATION ON INGREDIENTS</b></p> <p><b>3.2 Mixtures</b> <b>Description:</b> Paraffin-based mineral oil, selective raffinate with active substances, Lubricant</p> <p><b>Declarable, or hazardous components:</b> <b>CAS-no.:</b> Void</p> <p><b>Additional information:</b> For the wording of the listed risk phrases refer to section 16. Not mentioned CAS-, EINECS- or registration numbers are to be regarded as Proprietary/ Confidential.</p>



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<b>4. FIRST AID MEASURES</b>
<b>4.1 Description of first aid measures</b>
<b>General information:</b> No special measures required.
<b>After inhalation:</b> Supply fresh air; consult doctor in case of complaints.
<b>After skin contact:</b> Generally the product does not irritate the skin.
<b>After eye contact:</b> Rinse opened eye for several minutes under running water.
<b>After swallowing:</b> If symptoms persist consult doctor.
<b>4.2 Most important symptoms and effects, both acute and delayed</b> No further relevant information available.
<b>4.3 Indication of any immediate medical attention and special treatment needed</b> No further relevant information available.
<b>* 5. FIREFIGHTING MEASURES</b>
<b>5.1 Extinguishing media</b>
<b>Suitable extinguishing agents:</b> CO <sub>2</sub> , powder or water spray. Fight larger fires with water spray.
<b>For safety reasons unsuitable extinguishing agents:</b> Water with full jet
<b>5.2 Special hazards arising from the substance or mixture</b> No further relevant information available.
<b>5.3 Advice for fire-fighters</b>
<b>Protective equipment:</b> No special measures required.
<b>Additional information</b> Cool endangered receptacles with water spray.
<b>6. ACCIDENTAL RELEASE MEASURES</b>
<b>6.1 Personal precautions, protective equipment and emergency procedures</b> Not required.
<b>6.2. Environmental precautions</b> Do not allow to enter sewers/ surface or ground water.
<b>6.3 Methods and material for containment and cleaning up</b> Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
<b>6.4 Reference to other sections</b> No dangerous substances are released. See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

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<b>7. HANDLING AND STORAGE</b>	
<b>7.1 Precautions for safe handling</b> The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStoffV). Observe the general safety regulations when handling chemicals.  <b>Information about fire - and explosion protection:</b> No special measures required.	
<b>7.2 Conditions for safe storage, including any incompatibilities</b> <b>Requirements to be met by storerooms and receptacles:</b> Store only in the original receptacle. <b>Information about storage in one common storage facility:</b> Store away from oxidizing agents. <b>Further information about storage conditions:</b> Protect from heat and direct sunlight. Storage temperature between -15 °C and +40 °C. Duration of storage: In original container, at least 3 years.	
<b>7.3 Specific end use(s)</b> No further relevant information available.	
<b>* 8. EXPOSURE CONTROLS/PERSONAL PROTECTION</b>	
<b>Additional information about design of technical facilities:</b> No further data; see item 7.	
<b>8.1 Control parameters</b>	
<b>Ingredients with limit values at the workplace:</b>	TLV value (oil mist) CH: 5 mg/m <sup>3</sup>
<b>Additional information:</b>	The lists valid during the making were used as basis.
<b>8.2 Exposure controls</b>	
<b>Personal protective equipment:</b>	
<b>General protective and hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals.
<b>Respiratory protection:</b>	Not required.
	
<b>Protection of hands:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Material of gloves:</b>	The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the resultant standard EN 374. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. The break through, among others, depending on material density and the type of glove and therefore must be determined in each individual case. Gloves must be inspected prior to use. Replace when worn! Impervious gloves: nitrile rubber, minimum thickness of 0.3 mm.
	
<b>Penetration time of glove material:</b>	The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
<b>Eye protection:</b>	Eye protector with side protection (framed eyeglasses) EN 166.
	

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<b>Body protection:</b>		Protective work clothing
<b>* 9. PHYSICAL AND CHEMICAL PROPERTIES</b>		
<b>9.1 Information on basic physical and chemical properties</b>		
Form	Liquid	
Colour	Light Yellow	
Odour	Weak, characteristic	
Melting Point / Melting Range	Not applicable	
Boiling Point / Boiling Range	> 300°C (DIN 51751 / ASTM D86)	
Drip Point	Not applicable	
Pour Point	- 27 °C (ISO 3016 / ASTM D97)	
Flash Point	210 °C (ISO 2592 / ASTM D92)	
Ignition Temperature	> 500 °C (DIN 51794 / ASTM E659)	
Self-Igniting	Product is not selfigniting	
Danger of Explosion	Product does not present an explosion hazard	
Lower Explosion limit (@1013 bar)	0.6 Vol %	
Upper Explosion limit (@1013 bar)	6.5 Vol %	
Density at 20°C	0.88 g/cm <sup>3</sup> (DIN 51757 / ASTM D1217)	
Solubility in / Miscibility with water	Insoluble	
Kinematic Viscosity	46mm <sup>2</sup> /s @40 °C (ISO 3104 / ASTM D445)	
<b>9.2 Other information</b>		
Safety relevant data, which has to be considered as product specifications.		
<b>10. STABILITY AND REACTIVITY</b>		
<b>10.1 Reactivity</b>		
None known if used as directed.		
<b>10.2 Chemical stability</b>		
Stable under recommended storage conditions.		
<b>Thermal decomposition / conditions to be avoided:</b> No decomposition if used according to specifications.		
<b>10.3 Possibility of hazardous reactions</b>		
Reacts with strong oxidizing agents.		
<b>10.4 Conditions to avoid</b>		
No further relevant information available.		
<b>10.5 Incompatible materials</b>		
No further relevant information available.		
<b>10.6 Hazardous decomposition products</b>		
Carbon monoxide and carbon dioxide.		



