

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 9 (replaces version 8)

Revision: 14.11.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Product name: As 3 Reagent**

· **Catalog number:** 400730

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

· **Application of the substance / the preparation:** Reagent for water analysis

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

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

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS09

· **Signal word** Warning

· **Hazard statements**

H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P273 Avoid release to the environment.

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

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Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of inorganic compounds.

Dangerous components:

CAS: 7440-66-6 EINECS: 231-175-3 Index No: 030-001-01-9 Reg.nr.: 01-2119467174-37-XXXX	zinc powder - zinc dust (stabilized) ⚠ Aquatic Acute 1, H400 (M=1); Aquatic Chronic 1, H410 (M=1)	25-50%
CAS: 13472-45-2 EINECS: 236-743-4	sodium tungstate ⚠ Acute Tox. 4, H302	1-≤5%

Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Instantly remove any clothing soiled by the product.

After inhalation Supply fresh air; consult doctor in case of symptoms.

After skin contact Instantly wash with water and soap and rinse thoroughly.

After eye contact

Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

In case of symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

after absorption:

gastric or intestinal trouble

sickness

vomiting

cramps

cardiovascular disorders

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

SECTION 5: Firefighting measures

5.1 Extinguishing media**Suitable extinguishing agents**

Special powder for metal fires.

Sand

For safety reasons unsuitable extinguishing agents

Water

Foam

5.2 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

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

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Additional information

- Collect contaminated fire fighting water separately. It must not enter drains.
- Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
- Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel:

- Wear protective equipment. Keep unprotected persons away.
- Ensure adequate ventilation
- Avoid breathing dust.

Advice for emergency responders: Protective equipment: see section 8

6.2 Environmental precautions:

- Do not allow product to reach sewage system or water bodies.
- Inform respective authorities in case product reaches water or sewage system.

6.3 Methods and material for containment and cleaning up:

- Ensure adequate ventilation.
- Collect mechanically.
- Dispose of contaminated material as waste according to item 13.

6.4 Reference to other sections

- See Section 8 for information on personal protection equipment.
- See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling: No special precautions necessary if used correctly.

Hygiene measures:

- Take off immediately all contaminated clothing.
- Wash hands during breaks and at the end of the work.
- Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and containers: Store in cool location.

Information about storage in one common storage facility:

- Store away from flammable substances.
- Store away from water.

Further information about storage conditions:

- Protect from heat and direct sunlight.
- Store in cool, dry conditions in well sealed containers.
- Protect from the effects of light.
- Protect from humidity and keep away from water.
- This product is hygroscopic.

Recommended storage temperature: 20°C +/- 5°C

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Components with limit values that require monitoring at the workplace:
CAS: 13472-45-2 sodium tungstate

WEL (Great Britain)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³ as W
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Regulatory information WEL (Great Britain): EH40/2020

Recommended monitoring procedures:

- Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

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- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.
- **Individual protection measures, such as personal protective equipment**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**
Safety glasses
use against the effects of fumes / dust
Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.
- **Hand protection**
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**
Breakthrough time: > 480 min
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P1
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Solid.
- **Form:** Powder
- **Colour:** Grey
- **Odour:** Odourless
- **Odour threshold:** Not applicable.
- **Melting point/Freezing point:** Not determined.
- **Boiling point or initial boiling point and boiling range** 908°C (CAS: 7440-66-6 zinc powder - zinc dust (stabilized))
- **Flammability** Not determined.
- **Explosive properties:** The product is not capable of dust explosion in the form supplied; enrichment with fine dust causes risk of dust explosion
- **Lower and upper explosion limit**
- **Lower:** Not determined.
- **Upper:** Not determined.
- **Flash point:** Not applicable (solid).
- **Auto-ignition temperature:** Not applicable (solid).
- **Decomposition temperature:** Not determined.
- **pH** Not determined.
- **Kinematic viscosity** Not applicable (solid).
- **Solubility**
- **Water:** Partly soluble
- **Partition coefficient n-octanol/water (log value)** Not applicable (mixture).
- **Vapour pressure:** Not applicable (solid).
- **Density and/or relative density**
- **Density:** Not determined.
- **Relative density:** Not determined.
- **Relative gas density** Not applicable (solid).
- **Particle characteristics** Not determined.

