Tintometer[®] Group Water Testing



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

Printing date 15.05.2024 Version number 10 (replaces version 9) Revision: 15.05.2024

SECTION 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, 424486, 424486-5, 530820-0, 530821, 530822, SDT681
- 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

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

· 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



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



Eye Irrit. 2 H319 Causes serious eye irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

· Hazard pictograms





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Product name: Vario Molybdenum 2 Reagent LR

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· Signal word Warning

· Hazard statements

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P280 Wear protective gloves / eye protection.
P273 Avoid release to the environment.
P264 Wash thoroughly after handling.

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.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 2.3 Other hazards No further relevant information available.

· Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties	
CAS: 9036-19-5 Octylphenol polyethoxyethanol	List I 1-<2.5%

SECTION 3: Composition/information on ingredients

- · 3.2 Mixtures
- · Description: aqueous solution

•		
· Dangerous components:		
	Octylphenol polyethoxyethanol	1-<2.5%
EINECS: 264-520-1	Eye Dam. 1, H318; Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=1); Acute Tox. 4, H302; Skin Irrit. 2, H315	
	Cetrimonium bromide	0.1-<0.25%
EINECS: 200-311-3	STOT RE 2, H373; Eye Dam. 1, H318; Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=1); Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335 Specific concentration limit: Skin Irrit. 2; H315: C ≥ 2.5 %	

·SVHC

CAS 9036-19-5: Polymer of ethylene glycol and (1,1,3,3-tetramethylbutyl)phenol

CAS: 9036-19-5 Octylphenol polyethoxyethanol

· SVHC (UK)

CAS: 9036-19-5 Octylphenol polyethoxyethanol

· Additional information For the wording of the listed hazard phrases refer to section 16.

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; consult doctor in case of symptoms.
- After skin contact

Instantly wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· After eye contact Rinse opened eye for several minutes (at least 15 min) under running water. Then 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:

irritations

after swallowing of large amounts:

sickness

diarrhoea

vomiting

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Product name: Vario Molybdenum 2 Reagent LR

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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:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

- · 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.

Absorb with liquid-binding material (sand, diatomite, universal binders).

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: No special precautions necessary if used correctly.
- · Hygiene measures:

Avoid contact with the eyes.

Take off immediately all contaminated clothing.

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

Do not eat, drink or smoke when using this product.

- · 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.

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.

SECTION 8: Exposure controls/personal protection

- · 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.

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Product name: Vario Molybdenum 2 Reagent LR

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· DNELs

Derived No Effect Level (DNEL)

CAS: 57-0	CAS: 57-09-0 Cetrimonium bromide		
Dermal	DNEL	0.4 mg/kg (Worker / long-term /systemic effects)	
	DNEL	0.25 mg/cm² (Worker / acute / local effects)	
		0.05 mg/cm² (Worker / long-term / local effects)	
Inhalative	DNEL	0.05 mg/m³ (Worker / acute / local effects)	

· Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

· PNECs

Predicted No Effect Concentration (PNEC)

CAS: 57-09-0 Cetrimonium bromide		
PNEC	0.19 mg/l (Sewage treatment plant)	
	0.000022 mg/l (Marine water)	
	0.0004 mg/l (Aquatic intermittent release)	
	0.000022 mg/l (Fresh water)	

- · 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 safety glasses that have been tested and approved in accordance with government standards such as EN 166.

Hand protection

Protective gloves.

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: Combination filter A-P2
- · Environmental exposure controls Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

Physical state Fluid
Form: Solution
Colour: Colourless
Odour: Odourless
Odour threshold: Not applicable.
Melting point/Freezing point: Not determined.

Boiling point or initial boiling point and boiling range 100°C (CAS: 7732-18-5 water)
 Flammability The product is not combustible.
 Explosive properties: Product is not explosive.

Lower and upper explosion limit

Lower: Not applicable.

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Fully miscible

Not applicable (mixture). Not determined.

Product name: Vario Molybdenum 2 Reagent LR

(Contd. of page 4)

Upper:	Not applicable.
Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable.
Decomposition temperature:	Not determined.
pH at 20°C	6.5
· Kinematic viscosity	Not determined.
0 - 1 - 1 - 114 -	

· Solubility

· Water:

· Partition coefficient n-octanol/water (log value)

· Vapour pressure:

· Density and/or relative density

Density at 20°C:

1 g/cm³ Relative density: Not determined. Relative gas density Not determined. · Particle characteristics Not applicable (liquid).

· 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: < 2.5 %

· Solvent content:

 Organic solvents: 0 % · Water: > 97.5 %

SECTION 10: Stability and reactivity

- · 10.1 Reactivity see section 10.3
- 10.2 Chemical stability Stable at ambient temperature (room temperature).
- 10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

- · 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: see section 5

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/LC5	LD/LC50 values that are relevant for classification:		
CAS: 9036-19-5 Octylphenol polyethoxyethanol			
Oral	LD50	1900–5000 mg/kg (rat)	
Dermal	LD50	>3000 mg/kg (rabbit)	
CAS: 57-09-0 Cetrimonium bromide			
Oral	LD50	410 mg/kg (rat) (RTECS)	

- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Causes serious eye irritation.

