

Revision: 2.1

Revision date:

16 April 2021

Date printed:

12 August 2023

Section 1. Identification

1.1 Product Identifier 0548

Product Name POTASSIUM PERMANGANATE

CAS Number 7722-64-7

REACH Registration No 01-2119480139-34-XXXX

Molecular Formula $KMnO_4$ =158.03

1.2 Relevant identified uses of the substance or mixture & uses advised against

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

1.3 Supplier Vickers Laboratories Ltd



Grangefield Industrial Estate
Richardshaw Road
Pudsey
West Yorkshire
LS28 6QW
UNITED KINGDOM

Phone 44 0113 2362811
Fax +44(0)113 2362703
Email safety@viclabs.co.uk
Website www.viclabs.co.uk

1.4 Emergency Telephone (08:00-16:30) +44(0) 113 2362811 (24hr) 112 (Have this document to hand)

Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to regulation 1272/2008/EC

Oxidising solid, category 2

Skin corrosion/irritation, category 1C

Acute toxicity, category 4 (oral)

Serious eye damage/irritation, category 1

Reproductive toxicity, category 2

Spec target organ tox - repeat, category 2

Hazard to aquatic environment, category 1

Hazard to aquatic environment, category 1

H272: May intensify fire; oxidizer.

H314: Causes severe skin burns and eye damage.

H302: Harmful if swallowed.

H318: Causes serious 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.

2.2 Label elements

Labelling according to regulation 1272/2008/EC

Signal word Danger

Hazard Pictograms



Hazard Statements May intensify fire; oxidizer. Harmful if swallowed. Causes severe skin burns and eye damage. Very toxic to aquatic life with long lasting effects. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements Keep away from heat / sparks/open flames/hot surfaces - No smoking. Avoid breathing dust / fume / gas / mist / vapours / spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves / protective clothing / eye protection / face protection.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
Potassium permanganate	7722-64-7	231-760-3	01-2119480139-34-XXXX	>99%	Ox. Sol. 2, Skin Corr. 1C, Acute Tox. 4 (O), Eye Dam. 1, Repr. 2, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1

Section 4. First Aid

4.1 Description of first aid measures

Eyes	Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. If discomfort persists OBTAIN MEDICAL ATTENTION.
Skin	Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. If discomfort persists OBTAIN MEDICAL ATTENTION.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing stops or shows signs of failing, apply artificial resuscitation. OBTAIN MEDICAL ATTENTION.
Ingestion	If conscious wash out mouth with water. Do NOT induce vomiting. OBTAIN MEDICAL ATTENTION URGENTLY.
Personal protection for first aiders	Wear protective gloves / eye protection.

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

No further relevant information available.

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

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media	Water spray, foam, dry powder or carbon dioxide.
Unsuitable Media	Nothing specified.

5.2 Special hazards arising from the substance or mixture

Hazards	Decompose with release of flammable oxygen gas. May produce hazardous fumes if involved in a fire. Potassium Oxides, Manganese oxides and Formic Acid.
---------	--

5.3 Advice for firefighters

Advice for firefighters	Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus. Use water spray to keep fire exposed containers cool.
-------------------------	--

Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection Use approved personal protective equipment. Avoid creating dust. Avoid breathing dust. Ensure adequate ventilation. Do not allow general use of area until it is safe to do so.

6.2 Environmental precautions

Environmental Stop leak if safe to do so. Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

6.3 Methods and material for containment and cleaning up

Major Spillage Wet material with water to make it damp. This will prevent dispersal of the dust during disposal. Shovel/sweep up into container for removal Wash to drain with copious amounts of water.

Minor Spillage Wash to drain with copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath dust. Do not allow to contaminate clothing. Keep away from sources of ignition - No Smoking.

Ensure Local Exhaust Ventilation maintains dust concentrations below the recommended limits.

7.2 Conditions for safe storage, including any incompatibilities

Store in a suitable area for oxidising agents. Keep well separated from acids, metals, explosives, organic peroxides and ignitable materials. Do not store on wooden surfaces.

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits	
			Long Term (8hr TWA)	Short Term 15min period
Potassium permanganate	7722-64-7	>99%	-	-

Exposure data source(s) No occupational exposure data currently available.

8.2 Exposure controls

Respiratory Protection Use L.E.V. or natural ventilation to maintain dust concentrations below exposure limits. If not, use a well maintained chemical cartridge respirator, or use self contained breathing apparatus.

Hand Protection Use nitrile gloves or PVC gauntlets.

