

## SAFETY DATA SHEET

Creation Date 23-Oct-2009

Revision Date 26-Dec-2021

Revision Number 10

### 1. Identification

**Product Name** Potassium permanganate

**Cat No. :** AC424170000; AC424170025; AC424170250; AC424175000

**CAS No** 7722-64-7

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

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

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

**Emergency Telephone Number** For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|   |              |
|---|--------------|
| Oxidizing solids  | Category 2   |
| Acute oral toxicity   | Category 4   |
| Skin Corrosion/Irritation   | Category 1 C |
| Serious Eye Damage/Eye Irritation                                 | Category 1   |
| Reproductive Toxicity   | Category 2   |
| Specific target organ toxicity (single exposure)                  | Category 3   |
| Target Organs - Respiratory system, Central nervous system (CNS). |              |
| Specific target organ toxicity - (repeated exposure)              | Category 2   |
| Target Organs - Brain.  |              |

#### Label Elements

**Signal Word**  
Danger

**Hazard Statements**

May intensify fire; oxidizer  
 Harmful if swallowed  
 Causes severe skin burns and eye damage  
 May cause respiratory irritation  
 Suspected of damaging the unborn child  
 May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep/Store away from clothing/ other combustible materials  
 Take any precaution to avoid mixing with combustibles

**Response**

Immediately call a POISON CENTER or doctor/physician

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Ingestion**

Rinse mouth  
 Do NOT induce vomiting

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Very toxic to aquatic life with long lasting effects

### 3. Composition/Information on Ingredients

| Component              | CAS No    | Weight % |
|------------------------|-----------|----------|
| Potassium permanganate | 7722-64-7 | >95      |

#### 4. First-aid measures

|  |  |
|--|--|
| <b>General Advice</b>                      | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.  |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.  |
| <b>Skin Contact</b>                        | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.  |
| <b>Inhalation</b>                          | Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. |
| <b>Ingestion</b>                           | Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.   |
| <b>Most important symptoms and effects</b> | Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation  |
| <b>Notes to Physician</b>                  | Treat symptomatically  |

#### 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>     | CO <sub>2</sub> , dry chemical, dry sand, alcohol-resistant foam. |
| <b>Unsuitable Extinguishing Media</b>   | No information available  |
| <b>Flash Point</b>                      | No information available  |
| <b>Method -</b>                         | No information available  |
| <b>Autoignition Temperature</b>         | Not applicable  |
| <b>Explosion Limits</b>                 |   |
| <b>Upper</b>                            | No data available   |
| <b>Lower</b>                            | No data available   |
| <b>Oxidizing Properties</b>             | Oxidizer  |
| <b>Sensitivity to Mechanical Impact</b> | No information available  |
| <b>Sensitivity to Static Discharge</b>  | No information available  |

#### Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.). Do not allow run-off from fire-fighting to enter drains or water courses.

#### Hazardous Combustion Products

Heavy metal oxides. Potassium oxides.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

#### NFPA

**Health**  
3

**Flammability**  
0

**Instability**  
2

**Physical hazards**  
OX

#### 6. Accidental release measures

|   |  |
|---|--|
| <b>Personal Precautions</b>                 | Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.  |
| <b>Environmental Precautions</b>            | Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment. |
| <b>Methods for Containment and Clean Up</b> | Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.   |

## 7. Handling and storage

|                 |   |
|-----------------|---|
| <b>Handling</b> | Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from clothing and other combustible materials. |
| <b>Storage.</b> | Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Do not store near combustible materials. Incompatible Materials. Reducing Agent. Strong acids. Strong reducing agents. Combustible material.  |

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component              | ACGIH TLV   | OSHA PEL   | NIOSH IDLH   | Mexico OEL (TWA)           |
|------------------------|---|--|--|----------------------------|
| Potassium permanganate | TWA: 0.02 mg/m <sup>3</sup><br>TWA: 0.1 mg/m <sup>3</sup> | (Vacated) Ceiling: 5 mg/m <sup>3</sup><br>Ceiling: 5 mg/m <sup>3</sup> | IDLH: 500 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup><br>STEL: 3 mg/m <sup>3</sup> | TWA: 0.2 mg/m <sup>3</sup> |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

|                             |   |
|-----------------------------|---|
| <b>Engineering Measures</b> | Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. |
|-----------------------------|---|

