according to Regulation (EC) No. 1907/2006 (REACH)

## Potassium permanganate ≥99 %, p.a., ACS

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Replaces version of: 2020-06-10

Version: (3)

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

#### **Product identifier** 1.1

Identification of the substance **Potassium permanganate** ≥99 %, p.a., ACS

Article number P752

Registration number (REACH) 01-2119480139-34-xxxx

Index number in CLP Annex VI 025-002-00-9 EC number 231-760-3 CAS number 7722-64-7

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

sicherheit@carlroth.de

Uses advised against: Do not use for products which come into direct

contact with the skin. Do not use for products which come into contact with foodstuffs. Do not

use for private purposes (household).

#### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 Telefax: +49 (0) 721 - 56 06 149 e-mail: sicherheit@carlroth.de Website: www.carlroth.de

Competent person responsible for the safety data :Department Health, Safety and Environment

1.4

# e-mail (competent person): **Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

United Kingdom (en) Page 1 / 17

according to Regulation (EC) No. 1907/2006 (REACH)



article number: P752



## **SECTION 2: Hazards identification**

#### Classification of the substance or mixture 2.1

## Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
2.14	Oxidising solid	2	Ox. Sol. 2	H272
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.2	Skin corrosion/irritation	1C	Skin Corr. 1C	H314
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.7	Reproductive toxicity	2	Repr. 2	H361d
3.9	Specific target organ toxicity - repeated exposure		STOT RE 2	H373
4.1A	Hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	Hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16

## The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

#### 2.2 **Label elements**

## Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word	Danger
-------------	--------

## **Pictograms**

GHS03, GHS05, GHS07, GHS08,

GHS09











## **Hazard statements**

H272 May intensify fire; oxidiser Harmful if swallowed H302 Causes severe skin burns and eye damage H314 H361d Suspected of damaging the unborn child

H373 May cause damage to organs (brain) through prolonged or repeated exposure

H410 Very toxic to aquatic life with long lasting effects

## **Precautionary statements**

## **Precautionary statements - prevention**

P220 Keep away from clothing and other combustible materials

Avoid release to the environment P273 P280 Wear protective gloves/eye protection

United Kingdom (en) Page 2 / 17

according to Regulation (EC) No. 1907/2006 (REACH)



## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

For professional users only

Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Symbol(s)









H314 Causes severe skin burns and eye damage. Suspected of damaging the unborn child. H361d P280 Wear protective gloves/eye protection.

#### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

# **SECTION 3: Composition/information on ingredients**

#### 3.1 **Substances**

Name of substance Potassium permanganate

Molecular formula KMnO<sub>4</sub> 158 <sup>g</sup>/<sub>mol</sub> Molar mass

REACH Reg. No 01-2119480139-34-xxxx

CAS No 7722-64-7 EC No 231-760-3 025-002-00-9 Index No

Specific Conc. Limits	M-Factors	ATE	Exposure route
	M-factor (acute) = 10.0	500 <sup>mg</sup> / <sub>kg</sub>	oral

## **SECTION 4: First aid measures**

## **Description of first aid measures**



#### **General notes**

Take off immediately all contaminated clothing.

## Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

## **Following skin contact**

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

United Kingdom (en) Page 3 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

## Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

## **Following ingestion**

Rinse mouth immediately and drink plenty of water. Rinse mouth with water (only if the person is conscious). Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

## 4.2 Most important symptoms and effects, both acute and delayed

Irritant effects, Corrosion, Risk of serious damage to eyes, Risk of blindness, Gastric perforation, Nausea, Vomiting, Gastrointestinal complaints, Cough, Dyspnoea

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

none

## **SECTION 5: Firefighting measures**

## 5.1 Extinguishing media



## Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

## Unsuitable extinguishing media

water jet

## 5.2 Special hazards arising from the substance or mixture

Oxidising property. Non-combustible.

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

## **SECTION 6: Accidental release measures**

## 6.1 Personal precautions, protective equipment and emergency procedures



## For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

## **6.2** Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

#### 6.3 Methods and material for containment and cleaning up

United Kingdom (en) Page 4 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

# ROTH

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

## Advice on how to contain a spill

Covering of drains. Take up mechanically.

