

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 11.04.2014

Version number 6

Revision: 11.04.2014

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

- **1.1 Product identifier**
- **Product name:** Vario Molybdenum 2 Reagent LR
- **Catalog number:** 530820, 4530820
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation:** Reagent for water analysis
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier:**
Tintometer GmbH
Schleefstr. 8-12
DE-44287 Dortmund
Made in Germany
www.lovibond.com
- **Informing department:**
e-mail: produktsicherheit@tintometer.de
Product Safety Department
- **Contact for technical details:**
Technical Department
e-mail: technik@tintometer.de
- **1.4 Emergency telephone number:**
Poison Center Berlin, Germany
phone: 0049-30 30686 790

phone: +49 (0) 231 945100
E-Mail: sales@tintometer.de

2 Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Void
- **Information concerning particular hazards for human and environment:** No hazards to be particularly mentioned.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS07
- **Signal word** Warning
- **Hazard statements**
H319 Causes serious eye irritation.
- **Precautionary statements**
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.

3 Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** aqueous solution
- **Dangerous components:**
M-factor (acute): 100 (CAS: 57-09-0)

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M-factor (chronic): 1 (CAS: 57-09-0)

CAS: 9036-19-5 EINECS: 264-520-1	Octylphenoxyethoxyethanol Xn R22; Xi R41 Eye Dam. 1, H318; Acute Tox. 4, H302	≤ 2.5%
CAS: 57-09-0 EINECS: 200-311-3	cetrimonium bromide Xn R22; Xi R36/37/38; N R50/53 STOT RE 2, H373; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335	0.1-1.0%

- **REACH - Pre-registered substances** All components are REACH pre-registered.
- **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **4.1 Description of first aid measures**
- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 minutes). If symptoms persist, consult doctor.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
In case of persistent symptoms consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed:**
After swallowing of large amounts:
sickness
diarrhoea
vomiting
gastric or intestinal trouble
- **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- **6.3 Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, universal binders).
- **6.4 Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

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* 7 Handling and storage

- **7.1 Precautions for safe handling** No special precautions necessary if used correctly.
 - **Information about protection against explosions and fires:** The product is not flammable
 - **7.2 Conditions for safe storage, including any incompatibilities**
 - **Storage**
 - **Requirements to be met by storerooms and containers:** Store in cool location.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Protect from humidity and keep away from water.
 - Protect from the effects of light.
 - **Recommended storage temperature:** 20 °C +/- 5 °C
 - **Storage class** 12
 - **7.3 Specific end use(s)** No further relevant information available.
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* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
 - **8.1 Control parameters**
 - **Components with limit values that require monitoring at the workplace:**
 - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
 - **8.2 Exposure controls**
 - **Personal protective equipment**
 - **General protective and hygienic measures**
 - Avoid contact with the eyes.
 - Wash hands during breaks and at the end of the work.
 - Do not eat, drink or smoke while working.
 - **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
 - **Recommended filter device for short term use:** Filter B
 - **Protection of hands:**
 - Preventive skin protection by use of skin-protecting agents is recommended.
 - After use of gloves apply skin-cleaning agents and skin cosmetics.
 - **Material of gloves**
 - nitrile rubber, NBR
 - Recommended thickness of the material: ≥ 0.11 mm
 - **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
 - Value for the permeation: Level = 1 (< 10 min)
 - **Eye protection:**
 - Safety glasses
 - use against the effects of fumes / dust
 - **Body protection:** Protective work clothing.
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* 9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

- | | |
|---------------------------------------|---------------------------|
| · Appearance: | |
| Form: | Liquid |
| Colour: | Colourless |
| · Odour: | Odourless |
| · Odour threshold: | Not determined. |
| · pH-value at 20 °C: | 6.5 |
| · Melting point/Melting range: | Not determined |
| · Boiling point/Boiling range: | Not determined |
| · Flash point: | Not applicable |
| · Danger of explosion: | Product is not explosive. |

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· Critical values for explosion:	
Lower:	Not determined.
Upper:	Not determined.
· Density at 20 °C 1 g/cm ³	
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Water:	> 95 %
Solids content:	< 2 %
· 9.2 Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** see chapter 5

* 11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
Quantitative data on the toxicity of the preparation are not available.
The following statements refer to the individual components.

· LD/LC50 values that are relevant for classification:		
9036-19-5 Octylphenoxypolyethoxyethanol		
Oral	LD50	1900-5000 mg/kg (rat)
Dermal	LD50	> 3000 mg/kg (rabbit)
57-09-0 cetrimonium bromide		
Oral	LD50	410 mg/kg (rat) (RTECS)

- **Primary irritant effect:**
- **on the skin:** slight irritations possible
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effect known.
- **Additional toxicological information:**
The usual precautionary measures should be adhered to general rules for handling chemicals.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** no data available

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* 12 Ecological information

12.1 Toxicity
Aquatic toxicity:
9036-19-5 Octylphenoxypolyethoxyethanol

EC50	18-26 mg/l/48h (Daphnia magna) (Merck)
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LC50	4-8.9 mg/l/96h (Pimephales promelas) (Merck)
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57-09-0 cetrimonium bromide

EC50	0.037 mg/l/48h (Daphnia magna) (ECHA)
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LC50	0.2 mg/l/96h (Danio rerio) (Merck)
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12.2 Persistence and degradability No further relevant information available.

Other information:

Quantitative data on the ecological effect of this product are not available.

The following statements refer to the individual components.

CAS No. 57-09-0: 100 % / 11 d

12.3 Bioaccumulative potential No further relevant information available.

Behaviour in environmental systems:
57-09-0 cetrimonium bromide

log P(o/w)	2.26 (.) (Merck)
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12.4 Mobility in soil No further relevant information available.

Ecotoxicological effects:
Algae toxicity:
57-09-0 cetrimonium bromide

EC10	0.00227 mg/l/72 h (Desmodesmus subspicatus) (ECHA)
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EC50	0.00411 mg/l/72 h (Desmodesmus subspicatus) (ECHA)
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NOEC	0.0011 mg/l/72 h (Desmodesmus subspicatus) (ECHA)
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Additional ecological information:
General notes:

Water hazard class 1 (German Regulation) (Self-assessment acc. VwVwS Annex 4): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralized.

12.5 Results of PBT and vPvB assessment no data available

PBT: 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 of together with household garbage. Do not allow product to reach sewage system.

European waste catalogue

16 05 06*	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
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Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

Recommended cleaning agent: Water, if necessary with cleaning agent.

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* 14 Transport information

· 14.1 UN-Number · ADR, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR, ADN, 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.
· Transport/Additional information:	Not dangerous according to the above specifications.

* 15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- R22 Harmful if swallowed.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R41 Risk of serious damage to eyes.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 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)
 EC50: effective concentration, 50 percent (in vivo)
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 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)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

- **Sources** Data arise from reference works and literature.

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