

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

Printing date 07/24/2024

Reviewed on 07/24/2024

1 Identification

- **Product identifier**
- **Trade name: Hydrogen Peroxide LR Titrant HP3**
- **Catalogue number:** 56Z649698, 56L6496, 56L649630, 56L649665, 56U649630, 56U649665, SDT053
- **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**
Aquatic Chronic 3 H412 Harmful 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** none
- **Signal word** none
- **Hazard statements**
H412 Harmful 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:** aqueous solution
- **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

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	0.025--<0.1%
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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.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 07/24/2024

Reviewed on 07/24/2024

Trade name: Hydrogen Peroxide LR Titrant HP3

(Contd. of page 1)

If symptoms persist consult doctor.

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **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.
 - 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.
 - Absorb with liquid-binding material (sand, diatomite, universal binders).
 - 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:**
 - 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:** Not required.
- **Further information about storage conditions:**
 - 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.

US
(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 07/24/2024

Reviewed on 07/24/2024

Trade name: Hydrogen Peroxide LR Titrant HP3

(Contd. of page 2)

8 Exposure controls/personal protection

- Control parameters

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

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:** Use suitable respiratory protective device only when aerosol or mist is formed.

- 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

- 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.

* 9 Physical and chemical properties

- Information on basic physical and chemical properties

- Appearance:**

- Form / Physical state:**

Liquid

- Color:**

Pink

- Odor:**

Odorless

- Odor threshold:**

Not applicable.

- pH-value:**

Neutral

- Melting point/freezing point:**

0°C (32°F)

- Initial boiling point and boiling range:**

100°C (212°F) (CAS: 7732-18-5 water)

- Flash point:**

Not applicable.

- Flammability (solid, gas):**

The product is not combustible.

- 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.

- Flammability or explosive limits:**

Lower:

Not applicable.

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 07/24/2024

Reviewed on 07/24/2024

Trade name: Hydrogen Peroxide LR Titrant HP3

(Contd. of page 3)

Upper:	Not applicable.
· Oxidizing properties:	none
· Vapor Pressure:	Not determined.
· Density at 20°C (68°F):	~1 g/cm ³ (~8.35 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:	< 0.1 %
· Solvent content:	
· Organic solvents:	0 %
· Water:	> 99.9 %
· 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**
Violent reactions possible with:
The generally known reaction partners of water.
- **Conditions to avoid** No further relevant information available.
- **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:		
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:** 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: 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: 7722-64-7 potassium permanganate		
Sensitization	OECD 406	(guinea pig: negative)

(Contd. on page 5)

— US —

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 07/24/2024

Reviewed on 07/24/2024

Trade name: Hydrogen Peroxide LR Titrant HP3

(Contd. of page 4)

· 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.

· Information on components:

OECD 414: Teratogenicity testing

OECD 473: Mutagenicity testing

OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 7722-64-7 potassium permanganate

OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)
(Escherichia coli / 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.

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 (Algal toxicity)
(ECOTOX)

LC50 0.1 mg/l/96h (fish)
(Ictalurus catus / ECOTOX)

· Persistence and degradability .

· Other information:

Mixture of inorganic compounds.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 07/24/2024

Reviewed on 07/24/2024

Trade name: Hydrogen Peroxide LR Titrant HP3

(Contd. of page 5)

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: 7722-64-7 potassium permanganate	
log Pow	-1.73 (.) (calculated) (Merck)

- **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

<ul style="list-style-type: none"> · UN-Number · DOT, IMDG, IATA 	none
<ul style="list-style-type: none"> · UN proper shipping name · DOT, IMDG, IATA 	none
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT, IMDG, IATA · Class 	none
<ul style="list-style-type: none"> · Packing group · DOT, IMDG, IATA 	none
<ul style="list-style-type: none"> · Environmental hazards: 	Not applicable.
<ul style="list-style-type: none"> · Special precautions for user 	Not applicable.
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · 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**

CAS: 7722-64-7 | potassium permanganate

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 07/24/2024

Reviewed on 07/24/2024

Trade name: Hydrogen Peroxide LR Titrant HP3

(Contd. of page 6)

· 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: 7722-64-7	potassium permanganate	
· New Jersey Special Hazardous Substance List:		
None of the ingredients is listed.		
· Pennsylvania Right-to-Know List:		
CAS: 7722-64-7	potassium permanganate	
· 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:** 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

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.

· **Version number / date of revision:** 2 / 07/24/2024

· 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

(Contd. on page 8)

— US —

Safety Data Sheet

acc. to OSHA HCS (HazCom 2012)

Printing date 07/24/2024

Reviewed on 07/24/2024

Trade name: Hydrogen Peroxide LR Titrant HP3

(Contd. of page 7)

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
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
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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

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

US
