

Version: v1  
Revision Date: 2023-07-  
18  
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## SAFETY DATA SHEET

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

#### 1.1 Product identifiers

Product name : Potassium permanganate  
Product Number : P399509  
Brand : aladdin  
CAS-No. : 7722-64-7

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

Identified uses : It is only for scientific research purposes, not for medicine, family standby medicine or other purposes.

#### 1.3 Details of the supplier of the safety data sheet

Company : Shanghai Aladdin Biochemical Tech Co.,Ltd  
Address : 36 Xinjinqiao Road, Shanghai  
Telephone : 400-620-6333  
Fax : no data available

#### 1.4 Emergency telephone number

Emergency Phone : 0532-83889090

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing solids (Category 2), H272

Acute toxicity, Oral (Category 4), H302

Skin corrosion (Category 1), H314

Serious eye damage (Category 1), H318

Reproductive toxicity (Category 2), H361d

Specific target organ toxicity - repeated exposure, Inhalation (Category 2), Brain, H373

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 1), H410

#### 2.2 GHS Label elements, including precautionary statements

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**Pictogram**  
**Signal word**  
**Hazard statement(s)**

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	Causes damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P202	Do not handle until all safety precautions have been read and understood.
P220	Keep away from clothing and other combustible materials.
P221	Take any precaution to avoid mixing with combustibles/...
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...) thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P370+P378	In case of fire: Use ... to extinguish.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.
P301+P312+P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS**

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

Synonyms	: Permanganic acid, potassium salt
Formula	: KMnO <sub>4</sub>

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Molecular weight : 158.03  
CAS No. : 7722-64-7  
EC-NO. : 231-760-3

Component	Classification	Concentration
<b>Potassium permanganate</b>	Ox. Sol. 2; Acute Tox. 4; Skin Corr. 1; Eye Dam. 1; Repr. 2; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H272, H302, H314, H318, H361d, H373, H400, H410 M-Factor - Aquatic Acute: 10 M-Factor - Aquatic Chronic: 10	BioUltra, ≥99.0% (RT)

#### SECTION 4: First aid measures

##### 4.1 Description of first aid measures

###### **General advice**

Consult a physician. Show this material safety data sheet to the doctor in attendance.

###### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

###### **In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

###### **In case of eye contact**

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

###### **If swallowed**

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

no data available

##### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

#### SECTION 5: Firefighting measures

##### 5.1 Extinguishing media

###### **Suitable extinguishing media**

Use water mist, dry powder, foam or carbon dioxide extinguishing agent to extinguish fire.

###### **Unsuitable extinguishing media**

Avoid using direct current water to extinguish the fire. Direct current water may cause the splash of combustible liquid and spread the fire.

##### 5.2 Special hazards arising from the substance or mixture

Potassium oxides. Manganese/manganese oxides. Not combustible. Has a fire-promoting effect due to release of oxygen. Ambient fire may liberate hazardous vapours.

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**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information**

Use water spray to cool unopened containers.

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**SECTION 6: Accidental release measures**

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

**6.4 Reference to other sections**

For disposal see section 13.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Work under hood. Do not inhale substance/mixture. Keep away from open flames, hot surfaces and sources of ignition. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**7.2 Conditions for safe storage, including any incompatibilities**

Tightly closed. Do not store near combustible materials.

**7.3 Specific end use(s)**

no data available

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**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

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Component	CAS No.	value	Control parameter	foundation
Potassium permanganate	7722-64-7	PC-TWA 0.15 mg/m <sup>3</sup>		Occupational exposure limits for hazardous factors in the workplace - chemical hazardous factors

## 8.2 Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

#### Skin protection

The gloves must be checked before use. Please use the correct method to remove the gloves (do not touch the outer surface of the gloves), and avoid any skin parts contacting the product. After use, please handle contaminated gloves carefully in accordance with relevant laws and regulations and effective laboratory procedures and procedures.

Please clean and dry the protective gloves selected for your hands, which must comply with the specifications given in Regulation (EU) 2016/425 and the EN 374 standard derived therefrom.

#### Body Protection

Impermeable clothing, flame-retardant and anti-static protective clothing, and the type of protective equipment must be selected according to the concentration and content of the dangerous substance in the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	form: Crystals color: almost black, metallic violet to blue-green
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	no data available
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available

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k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

## 9.2 Other safety information

no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

When potassium permanganate solution comes into contact with benzene, carbon disulfide, ethanol, crude oil, oil, glycerol or other organic substances, it will explode. Contact with concentrated hydrogen peroxide will explode. Potassium permanganate will explode in contact with acetic acid or acetic anhydride. When contacting or mixing with reducing agents and combustibles such as sulfur and phosphorus, there is a risk of combustion and explosion.

### 10.4 Conditions to avoid

Electrostatic discharge, heat, humidity, etc.

### 10.5 Incompatible materials

Strong reducing agents, Powdered metals, Peroxides, Zinc, Copper, Alcohols, Hydrogen fluoride, Acids, Sulfuric acid.

### 10.6 Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 750 mg/kg

Remarks: (RTECS)

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LD50 Dermal - Rat - male and female - > 2.000 mg/kg

(OECD Test Guideline 402)

**Skin corrosion/irritation**

Skin - Rabbit Result: Corrosive after 4 hours or less of exposure (OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitisation**

Maximization Test - Guinea pig Result: negative (OECD Test Guideline 406)

**Germ cell mutagenicity**

Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: In vivo micronucleus test Species: Rat Cell type: Bone marrow Application Route: Oral Method: OECD Test Guideline 474 Result: negative

**Carcinogenicity**

no data available

**Reproductive toxicity**

Suspected of damaging the unborn child.

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

Inhalation - May cause damage to organs through prolonged or repeated exposure. - Brain

**Aspiration hazard**

no data available

**Additional Information**

RTECS: SD6475000

Contact with skin can cause: Edema, Necrosis, Effects due to ingestion may include: methemoglobinemia, psychological disturbances, Vomiting, Nausea, Diarrhea.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**SECTION 12: Ecological information**

**12.1      Toxicity**

Toxicity to fish    semi-static test LC50 - Poecilia reticulata (guppy) - 0.47 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates    semi-static test EC50 - Daphnia magna (Water flea) - 0.06 mg/l - 48h

(OECD Test Guideline 202)

Toxicity to algae    static test ErC50 - Desmodesmus subspicatus (green algae) - 0.8mg/l - 72 h

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(OECD Test Guideline 201)

static test NOEC - *Desmodesmus subspicatus* (green algae) - 0.32

mg/l - 72 h

(OECD Test Guideline 201)

Toxicity to bacteria static test EC50 - activated sludge - 164 mg/l - 180 min

(OECD Test Guideline 209)

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

Very toxic to aquatic life with long lasting effects.

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**SECTION 13:**

**13.1 Disposal considerations**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Return the container to the manufacturer or dispose of it in accordance with national and local regulations.

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**SECTION 14: Transport information**

**DOT (US)**

UN number: 1490

Packing group: II

Class: 5.1

Proper shipping name: POTASSIUM  
PERMANGANATE

Reportable Quantity(RQ): no data available

Poison Inhalation Hazard: no data

Environmental Hazards: Yes

**IMDG**

UN number: 1490

Packing group: II

EMS-No: no data available

Proper shipping name: POTASSIUM PERMANGANATE

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**IATA**

UN number: 1490

Packing group: II

Class: 5.1

Proper shipping name: POTASSIUM PERMANGANATE

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**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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**SECTION 16: Other information**

**Further information**

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