

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

Printing date 04/23/2024

Reviewed on 04/23/2024

1 Identification

- **Product identifier**
- **Trade name: Silica No. 2**
- **Catalogue number:** 00513141, 513140BT, 4513140BT, 513141BT, 4513141BT, 00513149BT
- **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

Toxic to Reproduction 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**
P280 Wear protective gloves/protective clothing/eye protection.
P201 Obtain special instructions before use.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
- **Other hazards** No further relevant information available.

* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of organic and inorganic compounds
- **Composition and information on Ingredients:**
Percent ranges are used due to the confidential product information.

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CAS: 7757-82-6 EINECS: 231-820-9	sodium sulphate		20–30%
CAS: 10043-35-3 EINECS: 233-139-2 Index number: 005-007-00-2 RTECS: ED 4550000	boric acid	 Toxic to Reproduction 1B, H360	2.5–5%

· **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.
Get medical advice/attention.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Get medical advice/attention.
- **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.
Seek medical treatment.
- **Most important symptoms and effects, both acute and delayed**
irritations
resorption
after inhalation:
mucosal irritations, cough, breathing difficulty
after swallowing:
thirst
gastric or intestinal disorders
sickness
vomiting
diarrhoea
after absorption of large amounts:
cardiovascular disorders
CNS disorders
ataxia (impaired locomotor coordination)
- **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**
mixture with combustible ingredients
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
nitrous gases
Sulfur oxides (SO_x)
Nitrogen oxides (NO_x)
Sodium oxide
Carbon monoxide (CO) and carbon dioxide (CO₂)
- **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 section 13.
- **Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling**
- **Advice on safe handling:** Provide suction extractors if dust is formed.
- **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**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** see chapter 10
- **Further information about storage conditions:**
Store locked up or with access restricted to technical experts or their assistants.
Ensure that persons do not handle until all safety precautions have been read and understood.
Protect from heat and direct sunlight.
Store in cool, dry conditions in well sealed receptacles.
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: 7757-82-6 sodium sulphate

TLV (USA)	Short-term value: NIC-0.2 mg/m ³ thoracic fraction of aerosol
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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
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EL (Canada)	Short-term value: 6 mg/m ³ Long-term value: 2 mg/m ³
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EV (Canada)	Short-term value: 6 mg/m ³ Long-term value: 2 mg/m ³ inorganic, inhalable
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- **Additional information:** The lists that were valid during the creation were used as basis.

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Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

Personal protective equipment:

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· **Breathing equipment:** Use respiratory protective device against the effects of fume/dust/aerosol.

· **Recommended filter device for short term use:** Filter P3

Protection of hands:

Protective 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

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

Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).

· **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

Information on basic physical and chemical properties**Appearance:**

· **Form / Physical state:**

Tablets

· **Color:**

White

· **Odor:**

Odorless

· **Odor threshold:**

Not applicable.

· **pH-value (10 g/l) at 20°C (68°F):**

2

· **Melting point/freezing point:**

Not determined.

· **Initial boiling point and boiling range:**

Not determined.

· **Flash point:**

Not applicable.

· **Flammability (solid, gas):**

mixture with combustible ingredients

· **Auto igniting:**

Not applicable (solid).

· **Decomposition temperature:**

> 170°C (> 338°F) (CAS 10043-35-3)

· **Auto-ignition temperature:**

Product is not self-igniting.

· **Danger of explosion:**

As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion.

· **Flammability or explosive limits:**

Lower:

Not determined.

Upper:

Not applicable (solid).

· **Oxidizing properties:**

none

· **Vapor Pressure:**

Not applicable.

· **Density at 20°C (68°F):**

1.66 g/cm³ (13.85 lbs/gal)

· **Relative density:**

Not determined.

· **Vapor density:**

Not applicable.

· **Evaporation rate:**

Not applicable.

· **Solubility(ies)**

· **Water:**

Soluble.

· **Partition coefficient (n-octanol/water):**

Not applicable (mixture).

· **Viscosity:**

· **Kinematic:**

Not applicable (solid).

· **Other information**

· **Solids content:**

100 %

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- **Information with regard to physical hazard classes**

- **Corrosive to metals**

Based on available data, the classification criteria are not met.

10 Stability and reactivity

- **Reactivity** Dust can combine with air to form an explosive mixture.
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
 - Reacts with alkali (lyes).
 - Reacts with oxidizing agents.
 - > Forms heat.
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:** aluminum
- **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.

- **LD/LC50 values that are relevant for classification:**

CAS: 7757-82-6 sodium sulphate

Oral	LD50.	>2000 mg/kg (rat) (OECD 423) (Registrant, ECHA, limit test)
Dermal	LD50.	>2000 mg/kg (rat)
Inhalative	LC50.	>2.4 mg/l4h (rat) (OECD 436) highest concentration that can be produced

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)
	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: 7757-82-6 sodium sulphate

Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 492	(rabbit: slight irritation)

CAS: 10043-35-3 boric acid

Irritation of skin	OECD 404	(rabbit: no irritation) (Registrant, ECHA)
Irritation of eyes	OECD 492	(rabbit: slight irritation) (IUCLID)

- **Sensitization:** Based on available data, the classification criteria are not met.

- **Information on components:**

CAS: 7757-82-6 sodium sulphate

Sensitization	OECD 406	(guinea pig: negative)
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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	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:

Toxic to Reproduction 1B

· **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: 7757-82-6 sodium sulphate

OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)
ECHA: Salmonella typhimurium

OECD 476 (negative) (Mammalian Chromosomal Aberration Test)

OECD 473 (negative) (Mammalian Chromosomal Aberration Test)

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 lymphomea 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.

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, and erythematous 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"

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* 12 Ecological information

· Toxicity

· Aquatic toxicity:

CAS: 7757-82-6 sodium sulphate

EC50	1766 mg/l/48h (Daphnia magna) US-EPA
NOEC	8 mg/l /37 d (activated sludge) ECHA
LC50	120 mg/l/96h (mosquitofish) (IUCLID)
	7960 mg/l/96h (fathhead minnow) US-EPA

CAS: 10043-35-3 boric acid

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

· Bacterial toxicity:

sulfates toxic > 2.5 g/l

CAS: 7757-82-6 sodium sulphate

EC10	>1000 mg/l (Pseudomonas putida) (16h) (IUCLID)
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· Other information:

Toxic for fish:

Sulfates > 7 g/l

· **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.

* 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

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· Packing group · DOT, IMDG, IATA	none
· Environmental hazards:	Not applicable.
· 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 components have the value ACTIVE.

· Hazardous Air Pollutants
None of the ingredients is 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:
CAS: 7757-82-6 sodium sulphate

· Pennsylvania Special Hazardous Substance List:	
CAS: 7757-82-6 sodium sulphate	E

· 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:

Observe national regulations where applicable:
Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

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

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* 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

· **Version number / date of revision:** 27 / 04/23/2024

· 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

Toxic to Reproduction 1B: Reproductive toxicity – Category 1B

· Sources

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

GESTIS- Stoffdatenbank (Substance Database, Germany)

ECHA: European Chemicals Agency <http://echa.europa.eu>

IUCLID (International Uniform Chemical Information Database)

ECOTOX Database

NTP (National Toxicology Program)

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