

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

Printing date 09/25/2023

Reviewed on 09/20/2023

1 Identification

- **Product identifier**
- **Trade name: As Reagent 3**
- **Catalogue number:** 00471280, 471280, 471280-0
- **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**



GHS09 Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

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



GHS09

- **Signal word** Warning
- **Hazard statements**
H410 Very toxic to aquatic life with long lasting effects.
- **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection.
P273 Avoid release to the environment.
- **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:**
Percent ranges are used due to the confidential product information.

CAS: 7440-66-6 EINECS: 231-175-3 Index number: 030-001-01-9 RTECS: ZG8600000	zinc powder - zinc dust (stabilized) Consisting of: 7440-66-6 zinc powder - zinc dust (pyrophoric) (>90%); 1314-13-2 zinc oxide (1-10%) ⚠ Aquatic Acute 1, H400 (M=1); Aquatic Chronic 1, H410 (M=1)	25-30%
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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.

If symptoms persist consult doctor.

· **Most important symptoms and effects, both acute and delayed**

thirst

sickness

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

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Dry sand

Special powder for metal fires.

Cement

· **For safety reasons unsuitable extinguishing agents:**

Water

Foam

· **Special hazards arising from the substance or mixture**

mixture with combustible ingredients

Risk of dust explosion.

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)

Zinc oxide

Iron 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.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

· **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

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.

Inform respective authorities in case of seepage into water course or sewage system.

· **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.

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See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling**
- **Advice on safe handling:** 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**
- **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:**
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:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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.
- **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.

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9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

· Form / Physical state:	Powder
· Color:	Grey
· Odor:	Odorless
· Odor threshold:	Not applicable.
· pH-value at 20°C (68°F):	6.5
· 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.
· Decomposition temperature:	Not applicable.
· Auto-ignition temperature:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard. Risk of dust explosion if enriched with fine dust in the presence of air.
· Flammability or explosive limits:	
Lower:	Not determined.
Upper:	Not applicable (solid).
· Oxidizing properties:	none
· Vapor Pressure:	Not applicable (solid).
· Density at 20°C (68°F):	~5.52 g/cm ³ (~46.06 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility(ies)	
· Water:	Partly soluble.
· Partition coefficient (n-octanol/water):	Not applicable (mixture).
· Viscosity:	
· Kinematic:	Not applicable (solid).
· Other information	
· Solids content:	100 %

10 Stability and reactivity

- **Reactivity** Risk of dust explosion.
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
 - Reacts with water.
 - Reacts with halogenated compounds.
 - Reacts with strong acids and oxidizing agents.
 - Reacts with alkali (lyes).
 - Reacts with peroxides.
 - Reacts with humid air.
 - Forms flammable gases / fumes.
- **Conditions to avoid** Exposure to moisture.
- **Incompatible materials:** combustible materials
- **Hazardous decomposition products:**
 - (with water)
 - hydrogen
 - In case of fire: see section 5.

*11 Toxicological information

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

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· LD/LC50 values that are relevant for classification:		
CAS: 7440-66-6 zinc powder - zinc dust (stabilized)		
Oral	LD50.	>2000 mg/kg (rat) (OECD 401) (Registrant, Echa: limit test, no mortality observed)
Inhalative	LC50.	>5.41 mg/l4h (rat) (OECD 403) (Registrant, Echa: no mortality observed at 5.41 g Zn/m ³ air (the highest attainable concentration))

· **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: 7440-66-6 zinc powder - zinc dust (stabilized)		
Irritation of eyes	OECD 492	(rabbit: no irritation)

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

· **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

· **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: 7440-66-6 zinc powder - zinc dust (stabilized)		
(source: GESTIS)		
Main toxic effects:		
acute: no substance-specific data. In analogy to zinc oxide, in case of inhalation of smoking presumably metal smoke fever, in case of oral intake motor disturbances and drowsiness.		
chronic: No substance-specific data. By analogy with zinc oxide, inhalation probably causes respiratory effects; in oral intake, by analogy with water-soluble zinc compounds, taste impairment, disturbances of copper homeostasis and consequences of copper deficiency with changes in haematological and clinical-chemical parameters.		

