Tintometer[®] Group Water Testing



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

Printing date 13.11.2023

Version number 18 (replaces version 17)

Revision: 13.11.2023

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

- 1.1 Product identifier
- Product name: Sulfide No.1
- · Catalog number: 00512931, 502930, 00502930
- 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



GHS08 health hazard



H360FD May damage fertility. May damage the unborn child.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

 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



· Signal word Danger

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Product name: Sulfide No.1

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 Hazard-determ 	ining components of labelling:
sodium bisulfate	e
boric acid	
 Hazard statem 	ents
H318 Cause	s serious eve damage.
	amage fertility. May damage the unborn child.
Precautionary	
P280	Wear protective gloves/protective clothing/eye protection.
P201	Obtain special instructions before use.
P305+P351+P3	338 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.
· Additional info	prmation:
Restricted to pr	ofessional users.
· 2.3 Other haza	rds No further relevant information available.
· Results of PB1	Γ 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: Mixture of organic and inorganic compounds

· Dangerous components:		
CAS: 10043-35-3 EINECS: 233-139-2 Index No: 005-007-00-2 Reg.nr.: 01-2119486683-25-XXXX	boric acid	50–60%
CAS: 7681-38-1 EINECS: 231-665-7 Index No: 016-046-00-X Reg.nr.: 01-2119552465-36-XXXX	sodium bisulfate ♦ Eye Dam. 1, H318	30–40%
CAS: 6283-63-2 EINECS: 228-500-6	N,N-diethylbenzene-1,4-diammonium sulphate (1:1) Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	2.5–5%
SVHC		
CAS: 10043-35-3 boric acid		
· SVHC (UK)		
CAS: 10043-35-3 boric acid		
Additional information For the wo	ording 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.
- Seek medical treatment.
- After skin contact
- Instantly wash with water and soap and rinse thoroughly. Seek medical treatment.
- After eye contact
- Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.
- Call a doctor immediately.
- After swallowing

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

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· 4.2 Most important symptoms and effects, both acute and delayed: irritations absorption after inhalation: mucosal irritations, cough, shortness of breath after swallowing: sickness vomitina diarrhoea after absorption: cardiovascular disorders fatique CNS disorders ataxia (impaired locomotor coordination) drop in temperature cramps unconsciousness

• Danger Danger of pulmonary oedema.

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.

Can be released in case of fire:

Nitrogen oxides (NOx)

Sulphur oxides (SOx)

- Sodium oxide
- 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. Avoid substance contact.

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. 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.

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· Hygiene measures:

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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.
- · 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.

Protect from heat and direct sunlight.

Store in cool, dry conditions in well sealed containers.

Protect from the effects of light.

Protect from humidity and keep away from water. This product is hygroscopic.

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.

· DNELs

Derived No Effect Level (DNEL)

CAS: 10043-35-3 boric acid		
Oral	DNEL	0.98 mg/kg (Consumer / acute / systemic effects)
		0.98 mg/kg (Consumer / long-term / systemic effects)
Dermal	DNEL	392 mg/kg (Worker / long-term /systemic effects)
		196 mg/kg (Consumer / long-term / systemic effects)
Inhalative	DNEL	8.3 mg/m³ (Worker / long-term /systemic effects)
		4.15 mg/m ³ (Consumer / 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: 10043-35-3 boric acid

PNEC 10 mg/l (Sewage treatment plant) 2.02 mg/l (Marine water) 13.7 mg/l (Aquatic intermittent release) 2.02 mg/l (Fresh water) PNEC 5.4 mg/kg (Soil)

· 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.

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

Hand protection

Protective gloves.

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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 P3

· Environmental exposure controls Avoid release to the environment.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical pro	perties
· Physical state	Solid.
· Form:	Tablets
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not applicable.
 Melting point/Freezing point: 	Not determined.
Boiling point or initial boiling point and boiling range	ge Not determined.
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.
Auto-ignition temperature:	Not applicable (solid).
Decomposition temperature:	Not determined.
[.] pH (19.8 g/l) at 20°C	1.7
 Kinematic viscosity 	Not applicable (solid).
· Solubility	
· Water:	Soluble
 Partition coefficient n-octanol/water (log value) 	Not applicable (mixture).
· Vapour pressure:	Not applicable.
Density and/or relative density	
[·] Density at 20°C:	1.91 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 %

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

Forms hydrogen in aqueous solution with metals

Aqueous solution reacts with metals.

Reacts with alkali (lyes)

Reacts with strong oxidizing agents

Liberates acid in contact with water or alcohol.

