

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

Printing date 14.11.2023

Version number 21 (replaces version 20)

Revision: 14.11.2023

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

1.1 Product identifier

- Product name: **Vario Silica HR Molybdate F10, F25 ml**
- Catalog number: 00531729, 00531959, 531720, 531723, 531950, 531953, 4531720, 4531950
- CAS No.:
10102-40-6

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

- Application of the substance / the preparation: Reagent for water analysis

1.3 Details of the supplier of the safety data sheet

Supplier:

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

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

- Informing department:
e-mail: sds@lovibond.com
Product Safety Department

- 1.4 Emergency telephone number:
+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008
The substance is not classified, according to the GB CLP regulation.

2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008 Void
- Hazard pictograms Void
- Signal word Void
- Hazard statements Void

- 2.3 Other hazards No further relevant information available.

Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1 Substances

- CAS No. Designation:
CAS: 10102-40-6 Sodium molybdate dihydrate

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- **Identification number(s):**
- **EC No:** 231-551-7

SECTION 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 min). 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 inhalation:
mucosal irritations, cough, shortness of breath
after swallowing:
sickness
vomiting
- **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

SECTION 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**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
- **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.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:** No special measures required.
- **Advice for emergency responders:** Protective equipment: see section 8
- **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:**
Ensure adequate ventilation.
Collect mechanically.
Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:** Provide suction extractors if dust is formed.
- **Hygiene measures:**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Do not eat, drink or smoke when using this product.

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Wash hands during breaks and at the end of the work.

- **7.2 Conditions for safe storage, including any incompatibilities**
 - **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 the effects of light.
 - Store under dry conditions.
 - Protect from humidity and keep away from water.
 - **Recommended storage temperature:** 20°C +/- 5°C
 - **7.3 Specific end use(s)** No further relevant information available.
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SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
 - **Components with limit values that require monitoring at the workplace:** Not required.
 - **Additional information:** The lists that were valid during the compilation were used as basis.
 - **8.2 Exposure controls**
 - **Engineering measures:**
 - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 - See item 7.
 - **Individual protection measures, such as personal protective equipment**
 - Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
 - **Eye/face protection**
 - Safety glasses
 - use against the effects of fumes / dust
 - Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.
 - **Hand protection**
 - 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**
 - Value for the permeation: Level = 1 (< 10 min)
 - The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
 - **Other skin protection (body protection):** Protective work clothing.
 - **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
 - **Recommended filter device for short term use:** Filter P1
 - **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.
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SECTION 9: Physical and chemical properties

- | 9.1 Information on basic physical and chemical properties | |
|---|---------------------------------|
| · Physical state | Solid. |
| · Form: | Powder |
| · Colour: | White |
| · Odour: | Odourless |
| · Odour threshold: | Not applicable. |
| · Melting point/Freezing point: | 687°C |
| · Boiling point or initial boiling point and boiling range | Not applicable. |
| · Flammability | The product is not combustible. |
| · Explosive properties: | Product is not explosive. |
| · Lower and upper explosion limit | |
| Lower: | Not applicable. |
| Upper: | Not applicable. |
| · Flash point: | Not applicable. |

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· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	130°C
· pH (10 g/l) at 20°C	~ 7
· Kinematic viscosity	Not applicable (solid).
· Solubility	
· Water at 20°C:	840 g/l Readily soluble
· Partition coefficient n-octanol/water (log value)	Not applicable.
· Vapour pressure:	Not applicable (solid).
· Density and/or relative density	
· Density at 20°C:	2.7 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not applicable (solid).
· Particle characteristics	Not determined.
· 9.2 Other information	
· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %
· Molecular formula	Na ₂ MoO ₄ x 2H ₂ O (M = 241.95 g/mol)

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability**
Stable at ambient temperature (room temperature).
Loss of constitutional water on heating
- **10.3 Possibility of hazardous reactions** No further relevant information available.
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No further relevant information available.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:		
CAS: 10102-40-6 Sodium molybdate dihydrate		
Oral	LD50	4233 mg/kg (rat) (OECD 401) (ECHA; anhydrous substance)
Dermal	LD50	>2000 mg/kg (rat) (OECD 402) (Registrant, ECHA: dosis test anhydrous substance CAS 7631-95-0; no deaths at this concentration)
Inhalative	LC50	>5.1 mg/l4h (rat) (OECD 403) (ECHA; anhydrous substance)

- **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.

