

SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Potassium Permanganate
CAS number	7722-64-7
Synonyms	Permanganic acid, potassium salt; Condy's crystal; Chameleon mineral; Potassium manganate(VII)

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

Identified uses	Laboratory chemicals.
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1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

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
Acute Oral Toxicity	Category 4
Skin Corrosion/Irritation	Category 1C
Serious Eye Damage/Eye Irritation	Category 1
Reproductive Toxicity	Category 2

Specific Target Organ Toxicity (single exposure)	Category 3
Target Organ(s) - Respiratory system, Central nervous system (CNS)	
Specific Target Organ Toxicity (repeated exposure)	Category 2
Target Organ(s) - Brain	

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Danger
Hazard statements	<p>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.</p>
Precautionary statements	<p>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.</p> <p>Response: Immediately call a POISON CENTER or doctor/physician.</p> <p>IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>Fire: In case of fire, use CO₂, dry chemical, or foam for extinction.</p> <p>Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed.</p>

Disposal: Dispose of contents/container to an approved waste disposal plant.

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

Very toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Potassium permanganate	Permanganic acid, potassium salt; Potassium manganate(VII)	7722-64-7	>95%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	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.
In case of skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.
In case of eye contact	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.
If swallowed	Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

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.

4.3 Indication of any immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media CO₂, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

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.

5.3 Special 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.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No data available.

Lower No data available.

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	2	OX

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes, or clothing.

6.2 Environmental precautions

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.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

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, seek immediate medical assistance. Keep away from clothing and other combustible materials.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool, and well-ventilated place. Corrosives area. Do not store near combustible materials.

Incompatibilities

Reducing agents. Strong acids. Strong reducing agents. Combustible material.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Potassium permanganate	(Vacated) Ceiling	5 mg/m ³
	Ceiling	5 mg/m ³

US. ACGIH Threshold Limit Values

Component	Type	Value
Potassium permanganate	TWA	0.02 mg/m ³
	TWA	0.1 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Potassium permanganate	IDLH	500 mg/m ³
	TWA	1 mg/m ³

	STEL	3 mg/m3
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Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

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 EN 166.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

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.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid powder
Appearance	Dark brown
Odor	Odorless
Odor Threshold	No information available
pH	8 (16 g/l @ 20°C)
Melting Point/Range	240 °C / 464 °F
Boiling Point/Range	No information available
Evaporation Rate	Not applicable
Flammability (solid)	No information available
Flammability or explosive limit	No data available

	Upper	
	Lower	
Vapor Pressure		No information available
Vapor Density		Not applicable
Density		2.700 g/cm ³
Solubility		Soluble in water
Partition coefficient; n-octanol/water		No data available
Autoignition Temp		No information available
Decomposition Temp		240 °C
Viscosity		Not applicable
Molecular Formula		K Mn O ₄
Molecular Weight		158.04 g/mol
VOC Content(%)		No information available
Oxidizing properties		Oxidizer

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Reactive hazard. Oxidizer: Contact with combustible/organic material may cause fire.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Incompatible products. Excess heat. Combustible material.

10.5 Incompatible materials

Reducing agents, Strong acids, Strong reducing agents, Combustible material.

10.6 Hazardous decomposition products

Heavy metal oxides, Potassium oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation

Potassium permanganate	750 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
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Skin corrosion/irritation

Causes severe irritation and/or burns.

Serious eye damage/eye irritation

Causes severe irritation and/or burns.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Potassium permanganate	7722-64-7	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

Respiratory system, Central nervous system (CNS).

Specific target organ toxicity - repeated exposure

Brain.

Reproductive toxicity

Possible risk of harm to the unborn child.

Chronic effects

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.

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment. Do not allow material to contaminate ground water system.

Product	EC50	Species	Test Results
	EC50	Freshwater Algae	0.41 mg/L, 72h

Potassium permanganate	LC50	Freshwater Fish	2.97-3.11 mg/L, 96h 3.16-3.77 mg/L, 96h 3.3-3.93 mg/L, 96h 2.3 mg/L, 96h 0.769-1.27 mg/L, 96h 1.08-1.38 mg/L, 96h 1.8-5.6 mg/L, 96h 2.7 mg/L, 96h
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12.2 Persistence and degradability

May persist based on information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

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

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 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.

SECTION 14: Transport information

DOT (US)

UN-no	UN1490
Proper Shipping Name	POTASSIUM PERMANGANATE
Hazard Class	5.1
Packing Group	II

IMDG

UN-no	UN1490
Proper Shipping Name	POTASSIUM PERMANGANATE
Hazard Class	5.1

Packing Group II

IATA

UN-no UN1490
Proper Shipping Name POTASSIUM PERMANGANATE
Hazard Class 5.1
Packing Group II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed, Potassium permanganate (CAS #7722-64-7), RQ: 100 lb.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See Section 2 for more information.

SARA 313 (TRI reporting)

Listed, Potassium permanganate (CAS #7722-64-7).

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Listed, Potassium permanganate (CAS #7722-64-7).

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Hazardous Substances

Listed, Potassium permanganate (CAS #7722-64-7), RQ: 100 lb.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed, Potassium permanganate (CAS #7722-64-7).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Potassium permanganate (CAS #7722-64-7).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Potassium permanganate (CAS #7722-64-7).

California Proposition 65

Not listed.

SECTION 16: Other information

Issue date: 10/23/2009

Revision 1: 07/20/2022

Revision 2: 12/04/2024

SECTION 17: Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.