### Personal Protective Equipment

|                                 |   |
|---------------------------------|---|
| <b>Eye/face Protection</b>      | Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.   |
| <b>Skin and body protection</b> | Wear appropriate protective gloves and clothing to prevent skin exposure.   |
| <b>Respiratory Protection</b>   | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| <b>Hygiene Measures</b>         | Handle in accordance with good industrial hygiene and safety practice.  |

## 9. Physical and chemical properties

|                       |                          |
|-----------------------|--------------------------|
| <b>Physical State</b> | Solid Powder             |
| <b>Appearance</b>     | Dark brown               |
| <b>Odor</b>           | Odorless                 |
| <b>Odor Threshold</b> | No information available |
| <b>pH</b>             | 8 (16 g/l @ 20°C)        |

|   |                          |
|---|--------------------------|
| <b>Melting Point/Range</b>                    | 240 °C / 464 °F          |
| <b>Boiling Point/Range</b>                    | No information available |
| <b>Flash Point</b>                            | No information available |
| <b>Evaporation Rate</b>                       | Not applicable           |
| <b>Flammability (solid,gas)</b>               | No information available |
| <b>Flammability or explosive limits</b>       |                          |
| <b>Upper</b>                                  | No data available        |
| <b>Lower</b>                                  | No data available        |
| <b>Vapor Pressure</b>                         | No information available |
| <b>Vapor Density</b>                          | Not applicable           |
| <b>Specific Gravity</b>                       | No information available |
| <b>Solubility</b>                             | Soluble in water         |
| <b>Partition coefficient; n-octanol/water</b> | No data available        |
| <b>Autoignition Temperature</b>               | Not applicable           |
| <b>Decomposition Temperature</b>              | 240 °C                   |
| <b>Viscosity</b>                              | Not applicable           |
| <b>Molecular Formula</b>                      | K Mn O4                  |
| <b>Molecular Weight</b>                       | 158.04                   |

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactive Hazard</b>                  | Yes   |
| <b>Stability</b>                        | Stable under normal conditions. Oxidizer: Contact with combustible/organic material may cause fire. |
| <b>Conditions to Avoid</b>              | Incompatible products. Excess heat. Combustible material.   |
| <b>Incompatible Materials</b>           | Reducing Agent, Strong acids, Strong reducing agents, Combustible material                          |
| <b>Hazardous Decomposition Products</b> | Heavy metal oxides, Potassium oxides  |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

#### Product Information

**Oral LD50** Category 4.

#### Component Information

| Component              | LD50 Oral                | LD50 Dermal               | LC50 Inhalation |
|------------------------|--------------------------|---------------------------|-----------------|
| Potassium permanganate | LD50 = 750 mg/kg ( Rat ) | LD50 > 2000 mg/kg ( Rat ) | Not listed      |

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Causes severe irritation and or burns

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component              | CAS No    | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|------------------------|-----------|------------|------------|------------|------------|------------|
| Potassium permanganate | 7722-64-7 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

|  |  |
|--|--|
| <b>Reproductive Effects</b>                                      | Possible risk of harm to the unborn child.   |
| <b>Developmental Effects</b>                                     | No information available.  |
| <b>Teratogenicity</b>  | No information available.  |
| <b>STOT - single exposure</b><br><b>STOT - repeated exposure</b> | Respiratory system Central nervous system (CNS)<br>Brain   |
| <b>Aspiration hazard</b>   | No information available   |
| <b>Symptoms / effects, both acute and delayed</b>                | Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |
| <b>Endocrine Disruptor Information</b>                           | No information available   |
| <b>Other Adverse Effects</b>                                     | The toxicological properties have not been fully investigated.   |

## 12. Ecological information

### Ecotoxicity

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

| Component              | Freshwater Algae   | Freshwater Fish  | Microtox   | Water Flea |
|------------------------|--------------------|--|------------|------------|
| Potassium permanganate | 0.41 mg/l/72h EC50 | 2.97-3.11 mg/L LC50 96 h<br>3.16-3.77 mg/L LC50 96 h<br>3.3-3.93 mg/L LC50 96 h<br>2.3 mg/L LC50 96 h<br>0.769-1.27 mg/L LC50 96 h<br>1.08-1.38 mg/L LC50 96 h<br>1.8-5.6 mg/L LC50 96 h<br>2.7 mg/L LC50 96 h | Not listed | Not listed |