· Information on components:		
CAS: 10102-40-6 Sodium molybdate dihydrate		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: slight irritation)

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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Information on components:	
CAS: 10102-40-6 Sodium molybdate dihydrate	
Sensitisation	OECD 406 (guinea pig: negative)

- **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.

Information on components:	
CAS: 10102-40-6 Sodium molybdate dihydrate	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (Salmonella typhimurium)
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test) (Mouse lymphoma test)
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test) (rat, erythrocytes)
OECD 487	(negative) (In Vitro Mammalian Cell Micronucleus Test) (human lymphocytes)

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.

- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **Additional toxicological information:**

In case of an acute molybdenum(VI) intoxication: diarrhoea, anaemia, fatigue, loss of appetite. Toxic effect on liver and kidneys after high doses.

- **11.2 Information on other hazards**

- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

- **Other information**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

SECTION 12: Ecological information

- **12.1 Toxicity**

Aquatic toxicity:	
CAS: 10102-40-6 Sodium molybdate dihydrate	
EC50	130.9 mg/l/48h (Daphnia magna) (OECD 202) (ECHA)
IC50	>100 mg/l/72h (Pseudokirchneriella subcapitata)
NOEC	3200 mg/l/96h (rainbow trout)
NOEC	4.6 mg/l/72h (Pseudokirchneriella subcapitata)
NOEC	100 mg/l/48h (Daphnia magna)
NOEC	143.8 mg/l /32d (fathhead minnow) (ECHA)
LC50	609.1 mg/l/96h (fathhead minnow) (OECD 203) (ECHA)

- **Bacterial toxicity:**

CAS: 10102-40-6 Sodium molybdate dihydrate	
EC10	50 mg/l (Pseudomonas putida) (18h)

- **Other information:**

Toxic for fish:

molybdenum compounds in general: > 25 mg/l

- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:** Methods for the determination of biodegradability are not applicable to inorganic substances.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

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· 12.5 Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

· 12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.

· 12.7 Other adverse effects Avoid transfer into the environment.

· Water hazard:

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 unneutralised.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods
· Recommendation

Disposal must be made according to official regulations.

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

· European waste catalogue

16 05 09 | discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

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

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

SECTION 14: Transport information

· 14.1 UN number or ID number
· ADR, IMDG, IATA Void

· 14.2 UN proper shipping name
· ADR, IMDG, IATA Void

· 14.3 Transport hazard class(es)
· ADR, IMDG, IATA
· Class Void

· 14.4 Packing group
· ADR, IMDG, IATA Void

· 14.5 Environmental hazards: Not applicable.

· 14.6 Special precautions for user Not applicable.

· 14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

· Transport/Additional information: Not dangerous according to the above specifications.

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
· Poisons Act UK
· Regulated explosives precursors

Substance is not listed.

· Regulated poisons

Substance is not listed.

· Reportable explosives precursors

Substance is not listed.

· Reportable poisons

Substance is not listed.

· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated

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· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)
Substance is not listed.
· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:
Substance is not listed.
· Regulation (EC) No 273/2004 on drug precursors
Substance is not listed.
· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors
Substance is not listed.
· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:
Substance is not listed.
· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)
Substance is not listed.
· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)
Substance is not listed.

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

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

· **Named dangerous substances - ANNEX I** Substance is not listed.

· **Information about limitation of use:** Not required.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* SECTION 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.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord relatif au transport international 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

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

· **Sources**

Data arise from safety data sheets, reference works and literature.

ECHA: European Chemicals Agency <http://echa.europa.eu>

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