## Advice on how to clean up a spill

Take up mechanically. Control of dust.

## Other information relating to spills and releases

Place in appropriate containers for disposal.

## 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## **SECTION 7: Handling and storage**

## 7.1 Precautions for safe handling

Handle and open container with care. Avoid exposure. Avoid dust formation. Clear contaminated areas thoroughly.

## Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits. Keep away from combustible material.

## Measures to protect the environment

Avoid release to the environment.

## Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

## 7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place. Keep container tightly closed. Keep away from combustible material.

## **Incompatible substances or mixtures**

Observe hints for combined storage. Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles.

## **Consideration of other advice**

## **Ventilation requirements**

Use local and general ventilation.

## Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

#### 7.3 Specific end use(s)

No information available.

# SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

National limit values

United Kingdom (en) Page 5 / 17

according to Regulation (EC) No. 1907/2006 (REACH)



## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

## **Occupational exposure limit values (Workplace Exposure Limits)**

Coun	Name of agent	CAS No	Identifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
EU	manganese, inorganic compounds	7722-64-7	IOELV	0,05			r	2017/164/ EU
GB	dust		WEL	10			i	EH40/2005
GB	dust		WEL	4			r	EH40/2005
GB	manganese, inorganic compounds	7722-64-7	WEL	0,2			Mn, i	EH40/2005
GB	manganese, inorganic compounds	7722-64-7	WEL	0,05			Mn, r	EH40/2005

Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

Mn

. STEL

Inhalable fraction
Calculated as Mn (manganese)
Respirable fraction
Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 **TWA** 

hours time-weighted average (unless otherwise specified)

## **Human health values**

Relevant DNELs and other threshold levels					
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time	
DNEL	0,2 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects	

#### **Environmental values**

Relevant PNECs and other threshold levels						
End- point	Threshold level	Organism	Environmental compartment	Exposure time		
PNEC	0,06 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single instance)		
PNEC	1,64 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)		

#### 8.2 **Exposure controls**

Individual protection measures (personal protective equipment)

## **Eye/face protection**



Use safety goggle with side protection. Wear face protection.

United Kingdom (en) Page 6 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

## Skin protection



## hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

## • type of material

NBR (Nitrile rubber)

#### material thickness

>0,11 mm

## · breakthrough times of the glove material

>480 minutes (permeation: level 6)

## other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

## Respiratory protection





Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

#### **Environmental exposure controls**

Keep away from drains, surface and ground water.

# SECTION 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

Physical state solid

Form crystalline

Colour violet

Odour odourless

Melting point/freezing point >240 °C (slow decomposition)

Boiling point or initial boiling point and boiling

range

not determined

Flammability non-combustible
Lower and upper explosion limit not determined

United Kingdom (en) Page 7 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

# ®

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

Flash point not applicable
Auto-ignition temperature not determined
Decomposition temperature >240 °C (ECHA)

pH (value) 7 – 9 (in aqueous solution: 20 <sup>g</sup>/<sub>l</sub>, 20 °C)

Kinematic viscosity not relevant

Solubility(ies)

Water solubility  $\geq 64 \, ^{9}/_{1}$  at 20 °C (ECHA)

Partition coefficient

Partition coefficient n-octanol/water (log value): -1,73 (calc.) not relevant (inorganic)

Vapour pressure <0,01 hPa at 20 °C

Density  $2.7 \, {}^{\rm g}/{}_{\rm cm^3}$  at 20 °C Bulk density  $1.300 - 1.600 \, {}^{\rm kg}/{}_{\rm m^3}$ 

Particle characteristics No data available.

Other safety parameters

Oxidising properties oxidiser

9.2 Other information

Information with regard to physical hazard

classes:

Other safety characteristics: There is no additional information.

# **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

It's a reactive substance. Oxidising property.

## 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

There is no additional information.

