

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

Printing date 12/15/2017

Reviewed on 12/15/2017

1 Identification

- **Product identifier**
- **Trade name:** **BSB / BOD CM Calibration Test Tablets**
- **Catalogue number:** 00516071, 424241, 418328, 2418328, 00516079
- **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**



GHS08 Health hazard

Repr. 1B H360 May damage fertility or the unborn child.

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



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
boric acid
- **Hazard statements**
H360 May damage fertility or the unborn child.
- **Precautionary statements**
P201 Obtain special instructions before use.
P280 Wear protective gloves/protective clothing/eye protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
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 organic and inorganic compounds

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Composition and Information on Ingredients:

Percent ranges are used due to the confidential product information.

CAS: 10043-35-3 EINECS: 233-139-2 Index number: 005-007-00-2 RTECS: ED 4550000	boric acid	 Repr. 1B, H360	25-35%
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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.

Seek medical treatment.

· **After skin contact:**

Immediately 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 a doctor.· **After swallowing:**

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

Call a doctor immediately.

· **Information for doctor:** Sulfites are strong sensitizers· **Most important symptoms and effects, both acute and delayed**

irritations

allergic reactions

after inhalation:

mucosal irritations, cough, breathing difficulty

after absorption of large amounts:

general feeling of sickness

sickness

vomiting

fatigue

ataxia (impaired locomotor coordination)

CNS disorders

cramps

· **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

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:

Sulfur oxides (SO_x)· **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.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**· **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

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Ensure adequate ventilation

Avoid formation of dust.

- **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:**
 - Do not get in eyes, on skin, or on clothing.
 - Take off immediately all contaminated clothing.
 - Store protective clothing separately.
 - 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:** Do not store together with acids.
- **Further information about storage conditions:**
 - Store under lock and key and with access restricted to technical experts or their assistants only.
 - Store in cool, dry conditions in well sealed receptacles.
 - Protect from heat and direct sunlight.
 - Protect from exposure to the light.
 - 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: 10043-35-3 boric acid

TLV (USA)	Short-term value: 6* mg/m ³ Long-term value: 2* mg/m ³ *as inhalable fraction, A4 (ACGIH 2008)
EL (Canada)	Short-term value: 6 mg/m ³ Long-term value: 2 mg/m ³
EV (Canada)	Short-term value: 6 mg/m ³ Long-term value: 2 mg/m ³ inorganic, inhalable

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:** No further data; see item 7.
- **Personal protective equipment:**
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P3
- **Protection of hands:**
 - 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 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:** Avoid release to the environment.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **Appearance:**

Form / Physical state:	Tablets
Color:	White

- **Odor:** Odorless

- **Odor threshold:** Not applicable.

- **pH-value (3.5 g/l) at 20 °C (68 °F):** 8.1

- **Melting point/freezing point:** Not determined.

- **Initial boiling point and boiling range:** Not determined.

- **Flash point:** Not applicable.

- **Flammability (solid, gas):** The product is not combustible.

- **Ignition temperature:** Not applicable.

- **Decomposition temperature:** > 171 °C (> 339.8 °F) (CAS 10043-35-3)

- **Auto-ignition temperature:** Product is not self-igniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Flammability or explosive limits:**

Lower:	Not applicable.
Upper:	Not applicable.

- **Oxidizing properties:** none

- **Vapor Pressure:** Not applicable.

- **Density at 20 °C (68 °F):** ~ 2.3 g/cm³ (~ 19.19 lbs/gal)

- **Relative density:** Not determined.

- **Vapor density:** Not applicable.

- **Evaporation rate:** Not applicable.

- **Solubility(ies)**

Water:	Soluble.
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- **Partition coefficient (n-octanol/water):** Not applicable.

- **Viscosity:** Not applicable.

- **Solvent content:**

Organic solvents:	0.0 %
Solids content:	100.0 %

- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"

- **Chemical stability** Stable at ambient temperature (room temperature).

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- **Possibility of hazardous reactions**
Contact with acids releases toxic gases.
If moisture is present, boric acid can be corrosive to iron.
Reacts with alkali (lyes).
Reacts with strong oxidizing agents.
- **Conditions to avoid** To avoid thermal decomposition do not overheat.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** see section 5

*11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· **Acute toxicity estimate (ATE_(mix)) - Calculation method:**

Oral	GHS ATE _(mix)	2701 mg/kg (.)
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· **LD/LC50 values that are relevant for classification:**

The following statements refer to the individual components.

