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### Potassium dichromate solution 1/24 mol/l - 0,25 N volumetric standard solution, for COD determination

article number: P721 date of compilation: 2017-02-09 Version: GHS 3.0 en

Revision: 2022-08-17

Replaces version of: 2019-07-29

Version: (GHS 2)

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

#### 1.1 **Product identifier**

Identification of the substance Potassium dichromate solution 1/24 mol/l -

0,25 N volumetric standard solution, for COD de-

termination

Article number P721

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

Uses advised against: 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

sheet:

sicherheit@carlroth.de e-mail (competent person):

#### 1.4 **Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 West- mead, NSW	131126	

### **SECTION 2: Hazards identification**

### Classification of the substance or mixture

### Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.5	Germ cell mutagenicity	1B	Muta. 1B	H340
3.6	Carcinogenicity	1B	Carc. 1B	H350
3.7	Reproductive toxicity	1B	Repr. 1B	H360FD
3.9	Specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

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For full text of abbreviations: see SECTION 16

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

Delayed or immediate effects can be expected after short or long-term exposure.

### 2.2 Label elements

Labelling

Signal word Danger

### **Pictograms**

GHS08



### **Hazard statements**

H340 May cause genetic defects

H350 May cause cancer

H360FD May damage fertility. May damage the unborn child

H373 May cause damage to organs through prolonged or repeated exposure

### **Precautionary statements**

### **Precautionary statements - prevention**

P202 Do not handle until all safety precautions have been read and understood

P260 Do not breathe dust/fume/gas/mist/vapours/spray

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

### **Precautionary statements - response**

P308+P313 IF exposed or concerned: Get medical advice/attention

P314 Get medical advice/attention if you feel unwell

### **Precautionary statements - disposal**

P501 Dispose of contents/container to industrial combustion plant

For professional users only

**Hazardous ingredients for labelling:** Potassium dichromate

### 2.3 Other hazards

### Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

#### 3.1 **Substances**

not relevant (mixture)

#### 3.2 **Mixtures**

### Description of the mixture

Name of sub- stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Potassium dichromate	CAS No 7778-50-9	< 2.5	Ox. Sol. 2 / H272 Acute Tox. 3 / H301 Acute Tox. 4 / H312 Acute Tox. 2 / H330 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 Muta. 1B / H340 Carc. 1B / H350 Repr. 1B / H360FD STOT SE 3 / H335 STOT RE 1 / H372		3 IARC: 1 RoC "Known"

3: The concentration stated is the percentage by weight of chromate ions dissolved in water calculated with reference to the total weight of the mixture.

IARC: 1: IARC group 1: carcinogenic to humans (International Agency for Research on Cancer)

ROC NTP-RoC: Known To Be A Human Carcinogen

"Known"

For full text of abbreviations: see SECTION 16

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

#### 4.1 **Description of first aid measures**



### **General notes**

Take off contaminated clothing.

### Following inhalation

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

### Following skin contact

Rinse skin with water/shower.

### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

### Following ingestion

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

Irritant, Cough, Dyspnoea, Allergic reactions, Gastrointestinal complaints, Pneumonia, Spasms, Circulatory collapse, Unconsciousness, Methaemoglobin formation, Liver and kidney damage, Vomiting

### 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 spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

### **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 vapour/spray.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

### Advice on how to contain a spill

Covering of drains.

### Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

### Other information relating to spills and releases

Place in appropriate containers for disposal.

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### 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

Avoid exposure.

### 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

Keep container tightly closed.

### **Incompatible substances or mixtures**

Observe hints for combined storage.

**Consideration of other advice:** 

### 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**

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

This information is not available.

### **Relevant PNECs of components of the mixture**

Name of sub- stance	CAS No	End- point	Threshol d level	Organism	Environmental compartment	Exposure time
Potassium dichro- mate	7778-50-9	PNEC	0 <sup>mg</sup> / <sub>l</sub>	aquatic organ- isms	freshwater	short-term (single instance)
Potassium dichro- mate	7778-50-9	PNEC	0.21 <sup>mg</sup> / <sub>l</sub>	aquatic organ- isms	sewage treatment plant (STP)	short-term (single instance)
Potassium dichro- mate	7778-50-9	PNEC	0.15 <sup>mg</sup> / <sub>kg</sub>	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)
Potassium dichro- mate	7778-50-9	PNEC	0.15 <sup>mg</sup> / <sub>kg</sub>	aquatic organ- isms	marine sediment	short-term (single instance)
Potassium dichro- mate	7778-50-9	PNEC	0.035 <sup>mg</sup> / kg	terrestrial organ- isms	soil	short-term (single instance)

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### 8.2 Exposure controls

**Individual protection measures (personal protective equipment)** 

### **Eye/face protection**





Use safety goggle with side protection.

### Skin protection





### hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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: Aerosol or mist formation.