12 Ecological information

· **Toxicity**

· Aquatic toxicity:		
CAS: 7440-66-6 zinc powder - zinc dust (stabilized)		
EC50	0.155 mg/l/48h (Daphnia magna)	(Merck)
NOEC	0.169 mg/l/96h (fish) (30d)	(Registrant, ECHA: Cottus bairdii)
NOEC	0.1 mg/l /21 d (Daphnia magna) (OECD 201)	(Merck)
	0.05 mg/l /3 d (Pseudokirchneriella subcapitata) (OECD 403)	

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EC50	0.106 mg/l/72h (Pseudokirchneriella subcapitata) (Merck)
LC50	0.238–0.269 mg/l/96h (fathhead minnow) (Merck)

- **Other information:**

Toxic for fish:

Zn > 0.1 mg/l

- **Persistence and degradability .**

- **Other information:**

Mixture of inorganic compounds.

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

- **Bioaccumulative potential** No further relevant information available.

- **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.

*14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT · IMDG, IATA 	<p style="text-align: right;">none</p> <p style="text-align: right;">UN3077</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG · IATA 	<p style="text-align: right;">none</p> <p style="text-align: right;">ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilized)), MARINE POLLUTANT</p> <p style="text-align: right;">ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilized))</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT · Class 	<p style="text-align: right;">none</p>
<ul style="list-style-type: none"> · IMDG, IATA <div style="text-align: center;">  </div>	
<ul style="list-style-type: none"> · Class · Label 	<p style="text-align: right;">9 Miscellaneous dangerous substances and articles</p> <p style="text-align: right;">9</p>
<ul style="list-style-type: none"> · Packing group · DOT · IMDG, IATA 	<p style="text-align: right;">none</p> <p style="text-align: right;">III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (IATA): 	<p style="text-align: right;">Product contains environmentally hazardous substances: zinc powder - zinc dust (stabilized)</p> <p style="text-align: right;">Symbol (fish and tree)</p> <p style="text-align: right;">Symbol (fish and tree)</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): 	<p style="text-align: right;">Warning: Miscellaneous dangerous substances and articles</p> <p style="text-align: right;">90</p>

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· EMS Number:	F-A,S-F
· Segregation groups	(SGG7) Heavy metals and their salts (including their organometallic compounds)
· Stowage Category	A
· Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· IMDG	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g

*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):**

CAS: 7440-66-6 | zinc powder - zinc dust (stabilized)

· **TSCA (Toxic Substances Control Act):**

CAS 7782-63-0 is not on the TSCA Inventory listed, because it is a hydrate. It is listed on the CAS 7720-78-7 number for the anhydrous form.

All remaining 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: 7440-66-6 | zinc powder - zinc dust (stabilized)

· **New Jersey Special Hazardous Substance List:**

CAS: 7440-66-6 | zinc powder - zinc dust (stabilized)

F3, R1

· **Pennsylvania Right-to-Know List:**

CAS: 7440-66-6 | zinc powder - zinc dust (stabilized)

CAS: 7782-63-0 | ferrous sulfate heptahydrate

· **Pennsylvania Special Hazardous Substance List:**

CAS: 7440-66-6 | zinc powder - zinc dust (stabilized)

E

CAS: 7782-63-0 | ferrous sulfate heptahydrate

E

· **EPA (Environmental Protection Agency)**

CAS: 7440-66-6 | zinc powder - zinc dust (stabilized)

D, I, II

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

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- **Information about limitation of use:** Not required.
- **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**

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

- **Version number / date of revision:** 2 / 09/20/2023

- **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

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

- **Sources**

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

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

GESTIS- Stoffdatenbank (Substance Database, Germany)

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