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- · 10.4 Conditions to avoid Strong heating (decomposition)
- 10.5 Incompatible materials: metals
- 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/LC50 values that are relevant for classification:		
CAS: 10043-35-3 boric acid		
Oral	LD50	2660 mg/kg (rat) (OECD 401) (GESTIS, ECHA registrant)
Dermal	LD50.	>2000 mg/kg (rat) (ECHA, registrant: no deaths occurred.)
	LD₀	1500 mg/kg (child) (MERCK)
	NOAEL	9.6 mg/kg (rat) (NTP)
CAS: 76	81-38-1	sodium bisulfate
		2490 mg/kg (rat)
		(IUCLID)
Dermal		>2000 mg/kg (rabbit)
		N,N-diethylbenzene-1,4-diammonium sulphate (1:1)
Oral	LD50	497 mg/kg (rat) (MERCK)
Dermal	LD50	1100 mg/kg (ATE)
• Serious Causes Risk of c • Informa CAS 628	eye dar serious e corneal c tion on 83-63-2:	components: DPD may cause allergic skin reaction
Irritation	of skin	OECD 404 (rabbit: no irritation) (Registrant, ECHA)
	•	OECD 405 (rabbit: slight irritation)
		sodium bisulfate
Irritation	of skin	OECD 404 (rabbit: no irritation)
Irritation	of eyes	OECD 405 (rabbit: severe irritations)
Informa CAS 628	tion on 83-63-2:	skin sensitisation Based on available data, the classification criteria are not met. components: Sensitization possible in predisposed persons.
		3 boric acid
Sensitis	ation OE	CD 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 May damage fertility. May damage the unborn child. 		
· Informa	tion on o	components:
CAS: 10		3 boric acid
OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)		
OECD 4		gative) (In Vitro Mammalian Cell Gene Mutation Test) use lymphomea test)
OECD 4	(ÈCÌ	pative) (oral, rat) HA, registrant: no evidence of developmental toxicity up to 55 mg/kg bw. At 76 mg/kg bw there was reduced bodyweight, short and wavy ribs, and these effects disappeared during the postnatal period.)

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OECD 474 (negative) (in vivo, mice)

• 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.

· Information on likely routes of exposure

"Under occupational conditions, the main intake pathway for boric acid (CAS 10043-35-3) proceeds via the respiratory tract. Furthermore, the uptake of the solid or its concentrated solutions should be expected following contact with damaged or inflamed skin." (GESTIS)

CAS 6283-63-2 4-Amino-N,N-diethylaniline sulfate:

In analogy to CAS 93-05-0 Amino-N,N-diethylaniline at workplaces the main route of exposure is via the respiratory tract and the skin.

"The high systemic potential of Amino-N,N-diethylaniline observed in animal experiments after oral application of relatively low doses permits the assumption of an effective resorption via the digestive tract that must also be assumed for humans." [GESTIS]

Additional toxicological information:

CAS 10043-35-3: Absorption through gastro-intestinal tract, mucous membranes

CAS: 10043-35-3 boric acid

(source: GESTIS) Main toxic effects:

Acute: Slightly irritating to the eyes and skin; gastrointestinal disturbances, CNS-effects and (later) skin damage after massive poisoning

Chronic: Irritation to the mucous membranes following inhalative exposure, effects to the gastrointestinal tract and CNS

Further Information (Merck):

"Toxicity reported for borates in humans: ingestion or absorption may cause nausea, vomiting, diarrhea, abdominal cramps, anderythematous lesions on the skin and mucous membranes.

Other symptoms include: circulatory collapse, tachycardia, cyanosis, delirium, convulsions, and coma.

Death has been reported to occur in infants from less than 5 grams and in adults from 5 to 20 grams."

"Liver - Irregularities - Based on Human Evidence"

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

. (source: GESTIS)

Nain toxic effects of CAS 93-05-0 4-Amino-N,N-diethylaniline:

Acute: Irritative effects to the mucosae and the skin, sensitising effects;

Chronic: Skin diseases. Only insufficient information available on the systemic effects.

· 11.2 Information on other hazards

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

· 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: 10043-35-3 b	oric acid
EC50 133 mg/l/48h (ECOTOX)	n (Daphnia magna)
LC50 50–100 mg/l/ (ECOTOX)	/96h (rainbow trout)
CAS: 7681-38-1 so	dium bisulfate
EC50 190 mg/l/48h (IUCLID)	n (Daphnia magna)
Bacterial toxicity: sulphates toxic > 2.5 g/l	
CAS: 7681-38-1 sodium bisulfate	
EC10 >1000 mg/l(Pseudomonas putida) (16 h)

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· Other information:

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- Toxic for fish:
- Sulphates > 7 g/l

• 12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

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

CAS: 10043-35-3 boric acid

log Pow -1.09 (.) (OECD 107, 22°C) (Merck)

CAS: 6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate (1:1)

log Pow 2.24 (.) (calculated)

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 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

· 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 06* laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals

· Uncleaned packagings:

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

SECTION 14: Transport information	n	
· 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 instruments 	to IMO Not applicable.	
· Transport/Additional information:	Not dangerous according to the above specifications.	
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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 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.
- · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 30

· 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.

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.

- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

H360FD May damage fertility. May damage the unborn child.

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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. 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
Repr. 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Sources
Data arise from safety data sheets, reference works and literature.
ECHA: European CHemicals Agency http://echa.europa.eu
GESTIS- Stoffdatenbank (Substance Database, Germany)
IUCLID (International Uniform Chemical Information Database)
IUULID (IIItemational Onitorni Onenitual IIItornation Database)

 \cdot * Data compared to the previous version altered.

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