Eye Protection Use tightly fitting chemical splash proof glasses or goggles.

Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

Special Hazards No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance Dark purple crystalline powder or dark purple crystals with metallic sheen.

Odour Odourless.

pH Not applicable

Boiling Point Not available

Melting Point	240°C (Decomposition)
Flash Point	Not applicable
Upper Flammable Limit	Not applicable
Lower Flammable Limit	Not applicable
Auto Ignition	Not applicable
Explosive Properties	Not explosive as a single substance.
Oxidising Properties	A strong oxidising agent.
Vapour Pressure	Not applicable
Relative Density	2.7030
Water Solubility	64 g/L

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1	Reactivity	No data available.
10.2	Chemical Stability	Stable under normal conditions but starts to decompose at 240C liberating oxygen.
10.3	Possibility of hazardous reactions	No data available.
10.4	Conditions to Avoid	Do not allow to impregnate wood or other organic materials.
10.5	Incompatible Materials	Reacts explosively with many substances including hydrochloric, sulphuric and acetic acids, formaldehyde, solid reducing sugars, finely divided metals and organic nitrates. Ignition may occur on contact with dimethyl sulphoxide, glycerol, organic nitro compounds, oxygenated organic compounds especially when mixed with nitric acid. Contact with wood may cause a fire if moist or subject to friction. Violent exotherms have also occurred with hydrofluoric acid and hydrogen peroxide.
10.6	Hazardous Decomposition Products	Decompose with release of flammable oxygen gas. May produce hazardous fumes if involved in a fire. Potassium Oxides, Manganese oxides and Formic Acid.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	Dilute solutions are mildly irritating to the eye. Concentrated solutions may be irritating to the eyes.
Skin	There may be irritation & redness.
LD50 Skin	>2000 mg/Kg Rat
Ingestion	Harmful if swallowed. Ingestion of low to moderate amounts can result in burning in the throat and gastrointestinal effects such as ulceration, nausea, vomiting, diarrhoea and constipation.
LD50 Oral	>2000 mg/Kg Rat
Inhalation	High concentrations of vapour may produce irritation of the eyes, nose, throat and respiratory tract.
LD50 Inhalation	Not available
TCLo	Not available
Carcinogenicity	No information is available.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	Gynaecological disturbances have been reported in women and sexual dysfunction in test animals.

Section 12. Ecological

12.1	Toxicity	Very Toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment.
	LC50 Algal	0.43 mg/L Green algae (72 hours)
	LC50 Crustacea	0.06 mg/L Daphnia magna (48 hours)
	LC50 Fish	0.47 mg/L Guppy (Poecillia reticulata) (96 hours)
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 & vPvB assessment Assessment not required.

12.6 Other adverse effects None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods Do not dispose of as domestic waste. Mix with a reducing agent eg. sodium metabisulphite or thiosulphate or a ferrous salt. Dilute with water. A sulphite/ferrous salt requires the addition of 2M sulphuric acid to promote rapid reduction. Neutralise slurry with soda ash and wash to drain with lots of water.

Contaminated Packaging Wash out containers with water.

Section 14. Transport Information

14.1 UN Number 1490

14.2 Proper Shipping Name Potassium permanganate

14.3 Transport classes

UN classification 5.1
Subsidiary hazard(s) None
Transport category 2
ADR Hazard ID 50
Tunnel Restriction Code E



14.4 Packing Group II

14.5 Environment hazards See section 12.

14.6 Special precautions for user No special precautions required.

14.7 Transport in bulk Not transported in bulk.

Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Oxidising solid, category 2; Skin corrosion/irritation, category 1C; Acute toxicity, category 4 (oral); Serious eye damage/irritation, category 1; Reproductive toxicity, category 2; Spec target organ tox - repeat, category 2; Hazard to aquatic environment, category 1; Hazard to aquatic environment, category 1

Signal word Danger

Hazard Pictograms



Hazard Statements H272, H302, H314+H318, H410, H361, H373
May intensify fire; oxidizer. Harmful if swallowed. Causes severe skin burns and eye damage. Very toxic to aquatic life with long lasting effects. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements P210, P261, P264, P270, P271, P280
Keep away from heat / sparks/open flames/hot surfaces - No smoking. Avoid breathing dust / fume / gas / mist / vapours / spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves / protective clothing / eye protection / face protection.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

Revision number: 2.1 (Supercedes revision 2.0)

Revision date: 16 April 2021

Reviewed by chemist: 16 April 2021

Printed date: 12 August 2023

Copyright: 2023 Vickers Laboratories Ltd