Tintometer[®] Group Water Testing



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

Printing date 14.11.2023 Version number 14 (replaces version 13) Revision: 14.11.2023

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

- · 1.1 Product identifier
- · Product name: Molybdate-1
- · Catalog number: 424347, 424347001, 418548, 418482, 424347001-0
- 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



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed. Acute Tox. 3 H331 Toxic if inhaled.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H312 Harmful in contact with skin.

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

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

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Product name: Molybdate-1

· Hazard pictograms

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· Signal word Danger

· Hazard-determining components of labelling:

mercaptoacetic acid

· Hazard statements

H301+H331 Toxic if swallowed or if inhaled. Harmful in contact with skin. H312

Causes severe skin burns and eye damage. H314

· Precautionary statements

Do not breathe mist/vapours/spray. P260

Wear protective gloves/protective clothing/eye protection. P280

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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

do. Continue rinsing.

P308+P310 IF exposed or concerned: Immediately call a POISON CENTER/doctor.

P405 Store locked up.

· 2.3 Other hazards

The following applies to Mercaptane in general: offensive odour

CAS 68-11-1: Danger by skin resorption.

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

· 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

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· Description: aqueous solution

Dangerous components:

CAS: 68-11-1 mercaptoacetic acid EINECS: 200-677-4 🔗 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; 🕎 Skin Corr. 1B, Index No: 607-090-00-6 **H**314

Reg.nr.: 01-2119494933-24-XXXX

· 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

Personal protection for the First Aider!

Instantly remove any clothing soiled by the product.

Remove breathing apparatus only after soiled clothing has been completely removed.

After inhalation

Supply fresh air or oxygen.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Call a doctor immediately.

· After skin contact

Instantly wash with polyethylene glycol 400.

Instantly rinse with water.

Call a doctor immediately.

After eye contact

Rinse opened eye for several minutes (at least 15 min) under running water.

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40-50%

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Call a doctor immediately.

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After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Do not induce vomiting; instantly call for medical help.

4.2 Most important symptoms and effects, both acute and delayed:

burns

irritations

absorption

allergic reactions

after inhalation:

coughing

breathing difficulty

damage to the affected mucous membranes

after swallowing:

strong caustic effect.

vomiting

after absorption of large amounts:

headache

drop in blood pressure

CNS disorders

respiratory paralysis

Danger

Danger of gastric perforation.

Danger of pulmonary oedema.

4.3 Indication of any immediate medical attention and special treatment needed:

If swallowed or in case of vomiting, danger of entering the lungs

Subsequent observation for pneumonia and pulmonary oedema

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents

Water

Foam

Fire-extinguishing powder

Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

mixture with combustible ingredients

Formation of toxic gases is possible during heating or in case of fire.

Sulphur oxides (SOx)

Nitrogen oxides (NOx)

Carbon monoxide (CO) and carbon dioxide (CO2)

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.

Suppress (knock down) gases/vapours/mists wit a water spray jet.

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.

Avoid substance contact.

Do not breathe vapors/spray.

Ensure adequate ventilation

Use breathing protection against the effects of fumes/dust/aerosol.

- · Advice for emergency responders: Protective equipment: see section 8
- · 6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

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· 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:

Open and handle container with care.

Prevent formation of aerosols.

Work only in fume cupboard.

Hygiene measures:

Do not inhale gases / fumes / aerosols.

Do not get in eyes, on skin, or on clothing.

Take off immediately all contaminated clothing.

Store protective clothing separately.

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.

Store only in the original container.

• Information about storage in one common storage facility: Store away from oxidising agents.

· Further information about storage conditions:

Store in a locked cabinet or with access restricted to technical experts or their assistants.

Store in cool, dry conditions in well sealed containers.

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:

CAS: 68-11-1 mercaptoacetic acid

WEL (Great Britain) Long-term value: 3.8 mg/m³, 1 ppm

· Regulatory information WEL (Great Britain): EH40/2020

·DNELs

Derived No Effect Level (DNEL)

CAS: 68-11-1 mercaptoacetic acid				
Dermal	DNEL	1.6 mg/kg (Worker / long-term /systemic effects)		
Inhalative	DNEL	4.5 mg/m³ (Worker / acute / systemic effects)		
		1.13 mg/m³ (Worker / long-term /systemic 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: 68-11-1 mercaptoacetic acid

PNEC 0.0053 mg/kg (Soil)

0.0009 mg/kg (Fresh water sediment)

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- · 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 Tightly sealed safety glasses.
- Hand protection

Acid resistant 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

Butyl rubber, BR Natural rubber, NR

Recommended thickness of the material: ≥ 0.5 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 A
- · 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	I and chemical	I properties
Bl			

 • Physical state
 Fluid

 • Form:
 Liquid

 • Colour:
 Colourless

· Odour: Like rotten eggs (mercaptans)

Odour threshold:
 Melting point/Freezing point:
 Boiling point or initial boiling point and boiling range Not determined.

• Flammability mixture with combustible ingredients

• Explosive properties: Product is not explosive.

· Lower and upper explosion limit

Lower: Not determined. Upper: Not determined.

• Flash point: 131°C (CAS: 68-11-1 mercaptoacetic acid) • Auto-ignition temperature: 350°C (CAS: 68-11-1 mercaptoacetic acid)

• **Decomposition temperature:** Not determined.

pH at 20°C

· Kinematic viscosity Not determined.

·Solubility

• Water: Fully miscible

· Partition coefficient n-octanol/water (log value) Not applicable (mixture).

· Vapour pressure: Not determined.

