

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

Printing date 13.09.2011

Version number 21

Revision: 13.09.2011

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

- **1.1 Product identifier** Reagent for water analysis
- **Product name:** Vario Molybdenum HR 1 F10 ml
- **Catalog number:** 00530759, 530750, 4530750

- **1.2 Details of the supplier of the safety data sheet**

- **Supplier:**

Tintometer GmbH  
Schleefstr. 8-12  
DE - 44287 Dortmund  
Made in Germany  
www.lovibond.com

phone: +49 231 945100  
e-mail: sales@tintometer.de

- **Informing department:**

e-mail: produktsicherheit@tintometer.de  
Product Safety Department

- **Contact for technical details:**

Technical Department  
e-mail: technik@tintometer.de

- **1.3 Emergency telephone number:**

Poison Center Berlin, Germany  
phone: 0049-30 30686 790

### \* 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**



Xi; Irritant

R36: Irritating to eyes.

- **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**

P280 Wear protective gloves and eye protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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### \* 3 Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Preparation contains organic compounds.

· <b>Dangerous components:</b>			
CAS: 110-15-6 EINECS: 203-740-4	succinic acid	 Xi R36  Eye Irrit. 2, H319	45-50%
CAS: 124-04-9 EINECS: 204-673-3 Index number: 607-144-00-9	adipic acid	 Xi R36  Eye Irrit. 2, H319	45-50%

- **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 rinse with water.
- **After eye contact**  
Rinse opened eye for several minutes (at least 10 min) under running water.  
Seek medical treatment.
- **After swallowing**  
Rinse out mouth and then drink 1-2 glasses of water.  
Seek medical treatment.
- **4.2 Most important symptoms and effects, both acute and delayed**  
after inhalation:  
irritations  
after swallowing:  
general feeling of sickness  
mucous membrane irritation
- **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**  
Water  
Foam  
Carbon dioxide (CO<sub>2</sub>)
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.  
combustible
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained breathing apparatus.  
Wear full protective suit.
- **Additional information**  
Ambient fire may liberate hazardous vapours.  
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.

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### 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.  
Collect mechanically.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 8 for information on personal protection equipment.

### \* 7 Handling and storage

- **Handling**
- **7.1 Precautions for safe handling** Thorough dedusting.
- **Information about protection against explosions and fires:** Dust can combine with air to form an explosive mixture.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**  
Store in cool location.  
Unsuitable material for container: steel.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Protect from heat and direct sunlight.  
Store under dry conditions.  
Protect from humidity and keep away from water.  
Protect from the effects of light.
- **Recommended storage temperature:** 20°C +/- 5°C
- **Storage class** 11
- **7.3 Specific end use(s)** No further relevant information available.

### 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.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and food.  
Take off immediately all contaminated clothing  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.  
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 P2
- **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.

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- **Material of gloves**  
nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.11$  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  $\geq 1$  ( $>10$  min)
- **Eye protection:** Tightly sealed safety glasses.
- **Body protection:** Protective work clothing.

## 9 Physical and chemical properties

· <b>9.1 Information on basic physical and chemical properties</b>	
· <b>Appearance:</b>	
<b>Form:</b>	Powder
<b>Colour:</b>	White
· <b>Odour:</b>	Odourless
· <b>pH-value (10 g/l at 20°C):</b>	2.9
· <b>Melting point/Melting range:</b>	Not determined
· <b>Boiling point/Boiling range:</b>	235°C Not applicable
· <b>Flash point:</b>	$> 100^{\circ}\text{C}$
· <b>Danger of explosion:</b>	Product is not explosive.
· <b>Density at 20°C</b>	1.455 g/cm <sup>3</sup>
· <b>Solubility in / Miscibility with Water:</b>	Soluble
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Solids content:</b>	100.0 %
· <b>9.2 Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **Possibility of hazardous reactions**  
Reacts with reducing agents  
The product is not capable of dust explosion in the form supplied; enrichment with fine dust causes risk of dust explosion  
Reacts with strong oxidizing agents
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
alkalis  
oxidizing agents
- **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.

