

Revised on: 07.07.2020

Potassium permanganate pure EP, USP

Created on: 07.07.2020

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name: Potassium permanganate pure EP, USP

Article number: LC-7805

CAS-No.: 7722-64-7

REACH Registration Number: A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2. Relevant identified uses of the substance or mixture

Identified uses: Materials for use in technical applications

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:

neoFroxx GmbH
Marie-Curie-Str. 3
D-64683 Einhausen
info@neofroxx.com

Further information obtainable from:

Dep. Quality Control

1.4. Emergency telephone number

+49 (6251) 989 24 - 0 (during normal business hours)

2. Hazards identification

2.1. Classification of the substance or the mixture

Classification (REGULATION (EC) No 1272/2008):

Oxidizing solid, Category 2, H272

Acute toxicity, Category 4, Oral, H302

Skin corrosion, Category 1C, H314

Reproductive toxicity, Category 2, H361d

Specific target organ toxicity - repeated exposure, Category 2, Inhalation, Brain, H373

Short-term (acute) aquatic hazard, Category 1, H400

Long-term (chronic) aquatic hazard, Category 1, H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label elements

Labelling (REGULATION (EC) No 1272/2008):

Hazard pictograms:



Signal word:

Danger

Hazard statements:

H272 May intensify fire; oxidizer.

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H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs (Brain) through prolonged or repeated exposure if inhaled.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention

P221 Take any precaution to avoid mixing with combustibles, heavy-metal compounds, acids and alkalis.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.

Index-No.: 025-002-00-9

2.3. Other hazards

None known.

3. Composition / information on ingredients

3.1. Substance

Formula: KMnO_4 (Hill)

Index-No.: 025-002-00-9

EC-No.: 231-760-3

Molar mass: 158,03 g/mol

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration):

Potassium permanganate ($\geq 80\%$ - $\leq 100\%$)

CAS-No.:

7722-64-7

Registration number:

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Classification:

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Specific target organ toxicity - repeated exposure, Category 2, H373

Short-term (acute) aquatic hazard, Category 1, H400

Long-term (chronic) aquatic hazard, Category 1, H410

M-Factor: 10

For the full text of the H-Statements mentioned in this Section, see Section 16.

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- 3.2. Mixture
Not applicable

4. First aid measures

- 4.1. Description of first aid measures

General advice:

First aider needs to protect himself.

After inhalation: **fresh air. Call in physician.**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

Nausea, Vomiting

Risk of corneal clouding.

Risk of blindness!

Irritation and corrosion, Cough, Shortness of breath

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

No information available.

5. Firefighting measures

- 5.1. Extinguishing media

Suitable extinguishing media:

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media:

For this substance/mixture no limitations of extinguishing agents are given.

- 5.2. Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Has a fire-promoting effect due to release of oxygen.

- 5.3. Advice for firefighters

Special protective equipment for firefighters:

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information:

Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

- 6.1. 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.

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Advice for emergency responders:

Protective equipment see section 8.

6.2. Environmental precautions
Do not let product enter drains.

6.3. Methods and material 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.

6.4. Reference to other sections
Indications about waste treatment see section 13.

7. Handling and storage

7.1. Precautions for safe handling:

Advice on safe handling:

Observe label precautions.

Hygiene measures:

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2. Conditions for safe storage, including any incompatibilities:

Storage conditions:

Dry.

Tightly closed. Do not store near combustible materials.

Recommended storage temperature see product label.

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure controls / personal protection

8.1. Control parameters

8.2. Exposure controls

Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection:

Tightly fitting safety goggles

Hand protection:

full contact:

Glove material: Nitrile rubber

Glove thickness: 0,11 mm

Break through time: > 480 min

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splash contact:

Glove material: Nitrile rubber

Glove thickness: 0,11 mm

Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment:

protective clothing

Respiratory protection:

required when dusts are generated.

Recommended Filter type: Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls:

Do not let product enter drains.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form: solid

Colour: violet

Odour: odourless

Odour Threshold: Not applicable

pH: ca. 7 – 9 at 20 g/l 20 °C

Melting point: > 240 °C (decomposition)

Boiling point: No information available.

Flash point: No information available.

Evaporation rate: No information available.

Flammability (solid, gas): No information available.

Lower explosion limit: No information available.

Upper explosion limit: No information available.

Vapour pressure: < 0,01 hPa at 20 °C

Relative vapour density: No information available.

Density: 2,70 g/cm³ at 20 °C

Relative density: No information available.

Water solubility: 64 g/l at 20 °C

Partition coefficient: n-octanol/water: log Pow: -1,73 (calculated)

(Lit.) Bioaccumulation is not expected.

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Auto-ignition temperature: No information available.

