

### Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 06/13/2017

Reviewed on 06/13/2017

## 1 Identification

- **Product identifier**
- **Trade name:** Sulfate Turbidity
- **Catalogue number:** 00515451, 515450(BT), 515451(BT), 515453(0), 4515450(BT), 4515451(BT), 00515459(BT)
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**  
Tintometer Inc.  
6456 Parkland Drive  
Sarasota, FL 34243  
USA  
phone: (941) 756-6410  
fax: (941) 727-9654  
www.lovibond.us  
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

## \* 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
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.  
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.
- **Other hazards** No further relevant information available.

## \* 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of inorganic compounds.
- **Composition and Information on Ingredients:**

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CAS: 10326-27-9 EINECS: 233-788-1 Index number: 056-004-00-8 RTECS: CQ 8751000	barium chloride dihydrate	☠ Acute Tox. 3, H301; ☠ Acute Tox. 4, H332	10-20%
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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes (at least 15 min) under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink 1-2 glasses of water.  
Seek medical treatment.
- **Most important symptoms and effects, both acute and delayed**  
irritations  
after inhalation:  
mucous membrane irritation  
coughing  
breathing difficulty  
after swallowing:  
sickness  
vomiting  
diarrhoea  
pain  
resorption  
after absorption of large amounts:  
CNS disorders  
respiratory paralysis
- **Danger:**  
Danger of circulatory collapse.  
Danger of disturbed cardiac rhythm.
- **Indication of any immediate medical attention and special treatment needed:**  
1-5% sodium sulfate solution in acute poisoning

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **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.  
In case of fire, the following can be released:  
Hydrogen chloride (HCl)  
Potassium oxide
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.
- **Additional information**  
Collect contaminated fire fighting water separately. It must not enter the sewage system.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.  
Ambient fire may liberate hazardous vapours.

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### 6 Accidental release measures

- **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
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**
  - Ensure adequate ventilation.
  - Pick up mechanically.
  - Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **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 before breaks and at the end of work.
  - Do not eat, drink or smoke when using this product.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a 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 receptacles.
  - Protect from heat and direct sunlight.
  - Protect from exposure to the light.
  - Store in dry conditions.
  - Protect from humidity and water.
  - This product is hygroscopic.
- **Recommended storage temperature:** 20 °C +/- 5 °C (approx. 68°F)
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**

**CAS: 10326-27-9 barium chloride dihydrate**

PEL (USA)	Long-term value: 0.5 mg/m <sup>3</sup> as Ba
REL (USA)	Long-term value: 0.5 mg/m <sup>3</sup> as Ba
TLV (USA)	Long-term value: 0.5 mg/m <sup>3</sup> as Ba
EL (Canada)	Long-term value: 0.5 mg/m <sup>3</sup> as Ba

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
  - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
  - See item 7.

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- **Personal protective equipment:**
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Protection of hands:**  
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:  $\geq 0.11$  mm
- **Penetration time of glove material**  
Value for the permeation: Level  $\leq 1$  (10 min)  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**  
Safety glasses  
use against the effects of fumes / dust
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:**  
Do not allow product to reach sewage system or any water course.

### \* 9 Physical and chemical properties

· <b>Information on basic physical and chemical properties</b>	
· <b>Appearance:</b>	
Form / Physical state:	Tablets
Color:	White
· <b>Odor:</b> Odorless	
· <b>Odor threshold:</b> Not applicable.	
· <b>pH-value (13 g/l) at 20 °C (68 °F):</b> 5.5	
· <b>Melting point/freezing point:</b> Not determined.	
· <b>Initial boiling point and boiling range:</b> Not determined.	
· <b>Flash point:</b> Not applicable.	
· <b>Flammability (solid, gas):</b> The product is not combustible.	
· <b>Ignition temperature:</b> Not applicable.	
· <b>Decomposition temperature:</b> Not determined.	
· <b>Auto-ignition temperature:</b> Product is not self-igniting.	
· <b>Danger of explosion:</b> Product does not present an explosion hazard.	
· <b>Flammability or explosive limits:</b>	
Lower:	Not applicable.
Upper:	Not applicable.
· <b>Oxidizing properties:</b> none	
· <b>Vapor Pressure:</b> Not applicable.	
· <b>Density at 20 °C (68 °F):</b> 2.39 g/cm <sup>3</sup> (19.945 lbs/gal)	
· <b>Relative density:</b> Not determined.	
· <b>Vapor density:</b> Not applicable.	
· <b>Evaporation rate:</b> Not applicable.	
· <b>Solubility(ies)</b>	
Water:	Soluble.
· <b>Partition coefficient (n-octanol/water):</b> Not applicable.	
· <b>Viscosity:</b> Not applicable.	
· <b>Solvent content:</b>	
Organic solvents:	0.0 %
Solids content:	100.0 %

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<b>Other information</b>	No further relevant information available.
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### 10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**  
furan-2-percarbonic acid  
---> Danger of explosion.  
Reacts with acids, alkalis and oxidizing agents.  
Reacts with reducing agents.
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**  
Chlorine compounds  
In case of fire: see section 5.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Classification according to calculation procedure.

