

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

Printing date 11/04/2020

Reviewed on 11/04/2020

## 1 Identification

- **Product identifier**
- **Trade name: As 3 Reagent**
- **Catalogue number:** 400730
- **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-determining components of labeling:**  
sodium tungstate
- **Hazard statements**  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.
- **Precautionary statements**  
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)  Aquatic Acute 1, H400; Aquatic Chronic 1, H410	25–50%
---	--	--------

(Contd. on page 2)

# Safety Data Sheet

## acc. to OSHA HCS (HazCom 2012)

Printing date 11/04/2020

Reviewed on 11/04/2020

Trade name: As 3 Reagent

(Contd. of page 1)

CAS: 13472-45-2 EINECS: 236-743-4 RTECS: YO7875000	sodium tungstate ⚠ Acute Tox. 4, H302	1-≤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; 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**  
after resorption:  
gastric or intestinal disorders  
sickness  
vomiting  
cramps  
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:**  
Special powder for metal fires.  
Sand
- **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.  
Hydrogen chloride (HCl)  
Hydrogen  
Zinc 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  
Avoid inhalation 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.  
Inform respective authorities in case of seepage into water course or sewage system.

(Contd. on page 3)

US

# Safety Data Sheet

## acc. to OSHA HCS (HazCom 2012)

Printing date 11/04/2020

Reviewed on 11/04/2020

Trade name: As 3 Reagent

(Contd. of page 2)

- **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

- **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**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:**
  - Store away from flammable substances.
  - store away from water
- **Further information about storage conditions:**
  - 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:**
  - The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

### CAS: 13472-45-2 sodium tungstate

REL (USA)	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup> as W
TLV (USA)	Long-term value: 3* mg/m <sup>3</sup> as W; *respirable fraction
EL (Canada)	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup> as W

- **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 P1
- **Protection of hands:**
  - 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

(Contd. on page 4)

# Safety Data Sheet

## acc. to OSHA HCS (HazCom 2012)

Printing date 11/04/2020

Reviewed on 11/04/2020

Trade name: As 3 Reagent

(Contd. of page 3)

- **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

- **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:	Solid
Color:	Grey

- **Odor:** Odorless

- **Odor threshold:** Not applicable.

- **pH-value:** Not determined.

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

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

- **Flash point:** Not determined.

- **Flammability (solid, gas):** Not determined.

- **Ignition temperature:** Not determined.

- **Decomposition temperature:** Not determined.

- **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 determined.

- **Oxidizing properties:** none

- **Vapor Pressure:** Not applicable.

- **Density:** Not determined.

- **Relative density:** Not determined.

- **Vapor density:** Not applicable.

- **Evaporation rate:** Not applicable.

- **Solubility(ies)**

Water:	Partly soluble.
--------	-----------------

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

- **Viscosity:** Not applicable.

- **Solvent content:**

Solids content:	100.0 %
-----------------	---------

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

## \* 10 Stability and reactivity

- **Reactivity**

Risk of dust explosion.

Dust can combine with air to form an explosive mixture.

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

- **Possibility of hazardous reactions**

Reacts with humid air.

(Contd. on page 5)

— US —

# Safety Data Sheet

## acc. to OSHA HCS (HazCom 2012)

Printing date 11/04/2020

Reviewed on 11/04/2020

Trade name: As 3 Reagent

(Contd. of page 4)

Reacts with acids, alkalis and oxidizing agents.  
 Reacts with peroxides.  
 Reacts with halogenated compounds.  
 Develops readily flammable gases / fumes.  
 • **Conditions to avoid** Exposure to moisture.  
 • **Incompatible materials:** combustible materials  
 • **Hazardous decomposition products:**  
 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.

#### • Acute toxicity estimate (ATE<sub>(mix)</sub>) - Calculation method:

Oral	GHS ATE <sub>(mix)</sub>	>2000–5000 mg/kg (.)
------	--------------------------	----------------------

#### • LD/LC50 values that are relevant for classification:

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

Oral	LD50.	>2000 mg/kg (rat) (Registrant, Echa: limit test, no mortality observed)
Inhalative	LC50.	>5.41 mg/l/4h (rat) (OECD 403) (Registrant, Echa: highest attainable concentration, no mortality during 14-day observation)

##### CAS: 13472-45-2 sodium tungstate

Oral	LD50	1190 mg/kg (rat) (RTECS)
Dermal	LD50.	>2000 mg/kg (rat) (OECD 402) (ECHA: limit test, there were no deaths during the study.)
Inhalative	LC50.	>5.01 mg/l/4h (rat) (OECD 403) (ECHA: limit test, there were no deaths during the study.)

- **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: 13472-45-2 sodium tungstate

Irritation of skin	OECD 404	(rabbit: no irritation) (Merck)
Irritation of eyes	OECD 405	(rabbit: no irritation) (Merck)

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

#### • Information on components:

##### CAS: 13472-45-2 sodium tungstate

Sensitization	OECD 406	(guinea pig: negative) (Merck)
---------------	----------	-----------------------------------

#### • 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.

(Contd. on page 6)

# Safety Data Sheet

## acc. to OSHA HCS (HazCom 2012)

Printing date 11/04/2020

Reviewed on 11/04/2020

Trade name: As 3 Reagent

(Contd. of page 5)

- **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.

