

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

Printing date 06/28/2024

Reviewed on 06/28/2024

1 Identification

- **Product identifier**
- **Trade name: Nitrite No.2**
- **Catalogue number:** 00515211, 515210BT, 515211BT, 00515219BT, 505211, 4515210BT, 4515211BT, 00505211
- **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 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure 2

H373 May cause damage to the brain through prolonged or repeated exposure. Route of exposure: Inhalation.



GHS09 Environment

Aquatic Chronic 2

H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

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



GHS09

- **Signal word** Warning

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

potassium permanganate

- **Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to the brain through prolonged or repeated exposure. Route of exposure: Inhalation.

H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection.
- P273 Avoid release to the environment.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P302+P352 If on skin: Wash with plenty of water.
- P308+P311 IF exposed or concerned: Call a poison center/doctor.
- P405 Store locked up.

• **Other hazards** No further relevant information available.

* 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: 9004-34-6 EINECS: 232-674-9 RTECS: FJ5691460	cellulose	2.5–5%
CAS: 7722-64-7 EINECS: 231-760-3 Index number: 025-002-00-9 RTECS: SD 6475000	potassium permanganate ⚠ Oxidizing Solids 2, H272; ⚠ Toxic to Reproduction 2, H361; Specific Target Organ Toxicity - Repeated Exposure 2, H373; ⚠ Skin Corrosion 1C, H314; ⚠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10); ⚠ Acute Toxicity - Oral 4, H302	1–<2.5%

• **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 rinse with plenty of water.
If skin irritation continues, consult a doctor.
- **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.
If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed**
irritations
after swallowing of large amounts:
gastric or intestinal disorders
sickness
vomiting
cardiovascular disorders
- **Danger:** Danger of disturbed cardiac rhythm.
- **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.

In case of fire, the following can be released:

Hydrogen chloride (HCl)

Potassium oxide

Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

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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.

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:**

Do not store together with acids.

Store away from oxidizing agents.

- **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.

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

CAS: 9004-34-6 cellulose

PEL (USA)	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction

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TLV (USA)	Long-term value: 10 mg/m ³
EL (Canada)	Long-term value: 10* 3** mg/m ³ *total dust, **respirable fraction
EV (Canada)	Long-term value: 10 mg/m ³ paper fibre, total dust
CAS: 7722-64-7 potassium permanganate	
PEL (USA)	Ceiling limit value: 5 mg/m ³ as Mn
REL (USA)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³ as Mn
TLV (USA)	Long-term value: 0.02* 0.1** mg/m ³ as Mn; A4, *respirable **inhalable fraction
EL (Canada)	Long-term value: 0.2; 0.02* mg/m ³ as Mn; R, *respirable

· **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:**

Under normal use conditions according to the instruction manual no personal protective equipment is needed.

If exposure limits are exceeded or health impacts are experienced use respiratory protective device against the effects of fume/dust/aerosol.

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:**

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:**

Tablets

· **Color:**

Brown

· **Odor:**

Odorless

· **Odor threshold:**

Not applicable.

· **pH-value (2.6 g/l) at 20°C (68°F):**

9.1

· **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.

· **Auto igniting:**

Not applicable (solid).

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· 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 applicable.
· Density at 20°C (68°F):	~ 2 g/cm ³ (~ 16.69 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility(ies)	
· Water:	Partially insoluble.
· Partition coefficient (n-octanol/water):	Not applicable (mixture).
· Viscosity:	Not applicable.
· Kinematic:	Not applicable (solid).
· Other information	
· Solids content:	100 %
· Information with regard to physical hazard classes	
· Corrosive to metals	Based on available data, the classification criteria are not met.

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 acids.
 - Reacts with oxidizing agents.
 - > Forms heat.
 - Reacts with ammonia (NH₃).
- **Conditions to avoid** Strong heating (decomposition)
- **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:**
 - The following statements refer to the individual components.

CAS: 9004-34-6 cellulose		
Oral	LD50.	>5000 mg/kg (rat)
Dermal	LD50.	>2000 mg/kg (rabbit) (RTECS, limit test)
Inhalative	LC50/4h	>5.8 mg/l /4h (rat)
CAS: 7722-64-7 potassium permanganate		
Oral	LD50	750 mg/kg (rat) (RTECS)
	LDLo	100 mg/kg (human) (IUCLID)
Dermal	LD50.	>2000 mg/kg (rat) (OECD 402) (ECHA; no death of animals at this concentration, limit test)

- **Primary irritant effect:**
- **on the skin:** Causes skin irritation.
- **on the eye:** Causes serious eye irritation.

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Risk of corneal clouding.