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### 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

**Acute toxicity** Based on available data, the classification criteria are not met.

**LD/LC50 values relevant for classification:**

- > 2000 - < 5000 mg / kg (oral, rat)
- > 5,100 mg/m<sup>3</sup> 4h (inhalation, rat)

**Primary irritant effect**

**Skin corrosion/irritation:**

Based on available data, the classification criteria are not met.

**Serious eye damage/irritation:**

Based on available data, the classification criteria are not met.

**Respiratory or skin sensitization:**

Based on available data, the classification criteria are not met.

**Germ cell mutagenicity:**

Based on available data, the classification criteria are not met.

**Carcinogenicity:**

Based on available data, the classification criteria are not met.

**Reproductive toxicity:**

Based on available data, the classification criteria are not met.

**STOT-single exposure:**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure:**

Based on available data, the classification criteria are not met.

**Aspiration hazard:**

Based on available data, the classification criteria are not met.

### 12. ECOLOGICAL INFORMATION

#### 12.1 Toxicity

**Aquatic toxicity:** No further relevant information available.

#### 12.2 Persistence and degradability

No further relevant information available.

#### 12.3 Bio accumulative potential

No further relevant information available.

#### 12.4 Mobility in soil

No further relevant information available.

#### Additional ecological information / General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow product to reach ground water, water course or sewage system.

#### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

#### 12.6 Other adverse effects

No further relevant information available.

### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

**Recommendation:**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**European waste catalogue:**

13 01 10 mineral based non-chlorinated hydraulic oils

15 01 10 packing containing residues of contaminated by dangerous substances.

**Uncleaned packaging:**

**Recommendation:** Disposal must be made according to official regulations.



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### \* 14. TRANSPORT INFORMATION

#### 14.1 UN-Number

ADR, ADN, IMDG, IATA Void

#### 14.2 UN proper shipping name:

ADR, AND, IMDG, IATA Void

#### 14.3 Transport hazard class(es)

ADR, AND, IMDG, IATA Class Void

#### 14.4 Packing group

ADR, IMDG, IATA Void

#### 14.5 Environmental hazards

Marine pollutant No

#### 14.6 Special precautions for user

Not applicable.

#### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

#### 14.8 Transport/Additional information:

Not dangerous according to the above specifications.

#### IATA

IATA Dangerous Goods Regulation (DGR) 57th Edition

2016

UN "Model Regulation" Void

### \* 15. REGULATORY INFORMATIONS

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

#### National regulations:

CPID-no. (CH): 527510-26

#### Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

This preparation does not contain any SVHC ("Substances of Very High Concern")

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

### 16. OTHER INFORMATION

#### RoHS:

The product is compliant with European Directives 2011/65/EC, 2002/95/EC, WEEE 2002/96/EC, 2003/11/EC, 2005/53/EC, and RoHS.

The following substances ARE NOT contained:

Pentabromodiphenylether, Octabromodiphenylether, polybrominated diphenylether (PDBE) and/or polybrominated biphenyls (PBB), lead or it's compounds, cadmium or it's compounds, mercury or it's compounds, chromium Cr<sup>6+</sup>- compounds.

#### IP346:

The contained refined mineral oils are exempt of labelling.

The content of polycyclic aromatic hydrocarbons (PCA) according to IP346 is < 3% (DMSO-extract).



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**Department issuing MSDS:** Quality management

**Contact:** Mr. Weber

**Editor's notice:**

The above mentioned data correspond to our present state of knowledge and experience. The safety data sheet serves as description of the products in regard to necessary safety measures. The indications have not the meaning of guarantees on properties.

**Abbreviations and acronyms:**

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

RoHS: Restriction of Hazardous Substances

ADR: Accord European sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Rail)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

ISO: International Organization for Standardization

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicated No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT : Persistent, Bioaccumulative and Toxic

DMSO : Dimethyl sulphoxide extract

IP 346: Institute of Petroleum and related for testing methods for petroleum and fuel products.

CLP: Classification, Labelling and Packaging (European GHS)

PBT: Persistent, Bioaccumulative and Toxic chemicals

vPvB: very Persistent and very Bioaccumulative chemicals

**\* Data compared to the previous version altered.**

The asterisk (\*) on the left side indicate the respective changes from the previous version.

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