· 9.2 Other information

- **Information with regard to physical hazard classes**
- **Corrosive to metals** Void

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· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	100 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
Risk of dust explosion
Dust can combine with air to form an explosive mixture.
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Reacts with moist air
Reacts with acids, alkalis and oxidizing agents
Reacts with peroxides
Reacts with halogenated compounds
Develops readily flammable gases / fumes
- **10.4 Conditions to avoid** Exposure to moisture.
- **10.5 Incompatible materials:** combustible substances
- **10.6 Hazardous decomposition products:**
Hydrogen
(with water)
In case of fire: see section 5.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· Acute toxicity estimate (ATE_(MX)) - Calculation method:		
Oral	CLP ATE _(MX)	>2000 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)
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.)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** 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)

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· Information on components:		
CAS: 13472-45-2 sodium tungstate		
Sensitisation	OECD 406	(guinea pig: negative) (Merck)

- **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.

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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 473	(negative) (Mammalian Chromosomal Aberration Test) (Chinese hamster; ovary cells)
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test) (Meck: mouse, male, oral)

- **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.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **Other information**
According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:****CAS: 7440-66-6 zinc powder - zinc dust (stabilized)**

EC50	0.356 mg/l/48h (Daphnia magna) (US-EPA)
NOEC	0.169 mg/l/96h (fish) (30d) (Registrant, ECHA: Cottus bairdii)
NOEC	0.0727 mg/l (Daphnia magna) (21 d) (ECHA, Registrant)
EC50	0.106 mg/l/72h (Pseudokirchneriella subcapitata) (Merck)
LC50	0.238–0.269 mg/l/96h (fathhead minnow) (Merck)

CAS: 13472-45-2 sodium tungstate

NOEC	>9.8 mg/l (zebrafish) (OECD 210; 38 d) (Merck)
EC50	>17.7 mg/l/72h (Pseudokirchneriella subcapitata) (OECD 201) (Merck)

Other information:

Toxic for fish:
Zn > 0.1 mg/l

12.2 Persistence and degradability .**Other information:**

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

12.3 Bioaccumulative potential No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.**12.7 Other adverse effects** Avoid transfer into the environment.

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Water hazard:

Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods**Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.

European waste catalogue

16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances
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Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN number or ID number

ADR, IMDG, IATA UN3077

14.2 UN proper shipping name

ADR 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilized))
IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilized)), MARINE POLLUTANT
IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc powder - zinc dust (stabilized))

14.3 Transport hazard class(es)**ADR**

Class 9 (M7) Miscellaneous dangerous substances and articles.
Label 9

IMDG, IATA

Class 9 Miscellaneous dangerous substances and articles.
Label 9

14.4 Packing group

ADR, IMDG, IATA III

14.5 Environmental hazards:

Product contains environmentally hazardous substances: zinc powder - zinc dust (stabilized)
Marine pollutant: Symbol (fish and tree)
Special marking (ADR): Symbol (fish and tree)
Special marking (IATA): Symbol (fish and tree)

14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles.
Kemler Number: 90
EMS Number: F-A,S-F
Segregation groups (SGG7) Heavy metals and their salts (including their organometallic compounds)
Stowage Category A

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· Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· 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
· Transport category	3
· Tunnel restriction code	E
· 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

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

· Poisons Act UK

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category E1** Hazardous to the Aquatic Environment

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- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
 - **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
 - **Information about limitation of use:** Not required.
 - **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.
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* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

- **Training hints** Provide adequate information, instruction and training for operators.
 - **Relevant phrases**
 H302 Harmful if swallowed.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 - **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
 ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 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
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 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.**
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