Information on components:		
CAS: 9004-34-6 cellulose		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 492	(rabbit: no irritation)
CAS: 7722-64-7 potassium permanganate		
Irritation of skin	OECD 404	(rabbit: burns) (Merck / Burns after prolonged exposure.)

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

Information on components:		
CAS: 9004-34-6 cellulose		
Sensitization	OECD 406	(guinea pig: negative)
CAS: 7722-64-7 potassium permanganate		
Sensitization	OECD 406	(guinea pig: negative)

· **Carcinogenic categories**

IARC (International Agency for Research on Cancer)		
CAS: 999-99-9	one or more ingredient(s) Group 3: Not classifiable as to carcinogenicity to humans	100

· **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 (carcinogenity, mutagenicity and toxicity for reproduction):**

The following statements refer to the mixture:

Toxic to Reproduction 2

· **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** Suspected of damaging 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**

May cause damage to the brain through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

Information on components:		
CAS: 7722-64-7 potassium permanganate		
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (Escherichia col i/ Salmonella typhimurium)	
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test)	
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test) (Merck: rat, male and female, oral, bone marrow)	

· **Additional toxicological information:**

CAS: 7722-64-7 potassium permanganate

(source: GESTIS)

Main toxic effects:

Acute: caustic effect on skin and mucous membranes, risk of serious damage to eyes

chronic: in animal experiments, changes in clinical-chemical and blood counts (as a result of liver and kidney damage),

indications of neurotoxic effects

general systemic effects of manganese ions: damage to the central nervous system

Further information:

In the event of contact with the crystalline substance or concentrated solution, there is a risk of severe chemical burns and possibly irreversible eye damage. Even very diluted solutions of K. can cause violet to black discoloration of the eyes, which is reversible after a few days.

Areas of skin that have come into contact with K. are discolored brown due to the formation of poorly soluble manganese(IV) oxide.

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12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 7722-64-7 potassium permanganate

EC50	0.056 mg/l/48h (Daphnia magna) (ECOTOX)
EC50	0.41 mg/l/72h (Algeal toxicity) (ECOTOX)
LC50	0.1 mg/l/96h (fish) (Ictalurus catus / ECOTOX)

- **Other information:**

The following applies to manganese ions: toxic to water organisms.
In flowing waters, depending on the mixture, moderate to high toxic effect.

- **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: 7722-64-7 potassium permanganate

log Pow	-1.73 (.) (calculated) (Merck)
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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.

14 Transport information

- **UN-Number**

· DOT	none
· IMDG, IATA	UN3077

- **UN proper shipping name**

· DOT	none
· IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (POTASSIUM PERMANGANATE), MARINE POLLUTANT
· IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (POTASSIUM PERMANGANATE)

- **Transport hazard class(es)**

· DOT	
· Class	none

- **IMDG, IATA**



· Class	9 Miscellaneous dangerous substances and articles
· Label	9

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· Packing group	
· DOT	none
· IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: potassium permanganate
· Marine pollutant:	Symbol (fish and tree)
· Special marking (IATA):	Symbol (fish and tree)
· Special precautions for user	Warning: Miscellaneous dangerous substances and articles
· Hazard identification number (Kemler code):	90
· EMS Number:	F-A,S-F
· Segregation groups	(SGG14) Permanganates
· 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: 7722-64-7 potassium permanganate
· TSCA (Toxic Substances Control Act):	All components have the value ACTIVE.
· Hazardous Air Pollutants	CAS: 7722-64-7 potassium permanganate
· 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: 9004-34-6 cellulose CAS: 7722-64-7 potassium permanganate
· New Jersey Special Hazardous Substance List:	None of the ingredients is listed.
· Pennsylvania Right-to-Know List:	CAS: 9004-34-6 cellulose CAS: 7722-64-7 potassium permanganate

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· Pennsylvania Special Hazardous Substance List:	
CAS: 7722-64-7	potassium permanganate E
· EPA (Environmental Protection Agency)	
CAS: 7722-64-7	potassium permanganate D
· 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**

H272 May intensify fire; oxidizer.
 H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H361 Suspected of damaging fertility or the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.

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

· **Version number / date of revision:** 27 / 06/28/2024

· **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
 Oxidizing Solids 2: Oxidizing solids – Category 2
 Acute Toxicity - Oral 4: Acute toxicity – Category 4
 Skin Corrosion 1C: Skin corrosion/irritation – Category 1C
 Skin Irritation 2: Skin corrosion/irritation – Category 2
 Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
 Toxic to Reproduction 2: Reproductive toxicity – Category 2
 Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Sources

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

ECOTOX Database

IUCLID (International Uniform Chemical Information Database)

RTECS (Registry of Toxic Effects of Chemical Substances)

· * Data compared to the previous version altered.

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