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.)
	LD ₀	1500 mg/kg (child) (MERCK)
Inhalative	LC50.	>2.03 mg/l/4h (rat) (OECD 403, aerosol) (ECHA, registrant: no deaths occurred)
	NOAEL	9.6 mg/kg (rat) (NTP)

- **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: 10043-35-3 boric acid

Irritation of skin	OECD 404	(rabbit: no irritation) (Registrant, ECHA)
Irritation of eyes	OECD 405	(rabbit: slight irritation) (IUCLID)

- **Sensitization:** No sensitizing effects known.

· **Information on components:**

CAS: 10043-35-3 boric acid

Sensitization	OECD 406	(guinea pig: negative)
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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

CAS: 999-99-9	one or more ingredient(s) Group 3: Not classifiable as to carcinogenicity to humans	
CAS: 9003-39-8	polyvinylpyrrolidone PVP	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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

- **Synergistic Products:** None

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):**

The following statements refer to the mixture:

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- **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 or the unborn child.
- **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 components:**
 CAS 10043-35-3: evaluation for carcinogenicity: negative in animals (NTP)
 OECD 414: Teratogenicity testing
 OECD 473: Mutagenicity testing
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 10043-35-3 boric acid

OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test) (mouse lymphoma test)
OECD 414	(negative) (oral, rat) (ECHA, registrant: no evidence of developmental toxicity up to 55 mg/kg bw. At 76 mg/kg bw there was reduced fetal bodyweight, short and wavy ribs, and these effects disappeared during the postnatal period.)
OECD 474	(negative) (in vivo, mice)

- **Additional toxicological information:**
 CAS 10043-35-3: Absorption through gastro-intestinal tract, mucous membranes
 Boric acid / Borate may cause developmental changes based on published data, at doses many times in excess of those that could occur through inhalation of dust in occupational settings.
- **Experience with humans:** CAS 10043-35-3: Can cause kidney damages.

*12 Ecological information

· **Toxicity**· **Aquatic toxicity:****CAS: 10043-35-3 boric acid**

EC50	133 mg/l/48h (Daphnia magna) (ECOTOX)
LC50	50–100 mg/l/96h (rainbow trout) (ECOTOX)

- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential**
 Pow = n-octanol/wasser partition coefficient
 log Pow < 1 = Does not accumulate in organisms.

CAS: 10043-35-3 boric acid

log Pow	-1.09 (.) (OECD 107, 22°C) (Merck)
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- **Mobility in soil** No further relevant information available.
- **Other adverse effects** 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.

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14 Transport information

· UN-Number	
· DOT, IMDG, IATA	none
· UN proper shipping name	
· DOT, IMDG, IATA	none
· Transport hazard class(es)	
· DOT, IMDG, IATA	
· Class	none
· Packing group	
· DOT, IMDG, IATA	none
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

*15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture	
· Sara	
· Section 355 (Extremely hazardous substances):	
None of the ingredients is listed.	
· Section 313 (Specific toxic chemical listings):	
None of the ingredients is listed.	
· TSCA (Toxic Substances Control Act):	
All ingredients are listed.	
· Proposition 65	
· Chemicals known to cause cancer:	
None of the ingredients is listed.	
· Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	
· Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	
· Chemicals known to cause developmental toxicity:	
None of the ingredients is listed.	
· New Jersey Right-to-Know List:	
None of the ingredients is listed.	
· New Jersey Special Hazardous Substance List:	
None of the ingredients is listed.	
· Pennsylvania Right-to-Know List:	
None of the ingredients is listed.	
· Pennsylvania Special Hazardous Substance List:	
None of the ingredients is listed.	
· EPA (Environmental Protection Agency)	
CAS: 10043-35-3	boric acid I (oral)
· NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	
· Information about limitation of use:	
Employment restrictions concerning pregnant and lactating women must be observed.	

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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.

- **Relevant phrases**

H360 May damage fertility or the unborn child.

- **Recommended restriction of use:** professional/industrial use only

- **Date of preparation / last revision** 12/15/2017 / 15

- **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

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

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

Repr. 1B: Reproductive toxicity – Category 1B

- **Sources**

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

ECOTOX Database

IUCLID (International Uniform Chemical Information Database)

RTECS (Registry of Toxic Effects of Chemical Substances)

GESTIS- Stoffdatenbank (Substance Database, Germany)

NTP (National Toxicology Program)

- *** Data compared to the previous version altered.**
