

SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1
Prepared on : 07.10.2025
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SECTION 1: Identification of the substance/mixture and of the company/undertaking.

1.1 Product identifiers

Product name Potassium permanganate
Product Number PSR1245
Brand PureSynth research chemicals
CAS No. 7722-64-7

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

Identified uses : Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company PureSynth Research Chemicals GmbH
64683 Einhausen Marie-Curie-StraBe. 3, Germany

1.4 Emergency telephone number

Worldwide Helpline No.: 1800-8908-260

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Oxidizing solids (Category 2), H272
Acute toxicity, Oral (Category 4), H302
Skin corrosion (Sub-category 1C), H314
Serious eye damage (Category 1), H318
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
P260	Do not breathe dust or mist
P273	Avoid release to the environment.
P280	Wear protective gloves, eye protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

2.3 Other hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
Potassium permanganate	KMnO ₄	7722-64-7
Component	Classification	Concentration
Potassium permanganate	Ox. Sol. 2; Acute Tox. 4; Skin Corr. 1C; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H302, H314, H318, H400, H410 M-Factor - Aquatic Acute: 10 M-Factor - Aquatic Chronic: 10	>= 90 - <= 100

SECTION 4: First aid measures

Description of first aid measures

General advice	First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. Call in physician.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
In case of eye contact	After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed	After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

SECTION 5: Firefighting measures

Extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Suitable extinguishing media	Not combustible.
Special hazards arising from the substance or mixture	Has a fire-promoting effect due to release of oxygen. Ambient fire may liberate hazardous vapours. Hazardous combustion products: Potassium oxides Manganese/manganese oxides
Advice for firefighters	Wear self-contained breathing apparatus for firefighting if necessary
Further information	No data available

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
Environmental precautions	Do not let product enter drains.
Methods and materials for containment and cleaning up	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
Reference to other sections	For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling	Work under hood. Do not inhale substance/mixture. Keep away from open flames, hot surfaces and sources of ignition. Hygiene measures: Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
Conditions for safe storage, including any incompatibilities	Tightly closed. Do not store near combustible materials. Storage class (TRGS 510) : 5.1B, Oxidizing hazardous materials
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls / Personal protection

Control parameters	Components with workplace control parameters
Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	
Eye / face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles
Hand protection	Material : Nitrile rubber Break through time : 480 min Glove thickness : 0,11 mm Protective index : Full contact Manufacturer : KCL 741 Dermatrill® L

Material : Nitrile rubber Break through time : 480 min Glove thickness : 0,11 mm Protective index : Splash contact Manufacturer : KCL 741 Dermatril® L

Remarks: This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves.

Skin protection

protective clothing

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

Appearance	Form: Solid, crystal-powder
Odour	Colour: No data available
pH - Value	No data available
Density	7.2 – 9.7 at 20 g/l at 20 °C
Boiling Point	2.70 g/cm ³ at 20 °C
Melting Point	No data available
Solubility in water	> 240 °C
Flash point	1 g/l at 20 °C
Vapour pressure	No data available
Auto -ignition temperature	No data available
Vapour density	No data available
Flammability (solid, gas)	No data available
Evaporation rate	No data available
Partition coefficient: n- octanol / water	No data available
Viscosity	No data available
Explosive properties	No data available
Upper / lower flammability or explosive limits	No data available
Oxidizing properties	No data available

Other safety information: No data available

SECTION 10: Stability and reactivity

Reactivity	No data available
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	Risk of explosion with: powdered aluminium Ammonia, ammonium compounds arsenic Dimethylformamide acetic acid Acetic anhydride formaldehyde oxidisable substances Nitro compounds phosphorus pyridine strong reducing agents hydrochloric acid sulfur Titanium sugars ammonium nitrate sulfuric acid Combustible Liquids Organic Substances mineral acids anhydrides mineral wool Alcohols with sulfuric acid alkali salts with sulfuric acid Risk of ignition or formation of inflammable gases or vapours with: Acetaldehyde Alcohols antimony Aldehydes silanes dimethyl sulfoxide Ethylene glycol ethanol Hydrogen fluoride organic solvent glycerol hydroxylamine Organic Substances oxalic acid sulfuric acid hydrogen sulphide hydrogen peroxide triethanolamine Esters glycerol with sulfuric acid sulfuric acid with Organic Substances Exothermic reaction with: Reducing agents Nitric acid carbides Generates dangerous gases or fumes in contact with: Hydrogen chloride gas
Condition to avoid	No data available
Incompatible materials	Strong reducing agents, Powdered metals, Peroxides, Zinc, Copper, Alcohols, Hydrogen fluoride, Acids, Sulfuric acid
Hazardous decomposition products	Potassium oxides, Manganese/manganese oxides

SECTION 11: Toxicological information

Acute toxicity	LD50 Oral - Rat - 750 mg/kg Remarks: (RTECS) Inhalation: No data available LD50 Dermal - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 402)
Skin corrosion/irritation	Skin - Rabbit Result: Corrosive after 4 hours or less of exposure (OECD Test Guideline 404)
Serious eye damage/eye irritation	Remarks: Causes serious eye damage.
Respiratory or skin sensitization	Maximisation Test - Guinea pig Result: negative (OECD Test Guideline 406)
Germ cell mutagenicity	Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: In vivo micronucleus test Species: Rat Cell type: Bone marrow Application Route: Oral Method: OECD Test Guideline 474 Result: negative
Carcinogenicity	No data available
Reproductive toxicity	Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	Inhalation - May cause damage to organs through prolonged or repeated exposure. - Brain RTECS: SD6475000
Additional Information	Contact with skin can cause:, Oedema, Necrosis, Effects due to ingestion may include:, methemoglobinemia, psychological disturbances, Vomiting, Nausea, Diarrhoea

SECTION 12: Ecological information

Toxicity

Toxicity to fish	LC50 (Poecilia reticulata (guppy)): 0,47 mg/l Exposure time: 96 h Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)): 0,06 mg/l Exposure time: 48 h Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	ErC50 (Desmodesmus subspicatus (green algae)): 0,8 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes
M-Factor (Acute aquatic toxicity)	10
Toxicity to microorganisms	EC50 (activated sludge): 164 mg/l Exposure time: 180 min Test Type: static test Method: OECD Test Guideline 209 GLP: yes
M-Factor (Chronic aquatic toxicity)	10
Persistence and degradability	Remarks: The methods for determining the biological degradability are not applicable to inorganic substances
Bioaccumulative potential	No data available
Mobility in soil	No data available
Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Other adverse effects	No data available

SECTION 13: Disposal considerations

Waste treatment methods	Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste.
Products	Handle uncleaned containers like the product itself
Contaminated packaging	Dispose of as unused product.

SECTION 14: Transport information

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR / RID	1490	Potassium permanganate	5.1	II	No
IMDG	1490	Potassium permanganate	5.1	II	No
IATA	1490	Potassium permanganate	5.1	II	No

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

Conditions of restriction for the following entries should be considered: Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) Not applicable

REACH - List of substances subject to authorisation (Annex XIV) Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P8	OXIDIZING LIQUIDS AND SOLIDS
	E1	ENVIRONMENTAL HAZARDS

Chemical safety assessment
For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

The information in this SDS is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The user must be determined suitability of this information for his application.