## 10.3 Possibility of hazardous reactions

**Exothermic reaction with:** Nitric acid, Reducing agents, Ammonium hydroxide, Carbide, Carbon, **Danger of explosion:** Ammonia (NH3), Ammonium compounds, Chlorine, Acetic acid, Acetic anhydride, Metal powder, Nitro compound, Phosphorus, Acid chlorides, inorganic, Sulphur, Sulphuric acid and sulphurous acid,

**Risk of ignition:** Acetone, Aldehydes, Alcohols, Amines, Combustible materials, Dichloromethane, Ethanol, Ester, Mineral acids, Sulphuric acid, Hydrogen sulphide (H₂S), Hydrogen peroxide, Organic substances

United Kingdom (en) Page 8 / 17

according to Regulation (EC) No. 1907/2006 (REACH)



## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

#### 10.4 Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: >240 °C.

#### 10.5 Incompatible materials

There is no additional information.

## 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## **SECTION 11: Toxicological information**

## 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Classification according to GHS (1272/2008/EC, CLP)

## **Acute toxicity**

Harmful if swallowed.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>2.000 <sup>mg</sup> / <sub>kg</sub>	rat		ECHA
dermal	LD50	>2.000 <sup>mg</sup> / <sub>kg</sub>	rat		ECHA

## Skin corrosion/irritation

Causes severe skin burns and eye damage.

## Serious eye damage/eye irritation

Causes serious eye damage.

## Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

## **Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

## Carcinogenicity

Shall not be classified as carcinogenic.

## **Reproductive toxicity**

Suspected of damaging the unborn child.

## Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

## Specific target organ toxicity - repeated exposure

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

Hazard category	Target organ	Exposure route
2	brain	if inhaled

## **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

United Kingdom (en) Page 9 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752



## Symptoms related to the physical, chemical and toxicological characteristics

#### If swallowed

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects), nausea, gastrointestinal complaints

## • If in eyes

causes burns, Causes serious eye damage, risk of blindness

#### If inhaled

cough, breathing difficulties, Inhalation of dust may cause irritation of the respiratory system

## • If on skin

causes severe burns, causes poorly healing wounds

#### Other information

Other adverse effects: Liver and kidney damage, Central nervous system

## 11.2 Endocrine disrupting properties

Not listed.

#### 11.3 Information on other hazards

There is no additional information.

## **SECTION 12: Ecological information**

## 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

## Aquatic toxicity (acute)

Endpoint	Value	Species	Exposure time
LC50	0,47 <sup>mg</sup> / <sub>l</sub>	fish	96 h
EC50	0,06 <sup>mg</sup> / <sub>l</sub>	aquatic invertebrates	48 h
ErC50	0,8 <sup>mg</sup> / <sub>l</sub>	algae	72 h

## **Aquatic toxicity (chronic)**

Endpoint	Value	Species	Exposure time
EC50	164 <sup>mg</sup> / <sub>l</sub>	microorganisms	3 h

#### Biodegradation

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

#### 12.2 Process of degradability

Data are not available.

## 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	-1,73 (Calc.)

United Kingdom (en) Page 10 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

## 12.4 Mobility in soil

Data are not available.

## 12.5 Results of PBT and vPvB assessment

Data are not available.

## 12.6 Endocrine disrupting properties

Not listed.

#### 12.7 Other adverse effects

Data are not available.

## **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

## Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

## Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

#### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

## 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

# **SECTION 14: Transport information**

#### 14.1 UN number or ID number

ADR/RID/ADN UN 1490 IMDG-Code UN 1490 UN 1490 UN 1490 UN 1490

## 14.2 UN proper shipping name

ADR/RID/ADN POTASSIUM PERMANGANATE

IMDG-Code POTASSIUM PERMANGANATE

ICAO-TI Potassium permanganate

## 14.3 Transport hazard class(es)

ADR/RID/ADN 5.1 IMDG-Code 5.1

United Kingdom (en) Page 11 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