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The following statements refer to the individual components.

<b>· LD/LC50 values that are relevant for classification:</b>		
<b>110-15-6 succinic acid</b>		
Oral	LD50	2260 mg/kg (rat)
<b>124-04-9 adipic acid</b>		
Oral	LD50	5700 mg/kg (rat) (MERCK)
Dermal	LD50	> 7940 mg/kg (rabbit)
Inhalative	LC50	> 7.7 mg/l/4h (rat) (MERCK)

**· Primary irritant effect:****· on the skin:** Irritant to skin and mucous membranes.**· on the eye:** Irritant effect.**· Sensitization:** No sensitizing effect known.**· Subacute to chronic toxicity:**

CAS-No. 124-04-9:

Sensitization test (guinea pig): negative (IUCLID)

**· Additional toxicological information:** Irritant**· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** no data available

## 12 Ecological information

**· 12.1 Toxicity**

<b>· Aquatic toxicity:</b>	
<b>110-15-6 succinic acid</b>	
EC50	374.2 mg/l/48h (Daphnia magna) (Ecotox Database)
<b>124-04-9 adipic acid</b>	
EC50	86 mg/l/48h (Daphnia magna) (MERCK-OECD 202)
LC50	511 mg/l/48h (Leuciscus idus) 97 mg/l/96h (Pimephales promelas) (ECOTOX)

**· 12.2 Persistence and degradability** No further relevant information available.**· Other information:**

The product is biodegradable.

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

CAS-No. 124-04-9: 100% / 28 d

CAS No. 110-15-6: 78% / 14d

<b>· Behaviour in environmental systems:</b>	
<b>110-15-6 succinic acid</b>	
log P(o/w)	-0.59 (.)
<b>124-04-9 adipic acid</b>	
log P(o/w)	0.081 (25°C) (.) (MERCK-OECD 107)

**· 12.3 Bioaccumulative potential** No further relevant information available.**· 12.4 Mobility in soil** No further relevant information available.**· Ecotoxicological effects:****· Remark:** Harmful effect due to pH shift.

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· <b>Algae toxicity:</b>	
<b>124-04-9 adipic acid</b>	
IC50	31 mg/l/72h (Desmodesmus subspicatus) (IUCLID)
· <b>Bacterial toxicity:</b>	
<b>124-04-9 adipic acid</b>	
EC50	92 mg/l/17h (Pseudomonas putida) (IUCLID)
· <b>Additional ecological information:</b>	
· <b>BSB5-value:</b>	
<b>124-04-9 adipic acid</b>	
BSB5	0.598 g/g (OECD)

· **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.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

· **12.5 Results of PBT and vPvB assessment** no data available

· **vPvB assessments:** no data available

· **12.6 Other adverse effects** No further relevant information available.

## 13 Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

· **European waste catalogue**

16 05 08 | discarded organic chemicals consisting of or containing dangerous substances

· **Uncleaned packagings:**

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

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

## \* 14 Transport information

· <b>14.1 UN-Number</b>	
· <b>ADR, ADN, IMDG, IATA</b>	Void
· <b>14.2 UN proper shipping name</b>	
· <b>ADR, ADN</b>	Void
· <b>14.3 Transport hazard class(es)</b>	
· <b>ADR, ADN, IMDG, IATA</b>	
· <b>Class</b>	Void
· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	Void

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· <b>14.5 Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b>	Not applicable.
· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.

## 15 Regulatory information

- **15.4 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
- **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**

H319 Causes serious eye irritation.

R36 Irritating to eyes.

- **Abbreviations and acronyms:**

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)

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

- **Sources**

RTECS (Registry of Toxic Effects of Chemical Substances )

ECOTOX Database

IUCLID (International Uniform Chemical Information Database)

Data arise from reference works and literature.

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