Information on components:		
CAS: 9036-19-	5 Octylphen	ol polyethoxyethanol
Irritation of skin		(rabbit: irritation) (ECHA: read across CAS 140-66-9)

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

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· Information on components:

CAS: 9036-19-5 Octylphenol polyethoxyethanol

Sensitisation Patch test (human) (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.
- · 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.
- · 11.2 Information on other hazards
- Endocrine disrupting properties
 CAS: 9036-19-5 | Octylphenol polyethoxyethanol
 List I 1–<2.5%
- · Other information

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

· 12.1 Toxicity

Aquatic toxicity:			
CAS: 9036-19	CAS: 9036-19-5 Octylphenol polyethoxyethanol		
EC50 (static)	0.011 mg/l/48h (Daphnia magna) (ECHA: read across CAS 140-66-9)		
EC50	1.9 mg/l/96h (Pseudokirchneriella subcapitata) (ECHA: read across CAS 140-66-9)		
NOEC	0.012 mg/l (zebrafish) (OECD 210) (ECHA: read across CAS 140-66-9)		
	0.03 mg/l (Daphnia magna) (OECD 202, 21d) (ECHA: read across CAS 140-66-9)		
LC50	0.26 mg/l/96h (gold orfe) (OECD 203) (ECHA: read across CAS 140-66-9)		
	4–8.9 mg/l/96h (fathhead minnow) (Merck)		
CAS: 57-09-0	Cetrimonium bromide		
EC50	0.037 mg/l/48h (Daphnia magna) (Registrant, ECHA)		
EC10	0.00227 mg/l (Desmodesmus subspicatus) (72) (Registrant, ECHA)		
NOEC	0.0011 mg/l/72h (Desmodesmus subspicatus) (Registrant, ECHA)		
NOEC	0.023 mg/l (Daphnia magna) (OECD 211, 21d)		
EC50 (static)	0.00411 mg/l/72h (Desmodesmus subspicatus) (OECD 201) (Registrant, ECHA)		

· 12.2 Persistence and degradability

CAS: 9036-19-5 Octylphenol polyethoxyethanol

OECD 301 C 22 % / 28 d (not readily biodegradable) (aerob)

CAS: 57-09-0 Cetrimonium bromide

OECD 301 E | 100 % / 11 d (readily biodegradable) (Modified OECD Screening Test)
OECD 302 B | >95 % / 48 h (readily eliminated from water) (Zahn-Wellens / EMPA Test)

12.3 Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 9036-19-5 Octylphenol polyethoxyethanol

log Pow 2.7 (.) (calculated)

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CAS: 57-09-0 Cetrimonium bromide

log Pow 2.26 (.) (Merck)

- · 12.4 Mobility in soil No further relevant information available.
- 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

- 12.6 Endocrine disrupting properties For information on endocrine disrupting properties see section 11.
- 12.7 Other adverse effects Avoid transfer into the environment.
- · Water hazard:

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into soil.

SECTION 13: Disposal considerations

SECTION 14: Transport information

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to disposers of hazardous waste.

· European waste catalogue

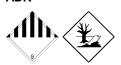
16 05 07* discarded inorganic chemicals consisting of or containing hazardous substances

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleaning agent: Water, if necessary with cleaning agent.

· 14.1 UN number or ID number · ADR, IMDG, IATA	UN3082
	0110002
· 14.2 UN proper shipping name	
· ADR	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
	(Octylphenol polyethoxyethanol, Cetrimonium bromide)
· IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
2 0	(Octylphenol polyethoxyethanol, Cetrimonium bromide), MARINE
	POLLUTANT
· IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
TATA	
	(Octylphenol polyethoxyethanol, Cetrimonium bromide)

· 14.3 Transport hazard class(es)

· ADR



• Class 9 (M6) Miscellaneous dangerous substances and articles. • Label 9

· IMDG, IATA



• Class 9 Miscellaneous dangerous substances and articles. • Label 9

· 14.4 Packing group

· ADR, IMDG, IATA III

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Product name: Vario Molybdenum 2 Reagent LR

14.5 Environmental hazards:
 Marine pollutant:
 Special marking (ADR):
 Symbol (fish and tree)

• Special marking (IATA): Symbol (fish and tree)

• 14.6 Special precautions for user Warning: Miscellaneous dangerous substances and articles.

· Kemler Number: 90
· EMS Number: F-A,S-F
· Stowage Category A

· 14.7 Maritime transport in bulk according to IMO

instruments Not applicable.

· Transport/Additional information:

· ADR

Limited quantities (LQ)
 Excepted quantities (EQ)
 5L
 Code: E1

Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

· Transport category 3 · Tunnel restriction code (-)

Limited quantities (LQ)Excepted quantities (EQ)5LCode: E1

Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

SECTION 15: Regulatory information

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

None of the ingredients is listed.

· Regulated poisons

None of the ingredients is listed.

· Reportable explosives precursors

None of the ingredients is listed.

· Reportable poisons

None of the ingredients is listed.

- · Regulation (EU) 2019/1148 on the marketing and use of explosives precursors not regulated
- Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

· Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)

None of the ingredients is listed.

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· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

CAS: 9036-19-5 Octylphenol polyethoxyethanol

- Substances of very high concern (SVHC) according to REACH, Article 57 see item 3 SVHC
- · Substances of very high concern (SVHC) according to UK REACH see item 3 SVHC
- · Directive 2012/18/EU (SEVESO III):
- Named dangerous substances ANNEX I None of the ingredients is listed.
- · Seveso category E2 Hazardous to the Aquatic Environment
- Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- 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 Sheets 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.
- 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.

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 ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (ÚK REACH)

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

Acute Tox. 4: Acute toxicity – Category 4 Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation - Category 1

Eye Irrit. 2: Serious eye damage/eye irritation - Category 2

STOT SE 3: Specific target organ toxicity (single exposure) - Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) - Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3

- · Sources Data arise from safety data sheets, reference works and literature.
- * Data compared to the previous version altered.