# SAFETY DATA SHEET
Potassium Permanganate


<table>
<thead>
<tr>
<th>SECTION 1: Identification of the substance/mixture and of the company/undertaking</th>
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</table>

## 1.1. Product identifier

| **Product name** | Potassium Permanganate |
| **Product number** | PL.7039, PL.7039/100, PL.7040, PL.7039/25 |

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

| **Identified uses** | Laboratory reagent. |
| **Uses advised against** | No specific uses advised against are identified. |

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

| **Supplier** | Pro-Lab Diagnostics |
| **Address** | 3 Bassendale Road |
| **City** | Wirral |
| **Postcode** | Merseyside CH62 3QL |
| **Telephone** | Tel: 0151 353 1613 |
| **Fax** | Fax: 0151 353 1614 |
| **Email** | mowen@pro-lab.com |

## 1.4. Emergency telephone number

| **Emergency telephone** | +44 (0)151 353 1613 Monday to Friday 9.00 to 17.00 |
| **Outside hours** | +44 (0)7714 429 646 outside the above hours |

<table>
<thead>
<tr>
<th>SECTION 2: Hazards identification</th>
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## 2.1. Classification of the substance or mixture

| **Classification (EC/1272/2008)** |
| **Physical hazards** | Not Classified |
| **Health hazards** | Not Classified |
| **Environmental hazards** | Aquatic Chronic 3 - H412 |

## 2.2. Label elements

| **Hazard statements** | H412 Harmful to aquatic life with long lasting effects. |
| **Precautionary statements** | P273 Avoid release to the environment. |
| **P501 Dispose of contents/container in accordance with national regulations.** |

## 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

<table>
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<tr>
<th>SECTION 3: Composition/information on ingredients</th>
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</table>

## 3.2. Mixtures
Potassium Permanganate

<table>
<thead>
<tr>
<th>potassium permanganate</th>
<th>0.025 - &lt;0.25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 7722-64-7</td>
<td>EC number: 231-760-3</td>
</tr>
<tr>
<td>M factor (Acute) = 10</td>
<td>M factor (Chronic) = 10</td>
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</tbody>
</table>

Classification |
Ox. Sol. 2 - H272
Acute Tox. 4 - H302
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

Classification (67/548/EEC or 1999/45/EC)
O; R8. Xn; R22. N; R50/53

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.

Ingestion Rinse mouth thoroughly with water. Give plenty of water to drink. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.

Skin contact Wash skin thoroughly with soap and water.

Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse.

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

Inhalation Irritation of nose, throat and airway.

Ingestion May cause discomfort if swallowed.

Skin contact Prolonged skin contact may cause redness and irritation.

Eye contact May cause temporary eye irritation.

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

Notes for the doctor The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials.
Potassium Permanganate

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage. Treat the spilled material according to the instructions in the clean-up section.

6.2. Environmental precautions

Environmental precautions
Avoid discharge into drains or watercourses or onto the ground. Contain spillage with sand, earth or other suitable non-combustible material. The product contains substances which are water-soluble and may spread in water systems. The product contains volatile substances which may spread in the atmosphere.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up
Absorb in vermiculite, dry sand or earth and place into containers. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections

Reference to other sections
See Section 11 for additional information on health hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions
Read and follow manufacturer's recommendations.

Advice on general occupational hygiene
Avoid contact with eyes and prolonged skin contact.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions
Store in a cool and well-ventilated place.

7.3. Specific end use(s)

Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Ingredient comments
No exposure limits known for ingredient(s).

8.2. Exposure controls

Eye/face protection
No specific eye protection required during normal use.

Hand protection
The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Hygiene measures
No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance
Liquid.

Colour
Violet.

Odour
Almost odourless.
Potassium Permanganate

Odour threshold  Not determined.
pH  Not determined.
Melting point  Not relevant.
Initial boiling point and range  Not determined.
Flash point  Not determined.
Evaporation rate  Not determined.
Evaporation factor  Not determined.
Flammability (solid, gas)  Not relevant.
Upper/lower flammability or explosive limits  Not relevant.
Vapour pressure  Not determined.
Vapour density  Not determined.
Relative density  Not determined.
Bulk density  Not determined.
Solubility(ies)  Soluble in water.
Partition coefficient  Not determined.
Auto-ignition temperature  Not relevant.
 Decomposition Temperature  Not relevant.
Viscosity  Not determined.
Explosive properties  Not considered to be explosive.
Oxidising properties  The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information
Other information  No information required.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity  There are no known reactivity hazards associated with this product.

10.2. Chemical stability
Stability  Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions  Will not polymerise.

10.4. Conditions to avoid
Conditions to avoid  Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials
Materials to avoid  No specific material or group of materials is likely to react with the product to produce a hazardous situation.
Potassium Permanganate

10.6. Hazardous decomposition products

Hazardous decomposition products

None at ambient temperatures. Thermal decomposition or combustion products may include
the following substances: Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral
Notes (oral LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LC₅₀)
Based on available data the classification criteria are not met.

Skin corrosion/irritation
Animal data
Based on available data the classification criteria are not met.

