

Safety Data Sheet acc. to OSHA HCS (HazCom 2024)

Date of issue: 12/02/2024

Reviewed on 12/02/2024

1 Identification

- **Product identifier**
- **Trade name: Hardness Eriochrome Powder**
- **Other means of identification**
- **Catalogue number:** 00462951, 00462950, 462950
- **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

Reproductive toxicity 1B H360 May damage fertility or the unborn child.



GHS07

Eye irritation 2A H319 Causes serious eye irritation.

- **Label elements**

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

- **Hazard pictograms**



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

boric acid

disodium tetraborate, anhydrous

- **Hazard statements**

H319 Causes serious eye irritation.

H360 May damage fertility or the unborn child.

- **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection.

P201 Obtain special instructions before use.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

- **Classification according to (d)(1)(ii) of § 1910.12000**

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

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· **Hazards not otherwise classified**

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

* 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.

CAS: 10043-35-3 EINECS: 233-139-2 Index number: 005-007-00-2 RTECS: ED 4550000	boric acid ⚠ Reproductive toxicity 1B, H360	10–30% *
CAS: 1330-43-4 EINECS: 215-540-4 Index number: 005-011-00-4 RTECS: ED4588000	disodium tetraborate, anhydrous ⚠ Reproductive toxicity 1B, H360; ⚠ Eye irritation 2A, H319	10–30% *
CAS: 15708-48-2 EINECS: 239-803-8	Dipotassium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON'] magnesate(2-) ⚠ Skin irritation 2, H315; Specific target organ toxicity (single exposure) 3, H335	5–<10% *

* Actual concentration ranges are withheld as a trade secret.

· **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.

Seek immediate medical advice.

· **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:

sickness

vomiting

diarrhoea

after resorption:

fatigue

cardiovascular disorders

CNS disorders

ataxia (impaired locomotor coordination)

cramps

unconsciousness

drop in temperature

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

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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.
- **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.
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:**
Prevent formation of dust.
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:** Not required.
- **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.
Protect from exposure to the light.
Store in dry conditions.
Protect from humidity and water.
- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)
- **Specific end use(s)** No further relevant information available.

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* 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

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
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
CAS: 1330-43-4 disodium tetraborate, anhydrous	
REL (USA)	Long-term value: 1 mg/m ³ anhydrous
TLV (USA)	Short-term value: 6* mg/m ³ Long-term value: 2* mg/m ³ *as inhalable fraction, A4
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:**
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 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:** Avoid release to the environment.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **Physical state** Solid
- **Form:** Powder
- **Color:** Grey
- **Odor:** Odorless
- **Odor threshold:** Not applicable.
- **Melting point/freezing point:** Not determined.

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· Initial boiling point and boiling range:	Not determined.
· Flammability:	The product is not combustible.
· Danger of explosion:	Product does not present an explosion hazard.
· Flammability or explosive limits:	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Product is not self-igniting.
· Decomposition temperature:	Not determined.
· pH-value (29.7 g/l) at 20°C (68°F):	8.4
· Kinematic viscosity:	Not applicable (solid).
· Solubility(ies)	
· Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not applicable (mixture).
· Vapor Pressure:	Not applicable.
· Density:	Not determined.
· Relative density:	Not determined.
· Relative vapor density:	Not applicable.
· Particle characteristics	Not determined.
· Information with regard to physical hazard classes	
· Oxidizing properties:	none
· Other information	
· Solids content:	100 %

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
If moisture is present, boric acid can be corrosive to iron.
Reacts with acids, alkalis and oxidizing agents.
--> Forms heat.
- **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.

· **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.)
	LD ₀	1500 mg/kg (child) (MERCK)
Inhalative	LC50.	>2.03 mg/l4h (rat) (OECD403) (Registrant, ECHA: No deaths occurred at this concentration)
	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:** Causes serious eye irritation.

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· Information on components:		
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)
CAS: 1330-43-4 disodium tetraborate, anhydrous		
Irritation of skin	OECD 404	(rabbit: no irritation) (Registrant, ECHA, Sodium tetraborate pentahydrate)
Irritation of eyes	OECD 492	(rabbit: irritation) (Registrant, ECHA, Sodium tetraborate pentahydrate)

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

· Information on components:		
CAS: 10043-35-3 boric acid		
Sensitization	OECD 406	(guinea pig: negative)

· **Interactive effects** No interactive effects between components are known.

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

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
None of the ingredients is listed.		

· NTP (National Toxicology Program)		
None of the ingredients is listed.		

· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

· **Alternative sources for toxicological information** No non-standard sources for toxicological information where used.

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

The following statements refer to the mixture:

Reproductive toxicity 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)

CAS 1330-43-4 Borax:

Reproductive Toxicity:

Numerous studies on different species have been carried out with boric acid and borates. From this it was concluded that reproductive toxicity appears to be the critical effect.

mutagenicity:

Borates and boric acid did not show any genotoxic effects in a series of microbiological investigations and tests on cell preparations that have been carried out to date, as well as in an in-vivo test.

Carcinogenicity:

A previous carcinogenicity study on rats and mice with boric acid (oral application) gave no indication of a carcinogenic potential of boric acid or borates.

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.)	

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OECD 474 (negative) (in vivo, mice)

· **Additional toxicological information:**

CAS 1330-43-4/ 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"

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

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)

CAS: 1330-43-4 disodium tetraborate, anhydrous

LC50 1085–1402 mg/l/48h (Daphnia magna)
(IUCLID)IC50 158 mg/l/96 h (Desmodesmus subspicatus)
(IUCLID)LC50 340 mg/l/96h (fish)
(IUCLID)

· **Bacterial toxicity:**

CAS: 1330-43-4 disodium tetraborate, anhydrous

EC5 1.3 mg/l (Entosiphon sulcatum) (72h)

· **Other information:**

Toxic for fish:

Magnesium compounds: 100 - 400 mg/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)· **Mobility in soil** No further relevant information available.· **Other adverse effects** Avoid transfer into the environment.

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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
· Packing group	
· DOT, IMDG, IATA	none
· Environmental hazards:	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.
· Special precautions for user	Not applicable.

*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.

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· New Jersey Special Hazardous Substance List:		
None of the ingredients is listed.		
· Pennsylvania Right-to-Know List:		
CAS: 1330-43-4	disodium tetraborate, anhydrous	
· Pennsylvania Special Hazardous Substance List:		
None of the ingredients is listed.		
· EPA (Environmental Protection Agency)		
CAS: 10043-35-3	boric acid	I (oral)
CAS: 1330-43-4	disodium tetraborate, anhydrous	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.

*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

H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H360 May damage fertility or the unborn child.

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

· **Version number / date of revision:** 14 / 12/02/2024

· 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
 Skin irritation 2: Skin corrosion/irritation – Category 2
 Eye irritation 2A: Serious eye damage/eye irritation – Category 2A
 Reproductive toxicity 1B: Reproductive toxicity – Category 1B

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Specific target organ toxicity (single exposure) 3: Specific target organ toxicity (single exposure) – Category 3

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Sources

Data arise from safety data sheets, reference works and literature.
NTP (National Toxicology Program)

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

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