

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination according

Revision: 10.12.2024

Product code: 01724

Page 1 of 12

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

1.1. Product identifier

Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination according

UFI: 61S4-R0QE-D006-7P4E

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

Use of the substance/mixture

Reagents and laboratory chemicals
Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	AnalytiChem GmbH	
	ACD	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
E-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

This product is a mixture. REACH Registration Number see section 3.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Carc. 1B; H350
Muta. 1B; H340

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling
potassium dichromate

Signal word: Danger

Pictograms:



**Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination
according**

Revision: 10.12.2024

Product code: 01724

Page 2 of 12

Hazard statements

H340 May cause genetic defects.
H350 May cause cancer.

Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.

Special labelling of certain mixtures

EUH208 Contains potassium dichromate. May produce an allergic reaction.
Restricted to professional users.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7778-50-9	potassium dichromate			< 1 %
	231-906-6	024-002-00-6	01-2119454792-32	
	Ox. Sol. 2, Carc. 1B, Muta. 1B, Repr. 1B, Acute Tox. 2, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Resp. Sens. 1, Skin Sens. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H272 H350 H340 H360FD H330 H301 H312 H314 H318 H334 H317 H372 H400 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7778-50-9	231-906-6	potassium dichromate	< 1 %
	inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 129,5 mg/kg STOT SE 3; H335: >= 5 - 100		

Further Information

This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: potassium dichromate
This mixture contains the following substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH: potassium dichromate

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Self-protection of the first aider

**Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination
according**

Revision: 10.12.2024

Product code: 01724

Page 3 of 12

After inhalation

Provide fresh air.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

After contact with eyes

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

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

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

For chromium(VI), it is stated that chromium(VI) is highly toxic. It is absorbed through both the lungs and the gastrointestinal tract. Chromates/dichromates can act as strong oxidising agents, causing burns and ulcers on skin and mucous membranes as well as irritative symptoms in the upper respiratory tract. After the substance enters wounds, poorly healing ulcers appear. In sensitive individuals, the substance can easily lead to sensitisation and allergic reactions in the respiratory tract (risk of pneumonia!) and damage to the nasal mucosa (possibly septum perforation). After ingestion of the substance: severe discomfort in the gastrointestinal tract such as bloody diarrhoea, vomiting (aspiration pneumonia!), cramps, circulatory failure, loss of consciousness. Methaemoglobinaemia. After absorption, it can lead to liver and kidney damage. Chromium(VI) compounds in inhalable form have been clearly shown to be carcinogenic in animal studies. Lethal dose (human): 0.5 g.
Antidotes: chelating agents such as EDTA, DMPS (Demaval).

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

Antidotes: EDTA, DMPS (Demaval®)

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids

**Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination
according**

Revision: 10.12.2024

Product code: 01724

Page 4 of 12

Hazardous combustion products

In case of fire may be liberated: Metal oxide smoke, toxic

5.3. Advice for firefighters

Do not inhale explosion and combustion gases.

Avoid contact with skin, eyes and clothes.

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Do not breathe vapour/aerosol.

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

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

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

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

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

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

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid exposure - obtain special instructions before use.

**Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination
according**

Revision: 10.12.2024

Product code: 01724

Page 5 of 12

Read label before use. Handle and open container with care.
Do not breathe vapour/aerosol.
When using do not eat, drink, smoke, sniff. Keep container tightly closed.
Use personal protection equipment. Use extractor hood (laboratory).
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities
Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off immediately all contaminated clothing and wash it before reuse.
If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a well-ventilated place. Keep container tightly closed.
Store in a place accessible by authorized persons only.

Hints on joint storage

national regulations

Further information on storage conditions

Store in a dry place.
storage temperature +15°C - +25°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

PNEC values

CAS No	Substance	
	Environmental compartment	Value
7778-50-9	potassium dichromate	
	Freshwater	0 mg/l
	Freshwater (intermittent releases)	0 mg/l
	Freshwater sediment	0,15 mg/kg
	Marine sediment	0,15 mg/kg
	Secondary poisoning	17000000 mg/kg
	Micro-organisms in sewage treatment plants (STP)	0,21 mg/l
	Soil	0,035 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

**Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination
according**

Revision: 10.12.2024

Product code: 01724

Page 6 of 12

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Do not breathe vapour/aerosol.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Wear eye protection/face protection.