<b>Acute toxicity estimate (ATE<sub>(mix)</sub>) - Calculation method:</b>		
Oral	GHS ATE <sub>(mix)</sub>	543 mg/kg (.)
Inhalative	GHS ATE <sub>(mix)</sub>	9.75 mg/l/4h (dust)

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

- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Information on components:** CAS 10326-27-9: chronic: dermatitis
- **Sensitization:** No sensitizing effects known.

<b>Carcinogenic categories</b>	
<b>IARC (International Agency for Research on Cancer)</b>	
None of the ingredients is listed.	

<b>NTP (National Toxicology Program)</b>	
None of the ingredients is listed.	

<b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>	
None of the ingredients is listed.	

- **Other information:** see section 8 / 15

- **Synergistic Products:** None

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:
- **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.

- **Additional toxicological information:**

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

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Other dangerous properties can not be excluded.

- **Experience with humans:** CAS 10326-27-9: Can cause kidney damages.

## 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

**CAS: 10326-27-9 barium chloride dihydrate**

LC50	870 mg/l/48h (gold orfe) IUCLID
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EC50	21.9 mg/l/48h (Daphnia magna) (IUCLID)
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- **Other information:**

Toxic for fish:

Ba &gt; 158 mg/l

- **Persistence and degradability** No further relevant information available.

- **Other information:**

Mixture of inorganic compounds.

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

- **Bioaccumulative potential**

Pow = n-octanol/wasser partition coefficient

log Pow &lt; 1 = Does not accumulate in organisms.

**CAS: 10326-27-9 barium chloride dihydrate**

log Pow	0.85 (.)
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- **Mobility in soil** No further relevant information available.

- **Other adverse effects**

Reacts with water to harmful mixtures.

Avoid transfer into the environment.

## 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

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

Hand over to hazardous waste disposers.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- **UN-Number**

· DOT, IMDG, IATA	none
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- **UN proper shipping name**

· DOT, IMDG, IATA	none
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- **Transport hazard class(es)**

· DOT, IMDG, IATA	none
· Class	

- **Packing group**

· DOT, IMDG, IATA	none
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- **Environmental hazards:**

· Marine pollutant:	No
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- **Special precautions for user**

Not applicable.
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- |  |  |
|--|--|
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                      |
| <b>· Transport/Additional information:</b>                                       | Not dangerous according to the above specifications. |

### \*15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

<b>· Section 355 (Extremely hazardous substances):</b>
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None of the ingredients is listed.

<b>· Section 313 (Specific toxic chemical listings):</b>
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CAS: 10326-27-9 | barium chloride dihydrate

<b>· TSCA (Toxic Substances Control Act):</b>
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CAS 1326-27-9 is not on the TSCA Inventory listed, because it is a hydrate. It is listed on the CAS 10361-37-2 number for the anhydrous form.

All ingredients are listed.

<b>· Proposition 65</b>
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<b>· Chemicals known to cause cancer:</b>
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None of the ingredients is listed.

<b>· Chemicals known to cause reproductive toxicity for females:</b>
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None of the ingredients is listed.

<b>· Chemicals known to cause reproductive toxicity for males:</b>
--

None of the ingredients is listed.

<b>· Chemicals known to cause developmental toxicity:</b>
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None of the ingredients is listed.

<b>· New Jersey Right-to-Know List:</b>
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None of the ingredients is listed.

<b>· New Jersey Special Hazardous Substance List:</b>
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None of the ingredients is listed.

<b>· Pennsylvania Right-to-Know List:</b>
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None of the ingredients is listed.

<b>· Pennsylvania Special Hazardous Substance List:</b>
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None of the ingredients is listed.

<b>· EPA (Environmental Protection Agency)</b>
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CAS: 10326-27-9 | barium chloride dihydrate | D, CBD(inh), NL(oral)

<b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
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None of the ingredients is listed.

<b>· Information about limitation of use:</b>
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Employment restrictions concerning pregnant and lactating women must be observed.  
 Employment restrictions concerning young persons must be observed.

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

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

<b>· Relevant phrases</b>
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H301 Toxic if swallowed.  
 H332 Harmful if inhaled.

- **Date of preparation / last revision** 06/13/2017 / 44

<b>· Abbreviations and acronyms:</b>
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ICAO: International Civil Aviation Organisation

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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  
 ACGIH® - American Conference of Governmental Industrial Hygienists  
 •A1 - Confirmed human carcinogen  
 •A2 - Suspected human carcinogen  
 •A3 - Confirmed animal carcinogen with unknown relevance to humans  
 •A4 - Not classifiable as a human carcinogen  
 •A5 - Not suspected as a human carcinogen  
 IARC - International Agency for Research on Cancer  
 •Group 1 - Carcinogenic to humans  
 •Group 2A - Probably carcinogenic to humans  
 •Group 2B - Possibly carcinogenic to humans  
 •Group 3 - Not classifiable as to carcinogenicity to humans  
 •Group 4 - Probably not carcinogenic to humans  
 NTP - National Toxicology Program, U.S. Department of Health and Human Services  
 •Group K - Known to be Human Carcinogens  
 •Group R - Reasonably Anticipated to be Human Carcinogens  
 ADR: Accord européen sur le transport 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  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 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  
 NIOSH: National Institute for Occupational Safety  
 OSHA: Occupational Safety & Health  
 TLV: Threshold Limit Value  
 PEL: Permissible Exposure Limit  
 REL: Recommended Exposure Limit  
 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.

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