Serious eye damage/irritation
Serious eye damage/irritation
Based on available data the classification criteria are not met.

Respiratory sensitisation
Respiratory sensitisation
Based on available data the classification criteria are not met.

Skin sensitisation
Skin sensitisation
Based on available data the classification criteria are not met.

Germ cell mutagenicity
Genotoxicity - in vitro
Based on available data the classification criteria are not met.

Genotoxicity - in vivo
Based on available data the classification criteria are not met.

Carcinogenicity
Carcinogenicity
Based on available data the classification criteria are not met.

Reproductive toxicity
Reproductive toxicity - fertility
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure
Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
Based on available data the classification criteria are not met.

Aspiration hazard
Aspiration hazard
Not anticipated to present an aspiration hazard, based on chemical structure.

Toxicological information on ingredients.

potassium permanganate

Acute toxicity - oral
Notes (oral LD₅₀)
Converted acute toxicity point estimate (cATpE) Harmful if swallowed.

ATE oral (mg/kg) 500.0

Skin sensitisation
Potassium Permanganate

Skin sensitisation
Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro
Bacterial reverse mutation test: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo
Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity
Reproductive toxicity - fertility
One-generation study - NOAEL ~ 20 mg/kg/day, Oral, Rat F1 REACH dossier information.

Reproductive toxicity - development
Developmental toxicity: - LOAEC: 20 mg/kg/day, Oral, Rat REACH dossier information.

SECTION 12: Ecological Information

12.1. Toxicity
Toxicity
Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.

Ecological information on ingredients.

potassium permanganate

Toxicity
Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity
LE(C)₅₀

0.01 < L(E)C50 ≤ 0.1

M factor (Acute)
10

Acute toxicity - fish
LC₅₀, 24 hours: 1.51 mg/l, Poecilia reticulata (Guppy)
LC₅₀, 48 hours: 0.7 mg/l, Poecilia reticulata (Guppy)
LC₅₀, 72 hours: 0.56 mg/l, Poecilia reticulata (Guppy)
LC₅₀, 96 hours: 0.47 mg/l, Poecilia reticulata (Guppy)
NOEC, 24 hours: 0.35 mg/l, Poecilia reticulata (Guppy)
NOEC, 48 hours: 0.35 mg/l, Poecilia reticulata (Guppy)
NOEC, 72 hours: 0.35 mg/l, Poecilia reticulata (Guppy)
NOEC, 96 hours: 0.35 mg/l, Poecilia reticulata (Guppy)
REACH dossier information.

Acute toxicity - aquatic invertebrates
EC₅₀, 24 hours: 0.15 mg/l, Daphnia magna
EC₅₀, 48 hours: 0.06 mg/l, Daphnia magna
NOEC, 24 hours: 0.02 mg/l, Daphnia magna
NOEC, 48 hours: 0.01 mg/l, Daphnia magna
EC₉⁰, 24 hours: 0.64 mg/l, Daphnia magna
EC₉⁰, 48 hours: 0.32 mg/l, Daphnia magna
REACH dossier information.

Acute toxicity - aquatic plants
EC₅₀, 72 hours: 0.43 - 0.8 mg/l, Desmodesmus subspicatus
REACH dossier information.
Potassium Permanganate

Acute toxicity - microorganisms
EC₅₀, 3 hours: 86.4 mg/l, Activated sludge
EC₅₀, 3 hours: 164 mg/l, Activated sludge
EC₈₀, 3 hours: 311 mg/l, Activated sludge
REACH dossier information.

Chronic aquatic toxicity
M factor (Chronic) 10

12.2. Persistence and degradability
Persistence and degradability No data available.

Ecological information on ingredients.

Potassium permanganate

Stability (hydrolysis) pH4, pH7, pH9 - Half-life : > 1 year @ 25°C
REACH dossier information.

12.3. Bioaccumulative potential
Bioaccumulative potential No data available on bioaccumulation.
Partition coefficient Not determined.

12.4. Mobility in soil
Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment
Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects
Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
General information Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Confirm disposal procedures with environmental engineer and local regulations. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out.

Disposal methods Do not empty into drains. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Collect and place in suitable waste disposal containers and seal securely. Dispose of contents/container in accordance with national regulations.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number
Not applicable.

14.2. UN proper shipping name
Not applicable.
Potassium Permanganate

14.3. Transport hazard class(es)
No transport warning sign required.

14.4. Packing group
Not applicable.

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user
Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory Information

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

<table>
<thead>
<tr>
<th>National regulations</th>
<th>EU legislation</th>
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15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008
Aquatic Chronic 3 - H412: Calculation method.

Revision comments

Revision date
04/05/2016

Revision
6

Supersedes date
09/04/2015

SDS number
820

Risk phrases in full
R8 Contact with combustible material may cause fire.
R22 Harmful if swallowed.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Potassium Permanganate

Hazard statements in full

H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

The information in this safety data sheet was obtained from current and reliable sources. However, the data is provided without warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond Pro-Lab Diagnostics control, it is the users responsibility to perform thorough testing of this product when used in combination with any other product. It is suggested that users familiarise themselves with this safety data sheet before handling the product.