Safety data sheet
according to 1907/2006/EC, Article 31

revised on: 16.11.2023 Version number 9 (replaces version 8) Creation Date: 09.01.2017

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

· **1.1 Product identifier**

· **Trade name: Potassium permanganate solution 0.02 mol/l**

· **Article number:** 1662, 1675
· **CAS Number:** -
· **Registration number** This product is a mixture. For relevant UK REACH registration numbers see section 3.
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
The product is not intended for use by consumers
For professional users only
· **Life cycle stages**
F Formulation or re-packing
IS Use at industrial Sites
· **Application of the substance / the mixture**
Chemical analytics
Laboratory chemical
Industrial use

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Th. Geyer GmbH & Co. KG
Dornierstr. 4 – 6
D-71272 Renningen

Tel.: +49(0)7159-1637-0, Fax:+49 (0)7159/18417
www.thgeyer.de
sicherheitsdatenblaetter@thgeyer.de

· **Further information obtainable from:** Product management department

· **1.4 Emergency telephone number:**
National Poisons Information Service
City Hospital
Dudley Road
Birmingham B18 7QH
Tel.:Emergency: (00 44) 87 06 00 62 66
Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.

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· **Hazard pictograms**

GHS09

· **Signal word** Void
· **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 local/regional/national/international regulations.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**		
CAS: 7722-64-7 EINECS: 231-760-3 Reg.nr.: 01-2119480139-34-XXXX	potassium permanganate Ox. Sol. 2, H272 Repr. 2, H361d Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Acute Tox. 4, H302	≥0.25–<0.5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
First aider needs to protect himself.
Immediately remove any clothing soiled by the product.
· **After inhalation:**
Remove person from danger zone.
Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Wash with plenty of soap and water, take off soiled clothes and shoes.
· **After eye contact:**
Immediately rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Remove any contact lenses if possible.
Continue rinsing.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
· **Information for doctor:** Please observe safety data sheet/label.
· **4.2 Most important symptoms and effects, both acute and delayed** Gastric or intestinal disorders
· **4.3 Indication of any immediate medical attention and special treatment needed** Symptomatic treatment.

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SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet.
· **5.2 Special hazards arising from the substance or mixture**
Formation of hazardous vapours possible due to ambient fire.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
· **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Safely prevent extinguishing water from entering groundwater or surface water.

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Avoid contact with eyes and skin.
Avoid inhalation of vapours, gas or dust.
Ensure adequate ventilation.
Particular danger of slipping on leaked/spilled product.
· **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Cover the sewerage system.
Prevent spreading over an area (e.g. by damming or oil booms).
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the material collected according to regulations.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Store in cool, dry place in tightly closed receptacles.
Apply the general protective and hygienic measures when handling chemicals.
Keep away from heat and direct sunlight.
· **Information about fire - and explosion protection:**
Substance itself does not burn, adapt extinguishing measures to surroundings

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **Storage class:** 12
· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **PNECs**

Potassium permanganate 7722-64-7 PNEC 0.06 µg/l fresh water short-term (once)
Potassium permanganate 7722-64-7 PNEC 1.64 mg/l Wastewater treatment plant (STP) short term (once)
· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see section 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
· **Respiratory protection:** Not necessary if room is well-ventilated.
· **Hand protection**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
NBR: Acrylonitrile butadiene rubber
Material thickness > 0.11 mm
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Level 6 for applications > 480 min
· **Eye/face protection**

Safety glasses

· **Body protection:**

Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**
· **General Information**

· **Physical state**	Fluid
· **Colour:**	According to product specification
· **Odour:**	Odourless

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· **Melting point/freezing point:**	0 °C
· **Boiling point or initial boiling point and boiling range**	~100 °C (CAS: 7732-18-5 Water)
· **Flammability**	Not applicable.
· **Lower and upper explosion limit**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **pH at 20 °C**	~7
· **Viscosity:**	
· **Kinematic viscosity**	Not determined.
· **Dynamic at 20 °C:**	0.952 mPas
· **Solubility**	
· **water:**	Fully miscible.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density and/or relative density**	
· **Density at 20 °C:**	~1 g/cm³ Not determined.
· **Relative density**	Not determined.
· **Vapour density**	Not determined.

· **9.2 Other information**	
· **Appearance:**	
· **Form:**	Fluid
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Solvent content:**	
· **Water:**	99–<100 %
· **VOC (EC)**	0.00 %
· **Solids content:**	<0.1 %
· **Molecular weight**	18.02 g/mol
· **Change in condition**	
· **Evaporation rate**	Not determined.

· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void
· **Aerosols**	Void
· **Oxidising gases**	Void
· **Gases under pressure**	Void
· **Flammable liquids**	Void
· **Flammable solids**	Void
· **Self-reactive substances and mixtures**	Void
· **Pyrophoric liquids**	Void
· **Pyrophoric solids**	Void
· **Self-heating substances and mixtures**	Void
· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	Void
· **Organic peroxides**	Void

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· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

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SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability** Stable when stored and handled properly.
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** Heat, flames and sparks.
· **10.5 Incompatible materials:** Avoid contact with other chemicals.
· **10.6 Hazardous decomposition products:** In case of fire: see section 5.