**Persistence and Degradability** May persist based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

| Component              | log Pow |
|------------------------|---------|
| Potassium permanganate | -1.73   |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

|                             |                        |
|-----------------------------|------------------------|
| <b>UN-No</b>                | UN1490                 |
| <b>Proper Shipping Name</b> | POTASSIUM PERMANGANATE |
| <b>Hazard Class</b>         | 5.1                    |
| <b>Packing Group</b>        | II                     |

### TDG

|                             |                        |
|-----------------------------|------------------------|
| <b>UN-No</b>                | UN1490                 |
| <b>Proper Shipping Name</b> | POTASSIUM PERMANGANATE |
| <b>Hazard Class</b>         | 5.1                    |
| <b>Packing Group</b>        | II                     |

### IATA

|                             |                        |
|-----------------------------|------------------------|
| <b>UN-No</b>                | UN1490                 |
| <b>Proper Shipping Name</b> | POTASSIUM PERMANGANATE |
| <b>Hazard Class</b>         | 5.1                    |
| <b>Packing Group</b>        | II                     |
| <b>IMDG/IMO</b>             |                        |
| <b>UN-No</b>                | UN1490                 |
| <b>Proper Shipping Name</b> | POTASSIUM PERMANGANATE |
| <b>Hazard Class</b>         | 5.1                    |
| <b>Packing Group</b>        | II                     |

## 15. Regulatory information

### United States of America Inventory

| Component              | CAS No    | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|------------------------|-----------|------|---|-----------------------------|
| Potassium permanganate | 7722-64-7 | X    | ACTIVE  | -                           |

#### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export      Not applicable

### International Inventories

X = listed.

| Component              | CAS No    | DSL | NDSL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|------------------------|-----------|-----|------|-----------|-------|------|------|------|-------|----------|
| Potassium permanganate | 7722-64-7 | X   | -    | 231-760-3 | X     | X    | X    | X    | X     | KE-29180 |

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

| Component              | CAS No    | Weight % | SARA 313 - Threshold Values % |
|------------------------|-----------|----------|-------------------------------|
| Potassium permanganate | 7722-64-7 | >95      | 1.0                           |

**SARA 311/312 Hazard Categories**      See section 2 for more information

#### CWA (Clean Water Act)

| Component              | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|------------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Potassium permanganate | X                          | 100 lb                      | -                      | -                         |

#### Clean Air Act

| Component              | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|------------------------|-----------|-------------------------|-------------------------|
| Potassium permanganate | X         |                         | -                       |

**OSHA** - Occupational Safety and Health Administration      Not applicable

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component              | Hazardous Substances RQs | CERCLA EHS RQs |
|------------------------|--------------------------|----------------|
| Potassium permanganate | 100 lb                   | -              |

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Component              | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|------------------------|---------------|------------|--------------|----------|--------------|
| Potassium permanganate | X             | X          | X            | X        | X            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product contains the following DHS chemicals:

**Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

| Component              | DHS Chemical Facility Anti-Terrorism Standard |
|------------------------|---|
| Potassium permanganate | Theft STQs - 400lb                            |

**Other International Regulations****Mexico - Grade**

No information available

**Authorisation/Restrictions according to EU REACH**

| Component              | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|------------------------|---|---|---|
| Potassium permanganate | -   | Use restricted. See item 75. (see link for restriction details)               | -   |

<https://echa.europa.eu/substances-restricted-under-reach>

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

| Component              | CAS No    | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|------------------------|-----------|----------|------------------------------|---------------------------|--|
| Potassium permanganate | 7722-64-7 | Listed   | Not applicable               | Not applicable            | Not applicable                             |

| Component              | CAS No    | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|------------------------|-----------|---|--|----------------------------|------------------------------------|
| Potassium permanganate | 7722-64-7 | Not applicable  | Not applicable   | Not applicable             | Not applicable                     |

## 16. Other information

**Prepared By**

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**Creation Date**

23-Oct-2009

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**Print Date**

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**Revision Summary**

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).



**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**