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

Thickness of the glove material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

Thickness of the glove material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

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).

Skin protection

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

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 allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	yellow	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination according

Revision: 10.12.2024

Product code: 01724

Page 7 of 12

Upper explosion limits:	No data available
Flash point:	not applicable
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH-Value:	No data available
Viscosity / kinematic:	No data available
Water solubility:	completely miscible
Solubility in other solvents	
No data available	
Partition coefficient n-octanol/water:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	No data available
Bulk density:	No data available
Relative vapour density:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties	
No data available	
Sustained combustibility:	No data available
Self-ignition temperature	
Solid:	No data available
Gas:	No data available
Oxidizing properties	
No data available	

Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	0
Solid content:	0
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No data available

**Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination
according**

Revision: 10.12.2024

Product code: 01724

Page 8 of 12

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

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

Toxicokinetics, metabolism and distribution

No data available

Acute toxicity

Based on available data, the classification criteria are not met.

Avoid exposure - obtain special instructions before use.

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

Inhalation effect: Damage to the respiratory tract.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7778-50-9	potassium dichromate				
	oral	LD50 129,5 mg/kg	Rat	Study report (1983)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rabbit	Study report (1983)	OECD Guideline 402
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

slightly irritant but not relevant for classification.

Sensitising effects

Based on available data, the classification criteria are not met.

Contains potassium dichromate. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

May cause cancer. (potassium dichromate)

May cause genetic defects. (potassium dichromate)

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination according

Revision: 10.12.2024

Product code: 01724

Page 9 of 12

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Other information

No data available

Further information

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

For chromium(VI), it is stated that chromium(VI) is highly toxic. It is absorbed through both the lungs and the gastrointestinal tract. Chromates/dichromates can act as strong oxidising agents, causing burns and ulcers on skin and mucous membranes as well as irritative symptoms in the upper respiratory tract. After the substance enters wounds, poorly healing ulcers appear. In sensitive individuals, the substance can easily lead to sensitisation and allergic reactions in the respiratory tract (risk of pneumonia!) and damage to the nasal mucosa (possibly septum perforation). After ingestion of the substance: severe discomfort in the gastrointestinal tract such as bloody diarrhoea, vomiting (aspiration pneumonia!), cramps, circulatory failure, loss of consciousness. Methaemoglobinaemia. After absorption, it can lead to liver and kidney damage. Chromium(VI) compounds in inhalable form have been clearly shown to be carcinogenic in animal studies. Lethal dose (human): 0.5 g. Antidotes: chelating agents such as EDTA, DMPS (Demaval).

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

**Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination
according**

Revision: 10.12.2024

Product code: 01724

Page 10 of 12

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Do not allow to enter into surface water or drains.

Do not allow to enter into surface water or drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination according

Revision: 10.12.2024

Product code: 01724

Page 11 of 12

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

EU regulatory information

Authorisations (REACH, annex XIV):

potassium dichromate

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 29, Entry 75

Information according to Directive

2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D):

3 - highly hazardous to water

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,9.

Abbreviations and acronyms

Ox. Sol. 2: Oxidising solids, hazard category 2

Acute Tox. 2: Acute toxicity, hazard category 2

Skin Corr. 1B: Skin corrosion, sub-category 1B

Eye Dam. 1: Serious eye damage, hazard category 1

Resp. Sens. 1: Respiratory sensitisation, hazard category 1

Skin Sens. 1: Skin sensitisation, hazard category 1

Muta. 1B: Germ cell mutagenicity, hazard category 1B

Carc. 1B: Carcinogenicity, hazard category 1B

Repr. 1B: Reproductive toxicity, hazard category 1B

STOT RE 1: Specific target organ toxicity - repeated exposure, hazard category 1

Aquatic Acute 1: Hazardous to the aquatic environment, hazard category: Acute 1

Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard category: Chronic 1

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Carc. 1B; H350	Calculation method
Muta. 1B; H340	Calculation method

Relevant H and EUH statements (number and full 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.
H340	May cause genetic defects.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Potassium dichromate solution 0.005 mol/l - 0.03 N solution in water for COD determination according

Revision: 10.12.2024

Product code: 01724

Page 12 of 12

H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH208	Contains potassium dichromate. May produce an allergic reaction.

Further Information

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)