- **Information on components:**

CAS 7440-66-6: Did not show teratogenic effects in animal experiments (IUCLID).  
 CAS 7440-66-6: Did not show carcinogenic effects in animal experiments (IUCLID).  
 CAS 7440-66-6: No impairment of reproductive performance in animal experiments (IUCLID).  
 OECD 414: Teratogenicity testing  
 OECD 473: Mutagenicity testing  
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 13472-45-2 sodium tungstate	
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test) (Merck)
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test) (Meck: mouse, male, oral)

## \*12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 7440-66-6 zinc powder - zinc dust (stabilized)	
EC50	0.356 mg/l/48h (Daphnia magna) (Merck)
NOEC	0.169 mg/l/96h (fish) (30d) (Registrant, ECHA: Cottus bairdii)
NOEC	0.0727 mg/l (Daphnia magna) (21 d) (Merck)
EC50	0.106 mg/l/72 h (Pseudokirchneriella subcapitata) (Merck)
LC50	0.238–0.269 mg/l/96h (fathead minnow) (Merck)
CAS: 13472-45-2 sodium tungstate	
NOEC	>9.8 mg/l (zebrafish) (OECD 210; 38 d) (Merck)
EC50	>17.7 mg/l/72 h (Pseudokirchneriella subcapitata) (OECD 201) (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.

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 11/04/2020

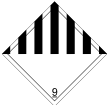

Reviewed on 11/04/2020

Trade name: As 3 Reagent

(Contd. of page 6)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	<p style="margin-left: 20px;">none</p> <p style="margin-left: 20px;">UN3077</p>
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul>	<p style="margin-left: 20px;">none</p> <p style="margin-left: 20px;">ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilized)), MARINE POLLUTANT</p> <p style="margin-left: 20px;">ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilized))</p>
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> <li>· <b>Class</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	<p style="margin-left: 20px;">none</p> <hr style="border-top: 1px dashed #000;"/> <div style="display: flex; align-items: center; gap: 10px;">   </div> <p style="margin-left: 20px;">9 Miscellaneous dangerous substances and articles</p> <p style="margin-left: 20px;">9</p>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	<p style="margin-left: 20px;">9 Miscellaneous dangerous substances and articles</p> <p style="margin-left: 20px;">9</p>
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	<p style="margin-left: 20px;">none</p> <p style="margin-left: 20px;">III</p>
<ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> <li>· <b>Special marking (IATA):</b></li> </ul>	<p style="margin-left: 20px;">Product contains environmentally hazardous substances: zinc powder - zinc dust (stabilized)</p> <p style="margin-left: 20px;">Yes (DOT)</p> <p style="margin-left: 20px;">Symbol (fish and tree)</p> <p style="margin-left: 20px;">Symbol (fish and tree)</p>
<ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> <li>· <b>Hazard identification number (Kemler code):</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Segregation groups</b></li> <li>· <b>Stowage Category</b></li> <li>· <b>Stowage Code</b></li> </ul>	<p style="margin-left: 20px;">Warning: Miscellaneous dangerous substances and articles</p> <p style="margin-left: 20px;">90</p> <p style="margin-left: 20px;">F-A,S-F</p> <p style="margin-left: 20px;">Heavy metals and their salts (including their organometallic compounds)</p> <p style="margin-left: 20px;">A</p> <p style="margin-left: 20px;">SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.</p>
<ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>	<p style="margin-left: 20px;">Not applicable.</p>
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	<p style="margin-left: 20px;">Not dangerous according to the above specifications.</p> <hr style="border-top: 1px dashed #000;"/> <p style="margin-left: 20px;">5 kg</p> <p style="margin-left: 20px;">Code: E1</p> <p style="margin-left: 20px;">Maximum net quantity per inner packaging: 30 g</p> <p style="margin-left: 20px;">Maximum net quantity per outer packaging: 1000 g</p>

US  
(Contd. on page 8)

# Safety Data Sheet

## acc. to OSHA HCS (HazCom 2012)

Printing date 11/04/2020

Reviewed on 11/04/2020

Trade name: As 3 Reagent

(Contd. of page 7)

### \*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):

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: 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)

##### • Pennsylvania Special Hazardous Substance List:

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

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.

- 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

H302 Harmful if swallowed.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

- Date of preparation / last revision 11/04/2020 / 6

#### • 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

(Contd. on page 9)

US



# Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 11/04/2020

Reviewed on 11/04/2020

---

**Trade name: As 3 Reagent**

---

(Contd. of page 8)

- 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
- Acute Tox. 4: Acute toxicity – Category 4
- 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>

RTECS (Registry of Toxic Effects of Chemical Substances )

**• \* Data compared to the previous version altered.**