*
SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.
· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

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SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:**
(Chronic) aquatic tox of components of the mixture

Potassium permanganate 7722-64-7 EC50 164 mg/l Microorganisms 3 h
Potassium permanganate 7722-64-7 LC50 0.47 mg/l fish 96 h
Potassium permanganate 7722-64-7 EC50 0.06 mg/l aquatic invertebrates 48 h
Potassium permanganate 7722-64-7 ErC50 0.8 mg/l Alga 72 h
· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential**
Bioaccumulation potential of components of the mixture

Potassium permanganate 7722-64-7 - Log KOW 1,73
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.

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· **12.7 Other adverse effects**
· **Remark:**
Toxic for fish
Toxic for water fleas
Toxic for algae
· **Additional ecological information:**
· **General notes:**
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
Observe local (country-specific) regulations and laws.
This product and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Chemicals must be disposed of in accordance with the respective national regulations.

· **European waste catalogue**	
HP14	Ecotoxic

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

*
SECTION 14: Transport information

· **14.1 UN number or ID number**
· **ADR, IMDG, IATA** UN3082

· **14.2 UN proper shipping name**
· **ADR** 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POTASSIUM PERMANGANATE)
· **IMDG** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POTASSIUM PERMANGANATE), MARINE POLLUTANT
· **IATA** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POTASSIUM PERMANGANATE)

· **14.3 Transport hazard class(es)**

· **ADR**

· **Class** 9 (M6) Miscellaneous dangerous substances and articles.

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· **Label**	9
· **IMDG, IATA**	
	
· **Class**	9 Miscellaneous dangerous substances and articles.
· **Label**	9
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADR):**	Symbol (fish and tree)
· **Special marking (IATA):**	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Miscellaneous dangerous substances and articles.
· **Hazard identification number (Kemler code):**	90
· **EMS Number:**	F-A,S-F
· **Segregation groups**	(SGG14) Permanganates
· **Stowage Category**	A
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	(-)
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POTASSIUM PERMANGANATE), 9, III

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SECTION 15: Regulatory information

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

· **Inventory of Hazardous Chemicals**	
CAS: 7722-64-7	potassium permanganate

· **Poisons Act**

· **Regulated explosives precursors**
None of the ingredients is listed.

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· **Regulated poisons**
None of the ingredients is listed.

· **Reportable explosives precursors**
None of the ingredients is listed.

· **Reportable poisons**
None of the ingredients is listed.

· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.
· **Hazard pictograms**

GHS09

· **Signal word** Void
· **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 local/regional/national/international regulations.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** E2 Hazardous to the Aquatic Environment
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**
None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

CAS: 7722-64-7	potassium permanganate	2B

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

CAS: 7722-64-7	potassium permanganate	2

· **National regulations:**

· **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
The application, use and processing of our products are beyond our control and are therefore exclusively your responsibility.

· **Relevant phrases**
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.

· **Department issuing SDS:** Product management
· **Contact:** Product management
· **Version number of previous version:** 8
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international 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
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
PNEC: Predicted No-Effect Concentration (UK REACH)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Sol. 2: Oxidizing solids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Repr. 2: Reproductive toxicity – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
· *** Data compared to the previous version altered.**

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Annex: Exposure scenario

· **Short title of the exposure scenario** Chemicals for laboratory and industry
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
· **Physical state** Fluid
· **Concentration of the substance in the mixture** The substance is main component.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** Use only on hard ground.
· **Other operational conditions affecting worker exposure** Do not breathe gas/vapour/aerosol.
· **Other operational conditions affecting consumer exposure** No special measures required.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection** Observe section 7.1 and 8.1-8.2 of the safety data sheet.
· **Organisational protective measures**
Consider section 4 of the Safety Data Sheet (First aid measures).
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
· **Technical protective measures** Use product only in enclosed systems.
· **Personal protective measures** Do not inhale gases / fumes / aerosols.
· **Measures for consumer protection** Ensure adequate labelling.
· **Environmental protection measures**
· **Water** Do not allow to reach sewage system.
· **Soil** Prevent contamination of soil.
· **Disposal measures** Ensure that waste is collected and contained.
· **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Worker (oral)** Detailed information on the exposure estimation can be found at http://www.ecetoc.org/tra.
· **Worker (dermal)** Detailed information on the exposure estimation can be found at http://www.ecetoc.org/tra.
· **Worker (inhalation)**
Detailed information on the exposure estimation can be found at http://www.ecetoc.org/tra.
· **Environment**
Detailed information on the estimation of the environmental exposure can be found at http://ecb.jrc.ec.europa.eu/euses/.
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.