### **Environmental exposure controls**

Keep away from drains, surface and ground water.

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## **SECTION 9: Physical and chemical properties**

### 9.1 Information on basic physical and chemical properties

Physical state liquid

Colour orange

Odour odourless

Melting point/freezing point 0 °C

Boiling point or initial boiling point and boiling

range

Flammability non-combustible
Lower and upper explosion limit not determined
Flash point not determined
Auto-ignition temperature not determined
Decomposition temperature not relevant

pH (value) not determined (neutral)

100 °C

Kinematic viscosity not determined

Solubility(ies)

Water solubility miscible in any proportion

Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure 23 hPa at 20 °C

Density and/or relative density

Density  $1.008 \, {}^{9}/_{cm^3}$  at 20  ${}^{\circ}\text{C}$ 

Relative vapour density information on this property is not available

Particle characteristics not relevant (liquid)

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics:

Miscibility completely miscible with water

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## **SECTION 10: Stability and reactivity**

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser

### 10.4 Conditions to avoid

Keep away from heat.

### 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 toxicological effects

Test data are not available for the complete mixture.

### **Classification procedure**

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### Classification acc. to GHS

### **Acute toxicity**

Shall not be classified as acutely toxic.

### Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Potassium dichromate	7778-50-9	oral	67 <sup>mg</sup> / <sub>kg</sub>
Potassium dichromate	7778-50-9	dermal	<2,000 <sup>mg</sup> / <sub>kg</sub>
Potassium dichromate	7778-50-9	inhalation: dust/mist	0.083 <sup>mg</sup> / <sub>l</sub> /4h

### Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Potassium dichromate	7778-50-9	oral	LD50	67 <sup>mg</sup> / <sub>kg</sub>	rat
Potassium dichromate	7778-50-9	inhalation: dust/mist	LC50	83 <sup>mg</sup> / <sub>m³</sub> /4h	rat
Potassium dichromate	7778-50-9	dermal	LD50	<2,000 <sup>mg</sup> / <sub>kg</sub>	rabbit

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### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### **Germ cell mutagenicity**

May cause genetic defects.

### Carcinogenicity

May cause cancer.

### **Reproductive toxicity**

May damage the unborn child. May damage fertility.

### 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 through prolonged or repeated exposure.

Hazard category	Target organ	Exposure route
2	several organs	if exposed

### **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

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

#### If swallowed

vomiting

### • If in eyes

Data are not available.

### If inhaled

cough, Dyspnoea

### • If on skin

Data are not available.

#### Other information

Spasms, Circulatory collapse, Unconsciousness, Methaemoglobin formation, Liver and kidney damage

### 11.2 Endocrine disrupting properties

None of the ingredients are listed.

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## **SECTION 12: Ecological information**

### 12.1 Toxicity

Harmful to aquatic life with long lasting effects.

### **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

Data are not available.

### 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

None of the ingredients are 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.

### Relevant provisions relating to waste(Basel Convention)

## Properties of waste which render it hazardous

**H11** Toxic (Delayed or chronic)

### 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.

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## **SECTION 14: Transport information**

14.1 UN number not assigned
 14.2 UN proper shipping name not assigned
 14.3 Transport hazard class(es) not assigned
 14.4 Packing group not assigned

**14.5 Environmental hazards** non-environmentally hazardous acc. to the dan-

gerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

Transport informationNational regulationsAdditional information(UN RTDG)

Not subject to transport regulations. UN RTDG

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

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

Not subject to ICAO-IATA.

### **SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**There is no additional information.

National regulations(Australia)

**Australian Inventory of Chemical Substances(AICS)** 

All ingredients are listed or exempt from listing.

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### **National inventories**

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	all ingredients are listed

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Country	Inventory	Status
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

Legend

AIIC Australian Inventory of Industrial Chemicals
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 INSQ National Inventory of Chemical Substances
KECI Korea Existing Chemicals Inventory
NZIOC New Zealand Inventory of Chemicals
Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.
REACH registered substances
TCSI Taiwan Chemical Substances Inventory

Taiwan Chemical Substance Inventory **TSCA** Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

### **SECTION 16: Other information**

### Indication of changes (revised safety data sheet)

Alignment to regulation: Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1		The most important adverse physicochemical, human health and environmental effects: Delayed or immediate effects can be expected after short or long-term exposure.	yes
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger		yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.2	contains: Potassium dichromate		yes
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	yes

## **Abbreviations and acronyms**

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
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
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
NTP-RoC	National Toxicology Program: Report on Carcinogens
Ox. Sol.	Oxidising solid
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
Repr.	Reproductive toxicity
Resp. Sens.	Respiratory sensitisation

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Abbr.	Descriptions of used abbreviations
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### **Classification procedure**

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

Code	Text
H272	May intensify fire; oxidiser.
H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.

### **Disclaimer**

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

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