# ®

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

ICAO-TI 5.1

14.4 Packing group

ADR/RID/ADN II
IMDG-Code II
ICAO-TI II

**14.5 Environmental hazards** hazardous to the aquatic environment

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

## Information for each of the UN Model Regulations

# Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Classification code O2

Danger label(s) 5.1, "Fish and tree"

5.1



Environmental hazards yes (hazardous to the aquatic environment)

Excepted quantities (EQ) E2
Limited quantities (LQ) 1 kg
Transport category (TC) 2
Tunnel restriction code (TRC) E
Hazard identification No 50
Emergency Action Code 1Y

## International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant yes (hazardous to the aquatic environment)

Danger label(s) 5.1, "Fish and tree"





Excepted quantities (EQ) E2
Limited quantities (LQ) 1 kg

EmS F-H, S-Q

Stowage category D

**Segregation group** 14 - Permanganates

United Kingdom (en) Page 12 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

# ROTH

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards yes (hazardous to the aquatic environment)

Danger label(s) 5.1

Excepted quantities (EQ) E2

Limited quantities (LQ) 2,5 kg

## **SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

not listed

**List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list** Not listed.

#### **Seveso Directive**

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
P8	oxidising liquids and solids	50	200	55)

#### Notation

55) Oxidising liquids, category 1, 2 or 3, or oxidising solids, category 1, 2 or 3

#### **Deco-Paint Directive (2004/42/EC)**

VOC content	0 % 0 <sup>g</sup> / <sub>l</sub>

#### Directive on industrial emissions (VOCs, 2010/75/EU)

VOC content	0 %
VOC content	0 <sup>g</sup> / <sub>l</sub>

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

United Kingdom (en) Page 13 / 17

according to Regulation (EC) No. 1907/2006 (REACH)



## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

## **Water Framework Directive (WFD)**

## List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Potassium permanganate	Substances and preparations, or the breakdown products of such, which have been proved to pos- sess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine- related functions in or via the aquatic environment		A)	
Potassium permanganate	Metals and their compounds		A)	

Legend

A) Indicative list of the main pollutants

# Regulation 98/2013/EU on the marketing and use of explosives precursors $% \left( 1\right) =\left( 1\right) \left( 1\right) \left($

not listed

# Regulation 111/2005/EC laying down rules for the monitoring of trade between the Community and third countries in drug precursors

Name of substance	CAS No	Classification	CN Code	Threshold level
Potassium permanganate	7722-64-7	Category 2b	2841 61 00	100 kg

## Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

not listed

## Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)

not listed

## **National inventories**

Country	Inventory	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

United Kingdom (en) Page 14 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

Legend

AICS CICR CSCL-ENCS Australian Inventory of Chemical Substances

Chemical Inventory and Control Regulation
List of Existing and New Chemical Substances (CSCL-ENCS)

CSCL-ENCS
DSL Domestic Substances List (DSL)
ECSI EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC Inventory of Existing Chemical Substances Produced or Imported in China National Inventory of Chemical Substances
KECI Korea Existing Chemicals Inventory
NZIOC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg. REACH registered substances
TCSI Taiwan Chemical Substance Inventory
TSCA Toxic Substance Control Act

TCSI TSCA

**Toxic Substance Control Act** 

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## **SECTION 16: Other information**

## Indication of changes (revised safety data sheet)

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Restructuring: section 9, section 14

## Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2017/164/EU	Commission Directive establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de naviga- tion intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In- land Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	European Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CN Code	Combined Nomenclature
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances

United Kingdom (en) Page 15 / 17

according to Regulation (EC) No. 1907/2006 (REACH)

## Potassium permanganate ≥99 %, p.a., ACS

article number: P752



Abbr.	Descriptions of used abbreviations
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
SVHC	Substance of Very High Concern
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

## Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

United Kingdom (en) Page 16 / 17

according to Regulation (EC) No. 1907/2006 (REACH)



## Potassium permanganate ≥99 %, p.a., ACS

article number: P752

## List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs (brain) through prolonged or repeated exposure (if inhaled).
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

## Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

United Kingdom (en) Page 17 / 17