Density and/or relative density

Density at 20°C:
 Relative density:
 Relative gas density
 Particle characteristics
 1.14 g/cm³
 Not determined.
 Not determined.
 Not applicable (liquid).

· 9.2 Other information

· Information with regard to physical hazard classes

Corrosive to metals Void

Other safety characteristics

Oxidising properties: none

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· Additional information

Solids content: 0 %
Solvent content:
Organic solvents: 0.0 %

· Water: 0.0 %

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

Reacts with various metals

Reacts with organic substances

Reacts with strong alkalis and oxidizing agents.

- · 10.4 Conditions to avoid strong heating
- · 10.5 Incompatible materials: metals
- · 10.6 Hazardous decomposition products:

hydrogen sulphide see section 5

SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity

Classification according to calculation procedure:

Toxic if swallowed or if inhaled.

Harmful in contact with skin

· LD/LC50 values that are relevant for classification:

CAS: 68-11-1 mercaptoacetic acid

 Oral
 LD50
 73 mg/kg (rat) (OECD 401)

 Dermal
 LD50
 848 mg/kg (rabbit) (Registrant, ECHA)

 Inhalative
 LC50/4h
 3 mg/l (ATE)

- · Skin corrosion/irritation Causes severe skin burns and eye damage.
- · Serious eye damage/irritation

Causes serious eye damage.

Risk of blindness!

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

CAS 68-11-1: Sensitizing effect by skin contact is possible by prolonged/repeated exposure.

CAS: 68-11-1 mercaptoacetic acid

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:

OECD 414: Teratogenicity testing

OECD 473: Mutagenicity testing

OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 68-11-1 mercaptoacetic acid

OECD 474 (negative) (Mammalian Erythrocyte Micronucleus Test)

- · 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.

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· Information on likely routes of exposure

The main routes of intake for thioglycolic acid proceed via the respiratory tract and through the skin.

Respiratory tract: because of the low vapor pressure an inhalative exposure is possible mainly in the form of aerosols. Skin: based on physicochemical parameters, it was calculated that skin contact can provide a contribution to the total exposure comparable to the inhalative uptake. [GESTIS]

· Additional toxicological information:

CAS 68-11-1: Absorption through gastro-intestinal tract, mucous membranes

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

CAS: 68-11-1 mercaptoacetic acid

(source: GESTIS)

Main toxic effects

Acute: Irritation or corrosion to the mucous membranes and skin, danger of serious damage to the eyes,

insufficient data is available regarding systemic effects

Chronic: Damage to the skin

· 11.2 Information on other hazards

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

· Other information

Other dangerous properties can not be excluded.

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: 68-11-1 mercaptoacetic acid

EC50 38 mg/l/48h (Daphnia magna)

IC50 13 mg/l/72h (Algeal toxicity) (OECD 201)

(Merck)

EC50 13 mg/l/72h (Pseudokirchneriella subcapitata) (OECD 201)

LC50 30 mg/l/96h (fathhead minnow)

(Merck-ECOTOX)

· 12.2 Persistence and degradability

CAS: 68-11-1 mercaptoacetic acid

OECD 301 D 70 % / 28 d (readily biodegradable) (Closed Bottle Test)

12.3 Bioaccumulative potential

BCF = Bioconcentration factor

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

CAS: 68-11-1 mercaptoacetic acid

log Pow -2.99 (.) (OECD 107) (ECHA, Registrant)

Bioconcentration factor (BCF)

212 12 11 1

CAS: 68-11-1 mercaptoacetic acid

BCF 1 (.) (calculated)

(SDS Registrant)

- · 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 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.

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SECTION 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. Hand over to disposers of hazardous waste.

European waste catalogue

16 05 08* discarded organic 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.

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	N 1/1.	Transport	ormai	ION
		Hallobolt	 Oma	101

· 14.1 UN number or ID number	
· ADR. IMDG. IATA	UN194

· 14.2 UN proper shipping name

1940 THIOGLYCOLIC ACID · ADR THIOGLYCOLIC ACID · IMDG, IATA

- · 14.3 Transport hazard class(es)
- · ADR



· Class 8 (C3) Corrosive substances.

· Label

· IMDG, IATA



· Class 8 Corrosive substances.

· Label 8

· 14.4 Packing group ADR, IMDG, IATA Ш

· 14.5 Environmental hazards: Not applicable.

· 14.6 Special precautions for user Warning: Corrosive substances.

Kemler Number: 80 · EMS Number: F-A,S-B Segregation groups (SGG1) Acids Stowage Category

· 14.7 Maritime transport in bulk according to IMO

instruments Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ) 1L · Excepted quantities (EQ)

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· Transport category Tunnel restriction code Ε

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· IMDG

· Limited quantities (LQ)

11 Excepted quantities (EQ) Code: E2

> Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 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.

LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

None of the ingredients is 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 ≥ 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 ≥ 0.1% (w / w).

- · Directive 2012/18/EU (SEVESO III):
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- Seveso category H2 ACUTE TOXIC
- · Qualifying quantity (tonnes) for the application of lower-tier requirements 50 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:

Employment restrictions concerning young persons must be observed (94/33/EC).

Employment restrictions concerning pregnant and lactating women must be observed (92/85/EEC).

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

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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

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H331 Toxic if inhaled.

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 (UK 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. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B

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

Sources

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

ECHA: European CHemicals Agency http://echa.europa.eu

ECOTOX Database

GESTIS- Stoffdatenbank (Substance Database, Germany)

* Data compared to the previous version altered.

GB