

SAFETY DATA SHEET

Potassium Permanganate Concentrate

According to the REACH etc. (Amendment etc.) (EU Exit) Regulations 2019 No. 758, as amended.

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

1.1. Product identifier

Product name Potassium Permanganate Concentrate

Product number PL.8013, PL.8013/4, PL.8013/5

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
3 Bassendale Road
Wirral
Merseyside
CH62 3QL
Tel: 0151 353 1613
Fax: 0151 353 1614
mowen@pro-lab.com

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Aquatic Chronic 2 - H411

Environmental The product contains a substance which may have hazardous effects on the environment.

2.2. Label elements

Hazard pictograms



Hazard statements H411 Toxic to aquatic life with long lasting effects.

Precautionary statements P273 Avoid release to the environment.
P391 Collect spillage.
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.

SECTION 3: Composition/information on ingredients

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3.2. Mixtures

potassium permanganate	1 - <2.5%
CAS number: 7722-64-7	EC number: 231-760-3
M factor (Acute) = 10	M factor (Chronic) = 10
Classification Ox. Sol. 2 - H272 Acute Tox. 4 - H302 Repr. 2 - H361d Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	

The full text for all hazard statements is 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.
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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.
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5.3. Advice for firefighters

Protective actions during firefighting	Control run-off water by containing and keeping it out of sewers and watercourses.
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Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials.

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.

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Colour	Violet.
Odour	Almost odourless.
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

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

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.

ATE oral (mg/kg) 50,000.0

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.

Inhalation

No specific symptoms known. May cause respiratory irritation.

Ingestion

No specific symptoms known. May cause discomfort if swallowed.

Skin contact

No specific symptoms known. Prolonged skin contact may cause temporary irritation.

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Eye contact No specific symptoms known. May cause temporary eye irritation.

Route of exposure Inhalation Skin and/or eye contact Ingestion

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

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 - NOEL ~ 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 2 - H411 Toxic 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.

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Acute toxicity - aquatic invertebrates	EC ₅₀ , 24 hours: 0.15 mg/l, Daphnia magna EC ₅₀ , 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 EC ₁₀₀ , 24 hours: 0.64 mg/l, Daphnia magna EC ₁₀₀ , 48 hours: 0.32 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 0.43 - 0.8 mg/l, Desmodium subspicatus REACH dossier information.
Acute toxicity - microorganisms	EC ₂₀ , 3 hours: 86.4 mg/l, Activated sludge EC ₅₀ , 3 hours: 164 mg/l, Activated sludge EC ₈₀ , 3 hours: 311 mg/l, Activated sludge REACH dossier information.
<u>Chronic aquatic toxicity</u>	
NOEC	0.001 < NOEC ≤ 0.01
Degradability	Non-rapidly degradable
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 None known.

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.

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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

14.1. UN number

UN No. (ADR/RID)	3082
UN No. (IMDG)	3082
UN No. (ICAO)	3082
UN No. (ADN)	3082

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (potassium permanganate)
Proper shipping name (IMDG)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (potassium permanganate)
Proper shipping name (ICAO)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (potassium permanganate)
Proper shipping name (ADN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (potassium permanganate)

14.3. Transport hazard class(es)

ADR/RID class	9
ADR/RID classification code	M6
ADR/RID label	9
IMDG class	9
ICAO class/division	9
ADN class	9

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

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Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	•3Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(E)

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 relevant.

SECTION 15: Regulatory information

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

National regulations	EH40/2005 Workplace exposure limits. The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019 No. 758, as amended. The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019 No. 720, as amended.
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15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
	ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
	ATE: Acute Toxicity Estimate.
	BCF: Bioconcentration Factor.
	DNEL: Derived No Effect Level.
	EC ₅₀ : 50% of maximal Effective Concentration.
	IATA: International Air Transport Association.
	ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
	IMDG: International Maritime Dangerous Goods.
	LC50: Lethal Concentration to 50 % of a test population.
	LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).
	NOAEL: No Observed Adverse Effect Level.
	NOEC: No Observed Effect Concentration.
	PNEC: Predicted No Effect Concentration.
	RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
	Classification abbreviations and acronyms

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Classification procedures according to SI 2019 No. 720	Aquatic Chronic 2 - H411: Calculation method.
Revision comments	Revised regulations.
Revision date	26/09/2022
Revision	6
Supersedes date	01/10/2017
SDS number	821
Hazard statements in full	H272 May intensify fire; oxidiser. H302 Harmful if swallowed. H361d Suspected of damaging the unborn child. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic 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.