Decomposition temperature: > 240 °C

Viscosity, dynamic: No information available.

Explosive properties: Not classified as explosive.

Oxidizing properties: The substance or mixture is classified as oxidizing with the category 2.

9.2. Other data

Bulk density: ca.1.300 - 1.600 kg/m³

10. Stability and reactivity

10.1. Reactivity

strong oxidising agent

10.2. Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3. 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, sulphuric acid, Combustible Liquids, Organic Substances, mineral acids, anhydrides, TRIFLUOROACETIC ACID, mineral wool Alcohols, with, sulphuric acid

alkali salts, with, sulphuric 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, sulphuric acid, hydrogen sulphide, hydrogen peroxide, triethanolamine, Esters, BENZALDEHYDE glycerol, with, sulphuric acid

sulphuric acid, with, Organic Substances

Exothermic reaction with:

Reducing agents, Nitric acid, carbides

Generates dangerous gases or fumes in contact with:

Hydrogen chloride gas

10.4. Conditions to avoid

Strong heating (decomposition).

10.5. Incompatible materials

no information available

10.6. Hazardous decomposition products

no information available

11. Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

LD50 Rat: 750 mg/kg

(RTECS)

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach., Nausea, Vomiting

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Acute inhalation toxicity:

Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract.

Acute dermal toxicity:

LD50 Rat: > 2.000 mg/kg

OECD Test Guideline 402

Skin irritation:

Rabbit

Result: Corrosive

OECD Test Guideline 404

Burns after prolonged exposure.

Eye irritation:

Causes serious eye damage.

Risk of blindness!

Sensitisation:

Maximisation Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

Germ cell mutagenicity:

Genotoxicity in vivo:

In vivo micronucleus test

Rat

male and female

Oral

Bone marrow

Result: negative

Method: OECD Test Guideline 474

Genotoxicity in vitro:

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

Method: OECD Test Guideline 476

Carcinogenicity:

No indication of carcinogenic activity.

Reproductive toxicity:

This information is not available.

Teratogenicity:

This information is not available.

CMR effects:

Teratogenicity:

Suspected of damaging the unborn child.

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Specific target organ toxicity - single exposure:

This information is not available.

Specific target organ toxicity - repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

Exposure routes: Inhalation

Target Organs: Brain

Aspiration hazard:

This information is not available.

11.2. Further information

Manganese compounds are generally only very slightly absorbable via the gastrointestinal tract.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

12.1. Toxicity

Toxicity to fish:

semi-static test LC50 *Poecilia reticulata* (guppy): 0,47 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:

semi-static test EC50 *Daphnia magna* (Water flea): 0,06 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

Toxicity to algae:

static test ErC50 *Desmodesmus subspicatus* (green algae): 0,8 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

static test NOEC *Desmodesmus subspicatus* (green algae): 0,32 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

Toxicity to bacteria:

static test EC50 activated sludge: 164 mg/l; 180 min

OECD Test Guideline 209

12.2. Persistence and Degradability

Biodegradability:

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Partition coefficient: n-octanol/water:

log Pow: -1,73

(calculated)

(Lit.) Bioaccumulation is not expected.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

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12.6. Other adverse effects

Additional ecological information:

Discharge into the environment must be avoided.

13. Disposal considerations

13.1. Waste treatment methods

Recommendation:

Chemicals must be disposed of in compliance with the respective national regulations.

Recommendation:

Disposal must be made according to official regulations.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

14. Transport information

Land transport (ADR/RID):

14.1 UN number	UN 1490
14.2 Proper shipping name	POTASSIUM PERMANGANATE
14.3 Class	5.1
14.4 Packing group	II
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN):

Not relevant

Air transport (IATA):

14.1 UN number	UN 1490
14.2 Proper shipping name	POTASSIUM PERMANGANATE
14.3 Class	5.1
14.4 Packing group	II
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	no

Sea transport (IMDG):

14.1 UN number	UN 1490
14.2 Proper shipping name	POTASSIUM PERMANGANATE
14.3 Class	5.1
14.4 Packing group	II
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
EmS	F-H S-Q

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

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15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation:

SEVESO III

OXIDIZING LIQUIDS AND SOLIDS

P8

Quantity 1: 50 t

Quantity 2: 200 t

SEVESO III

ENVIRONMENTAL HAZARDS

E1

Quantity 1: 100 t

Quantity 2: 200 t

Occupational restrictions:

Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC:

not regulated

Substances of very high concern (SVHC):

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).

National legislation:

Storage class: 5.1B

15.2. Chemical safety assessment

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

16. Other information

Full text of H-Statements referred to under sections 2 and 3.:

H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Training advice:

Provide adequate information, instruction and training for operators.

Labelling:

Signal word:

Danger

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P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative