

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

Printing date 05/30/2022

Reviewed on 05/30/2022

1 Identification

- **Product identifier**
- **Trade name: KS243 - Zinc Reagent 1**
- **Catalogue number:** 56Z024398, 56L024365, 56U024365, 56L024330, 56U024330
- **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:**
disodium tetraborate decahydrate
- **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.
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.
P302+P352 If on skin: Wash with plenty of water.
P405 Store locked up.
- **Other hazards** No further relevant information available.

* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** aqueous solution

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Composition and Information on Ingredients:

Percent ranges are used due to the confidential product information.

CAS: 1303-96-4 EINECS: 215-540-4 Index number: 005-011-00-4 RTECS: VZ2275000	disodium tetraborate decahydrate ☠ Toxic to Reproduction 1B, H360; ⚠ Eye Irritation 2A, H319	0.1–≤2.5%
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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.

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

after resorption:

cramps

sickness

vomiting

CNS disorders

cardiovascular disorders

• **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.

• 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.

Dilute with plenty of water.

• Methods and material for containment and cleaning up:

Ensure adequate ventilation.

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- Use neutralizing agent.
- Absorb with liquid-binding material (sand, diatomite, universal binders).
- 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

- **Precautions for safe handling**
- **Advice on safe handling:** No special precautions are necessary if used correctly.
- **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 under lock and key and with access restricted to technical experts or their assistants only.
- Protect from heat and direct sunlight.
- Protect from exposure to the light.
- Protect from humidity and water.
- **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: 1303-96-4 disodium tetraborate decahydrate

REL (USA)	Long-term value: 5 mg/m ³
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

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- **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
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:** Solution
- **Color:** Colorless
- **Odor:** Odorless
- **Odor threshold:** Not applicable.
- **pH-value at 20°C (68°F):** 10
- **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:** Not determined.
- **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 determined.
- **Density at 20°C (68°F):** 1.12 g/cm³ (9.35 lbs/gal)
- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Evaporation rate:** Not determined.
- **Solubility(ies)**
- **Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not applicable (mixture).
- **Viscosity:**
- **Kinematic:** Not determined.
- **Other information**
- **Solids content:** < 15 %
- **Solvent content:**
- **Organic solvents:** 0.0 %
- **Water:** > 85 %

· Information with regard to physical hazard classes

- **Corrosion Rate of Metal:** acc. to "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Fifth revised Edition"
- **Corrosion rate (steel)** < 6.25 mm/a
- **Corrosion rate (aluminum)** < 6.25 mm/a

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
Reacts with strong oxidizing agents.
Reacts with acids.

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- **Conditions to avoid** strong heating
- **Incompatible materials:** light metals
- **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: 1303-96-4 disodium tetraborate decahydrate

Oral	LD50	2660 mg/kg (rat) (RTECS)
	LDLo	709 mg/kg (human)
Dermal	LD50	>2000 mg/kg (rabbit) (IUCLID)

- **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 1310-73-2: chronic: dermatitis

CAS: 1303-96-4 disodium tetraborate decahydrate

Irritation of eyes	OECD 405	(rabbit: irritation) (Registrant, ECHA)
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- **Sensitization:** Based on available data, the classification criteria are not met.

· **Information on components:**

CAS: 1303-96-4 disodium tetraborate decahydrate

Sensitization	Patch test (human)	(negative) (IUCLID)
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· **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.

· **Other information:**

see section 8 / 15

Disodium tetraborate:

A4 (not classifiable for humans or animals) by ACGIH

· **Synergistic Products:** None

· **CMR effects (carcinogenicity, 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.

· **Additional toxicological information:**

CAS 1303-96-4: Absorption through gastro-intestinal tract, mucous membranes

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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.

12 Ecological information

· Toxicity

· Aquatic toxicity:

CAS: 1303-96-4 disodium tetraborate decahydrate

EC50	1085–1402 mg/l/48h (Daphnia magna) (IUCLID)
IC50	158 mg/l/96 h (Desmodesmus subspicatus) (IUCLID, anhydrous substance)
LC50	5600 mg/l/96h (mosquitofish) (BH ₃ O ₃)
LC50	807 mg/l (fish) (anhydrous substance)

· Bacterial toxicity:

CAS: 1303-96-4 disodium tetraborate decahydrate

EC5	1.3 mg/l (Entosiphon sulcatum) (72h) (IUCLID)
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· Persistence and degradability .

· 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 < 1 = Does not accumulate in organisms.

CAS: 1303-96-4 disodium tetraborate decahydrate

log Pow	-1.53 (.)
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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

· Packing group

· DOT, IMDG, IATA none

· Environmental hazards: Not applicable.

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· 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:	
CAS: 1310-73-2	sodium hydroxide
· New Jersey Special Hazardous Substance List:	
CAS: 1310-73-2	sodium hydroxide
	CO, R1
· Pennsylvania Right-to-Know List:	
CAS: 1303-96-4	disodium tetraborate decahydrate
CAS: 1310-73-2	sodium hydroxide
· Pennsylvania Special Hazardous Substance List:	
CAS: 1310-73-2	sodium hydroxide
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· EPA (Environmental Protection Agency)	
CAS: 1303-96-4	disodium tetraborate decahydrate
	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.	
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**

H319 Causes serious eye irritation.

H360 May damage fertility or the unborn child.

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

· **Date of preparation / last revision** 05/30/2022 / 5

· **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

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

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

· **Sources**

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

IUCLID (International Uniform Chemical Information Database)

RTECS (Registry of Toxic Effects of Chemical Substances)

GESTIS- Stoffdatenbank (Substance Database, Germany)

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

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