

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

Printing date 15.05.2024

Version number 48 (replaces version 47)

Revision: 15.05.2024

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

· **1.1 Product identifier**

· **Product name:** Sulfate Turbidity

· **Catalog number:** 00515451, 515450BT, 515451BT, SDT365, 00515459BT

· **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**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· **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**



GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**

barium chloride dihydrate

· **Hazard statements**

H302 Harmful if swallowed.

· **Precautionary statements**

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

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P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P330 Rinse mouth.

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**

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**

- **Description:** Mixture of inorganic compounds.

- **Dangerous components:**

CAS: 10326-27-9	barium chloride dihydrate	10–20%
EINECS: 233-788-1	☠ Acute Tox. 3, H301; ☠ Acute Tox. 4, H332	
Index No: 056-004-00-8	ATE: LD50 oral: 100 mg/kg	

- **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.

- **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.

Seek medical treatment.

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

irritations

after inhalation:

mucous membrane irritation

coughing

breathing difficulty

after swallowing:

sickness

vomiting

diarrhoea

pain

absorption

after absorption of large amounts:

CNS disorders

respiratory paralysis

- **Danger**

Danger of system failure.

Danger of disturbed cardiac rhythm.

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

1-5% sodium sulfate solution in acute poisoning

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:

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Hydrogen chloride (HCl)

Dipotassium 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:**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

- **Hygiene measures:**

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:**

Store in cool, dry conditions in well sealed containers.

Protect from heat and direct sunlight.

Protect from the effects of light.

Store under dry conditions.

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:**

CAS: 10326-27-9 barium chloride dihydrate

WEL (Great Britain)

Long-term value: 0.5 mg/m³
as Ba

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IOELV (European Union)	Long-term value: 0.5 mg/m ³ as Ba
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Regulatory information

WEL (Great Britain): EH40/2020

IOELV (European Union): (EU) 2019/1831

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.

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

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 through 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 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	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	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 (13 g/l) at 20°C	5.5
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:	2.39 g/cm ³
Relative density:	Not determined.

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· 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:	100.0 %

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**
furan-2-percarbonic acid
---> Explosive
Reacts with acids, alkalis and oxidizing agents
Reacts with reducing agents
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Chlorine compounds
In case of fire: 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:
Harmful if swallowed.

· Acute toxicity estimate (ATE_(mix)) - Calculation method:		
Oral	CLP ATE _(mix)	650 mg/kg (.)

· LD/LC50 values that are relevant for classification:		
CAS: 10326-27-9 barium chloride dihydrate		
Oral	LD50	100 mg/kg (ATE) (for calculation) 118 mg/kg (rat) (anhydrous - IUCLID)
Inhalative	LC50/4h	1.5 mg/l (ATE)

- **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 10326-27-9: chronic: dermatitis
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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.

- **Information on likely routes of exposure**

The main route of absorption of barium chloride is through the respiratory tract in the form of dusts or aerosols.
Soluble barium compounds are well absorbed by inhalation.[GESTIS]

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Additional toxicological information:

CAS 10326-27-9: Absorption through gastro-intestinal tract, mucous membranes

CAS: 10326-27-9 barium chloride dihydrate

(source: GESTIS)

Main toxic effects:

acute: Irritation of the mucous membranes, gastrointestinal complaints, hypokalemia, cardiac arrhythmia, muscle weakness, kidney damage.

chronic: after repeated oral intake: kidney damage in animal experiments

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: 10326-27-9 barium chloride dihydrate**

LC50 870 mg/l/48h (gold orfe)

(IUCLID)

EC50 21.9 mg/l/48h (Daphnia magna)

(IUCLID)

Other information:

Toxic for fish:

Ba > 158 mg/l

12.2 Persistence and degradability**Other information:**

Mixture of inorganic compounds.

Methods for the determination of biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow < 1 = Does not accumulate in organisms.

CAS: 10326-27-9 barium chloride dihydrate

log Pow 0.85 (.)

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**

Reacts with water to harmful mixtures.

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**

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

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

SECTION 14: Transport information

<ul style="list-style-type: none"> · 14.1 UN number or ID number · ADR, IMDG, IATA 	Void
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR, IMDG, IATA 	Void
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, IMDG, IATA · Class 	Void
<ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA 	Void
<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: 	No
<ul style="list-style-type: none"> · 14.6 Special precautions for user 	Not applicable.
<ul style="list-style-type: none"> · 14.7 Maritime transport in bulk according to IMO instruments 	Not applicable.
<ul style="list-style-type: none"> · 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**

<ul style="list-style-type: none"> · Regulated explosives precursors 	None of the ingredients is listed.
<ul style="list-style-type: none"> · Regulated poisons 	CAS: 10326-27-9 barium chloride dihydrate Listed
<ul style="list-style-type: none"> · Reportable explosives precursors 	None of the ingredients is listed.
<ul style="list-style-type: none"> · Reportable poisons 	None of the ingredients is listed.
<ul style="list-style-type: none"> · Regulation (EU) 2019/1148 on the marketing and use of explosives precursors 	not regulated
<ul style="list-style-type: none"> · Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC) 	None of the ingredients is listed.
<ul style="list-style-type: none"> · 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.
<ul style="list-style-type: none"> · Regulation (EC) No 273/2004 on drug precursors 	None of the ingredients is listed.
<ul style="list-style-type: none"> · 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.
<ul style="list-style-type: none"> · Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: 	None of the ingredients is listed.
<ul style="list-style-type: none"> · 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)

None of the ingredients is listed.

· Substances of very high concern (SVHC) according to REACH, Article 57This 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** None of the ingredients is 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.

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

H301 Toxic if swallowed.

H332 Harmful if inhaled.

· Abbreviations and acronyms:

ICAO: International Civil Aviation Organisation

EC50: effective concentration, 50 percent (in vivo)

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)

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

ATE: Acute toxicity estimate values

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

· Sources

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

ECOTOX Database

GESTIS- Stoffdatenbank (Substance Database, Germany)

RTECS (Registry of Toxic Effects of Chemical Substances)

IUCLID (International Uniform Chemical Information Database)

· * Data compared to the previous version altered.