

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Potassium dichromate basic substance secondary reference material tracable to NIST

Revision date: 11.08.2023 Product code: 20512 Page 1 of 13

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

1.1. Product identifier

Potassium dichromate basic substance secondary reference material tracable to NIST

REACH Registration Number: 01-2119454792-32-XXXX

CAS No: 7778-50-9
Index No: 024-002-00-6
EC No: 231-906-6

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

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 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 telephoneFor Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,number: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

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Ox. Sol. 2; H272 Carc. 1B; H350 Muta. 1B; H360 Repr. 1B; H360FD Acute Tox. 2; H330 Acute Tox. 3; H301 Acute Tox. 4; H312 Skin Corr. 1B; H314 Resp. Sens. 1; H334 Skin Sens. 1; H317

STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

2.2. Label elements



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Regulation (EC) No 1272/2008

Signal word: Danger

Pictograms:











Hazard statements

H272 May intensify fire; oxidiser.

H330 Fatal if inhaled. H301 Toxic if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H340 May cause genetic defects.

H350 May cause cancer.

H360FD May damage fertility. May damage the unborn child.

H335 May cause respiratory irritation.

H372 Causes damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.

P221 Take any precaution to avoid mixing with combustibles.

P273 Avoid release to the environment.

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

protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: K2Cr2O7

Molecular weight: 294,19 g/mol



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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7778-50-9	potassium dichromate			100 %
	231-906-6	024-002-00-6	01-2119454792-32-XXXX	
	Ox. Sol. 2, Carc. 1B, Muta. 1B, Repr. 1B, Acute Tox. 2, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, Resp. Sens. 1, Skin Sens. 1, STOT RE 1, Aquatic Acute 1, Aquatic Chronic 1; H272 H350 H340 H360FD H330 H301 H312 H314 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	100 %
	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

SVHC substance.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Self-protection of the first aider

After inhalation

Provide fresh air.

If breathing is irregular or stopped, administer artificial respiration.

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.

Water, to which activated charcoal may be added

Do not allow a neutralisation agent to be drunk.

Call a physician immediately.

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

corrosive

Irritant

Cough

Dyspnoea

Allergic reactions

Risk of serious damage to eyes.

Gastrointestinal complaints

Pneumonia



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Spasms

Circulatory collapse

Unconsciousness

Methaemoglobin formation

Liver and kidney damage

Vomiting

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 solids

Oxidising properties

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

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

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.

Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.



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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.

Read label before use. Handle and open container with care.

Avoid dust formation. Do not breathe dust.

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

Material, oxygen-rich, Oxidising

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.

Unsuitable container/equipment material: Metal

Hints on joint storage

Keep away from combustible material.

Further information on storage conditions

Store in a dry place.

storage temperature < +30°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters



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PNEC values

CAS No	Substance			
Environmental	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.

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

Avoid dust formation. Do not breathe dust.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Wear eye/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.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols. Filtering device with filter or ventilator filtering device of type: P3

Environmental exposure controls

Do not allow to enter into surface water or drains.



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No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: solid Colour: orange Odour: odourless Odour threshold: No data available

Melting point/freezing point: ~398 °C >500 °C Boiling point or initial boiling point and

boiling range:

Flammability: No data available Lower explosion limits: No data available Upper explosion limits: No data available Flash point: not applicable Auto-ignition temperature: No data available ~500 °C Decomposition temperature: pH-Value: 3,6 (100 g/l) Viscosity / kinematic: No data available Water solubility: ~115 g/L

Solubility in other solvents No data available

Dissolution rate: Partition coefficient n-octanol/water:

No data available Dispersion stability: No data available Vapour pressure: No data available Vapour pressure: No data available Density: 2,70 g/cm³ Relative density: No data available 1250 kg/m³ Bulk density: No data available Relative vapour density: No data available Particle characteristics:

9.2. Other information

Information with regard to physical hazard classes

Explosive properties No data available

Sustaining combustion: No data available

Self-ignition temperature

Solid: No data available Gas: No data available

Oxidizing properties

May intensify fire; oxidiser.

Other safety characteristics

Evaporation rate: No data available Solvent separation test: No data available Solid content: 100% Sublimation point: No data available Softening point: No data available Pour point: No data available

No data available:

No data available Viscosity / dynamic: Flow time: No data available



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Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Material, oxygen-rich, Oxidising

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Combustible substance

Reducing agent

Hydrazine

Ammonium nitrate

boron

Acetic anhydride

sulphuric acid

Metal powder

Hydrochloric acid

Acetone

Fluorine

Iron.

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Metal

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

Toxicocinetics, metabolism and distribution

No data available

Acute toxicity

Fatal if inhaled.

Toxic if swallowed.

Harmful in contact with skin.

Avoid exposure - obtain special instructions before use.

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).



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CAS No	Chemical name						
	Exposure route	Dose		Species	Source	Method	
7778-50-9	potassium dichromate						
	oral	LD50 mg/kg	129,5	Rat	Study report (1983) OECD Guideline 401	
	dermal	LD50 mg/kg	> 2000	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

Causes severe skin burns and eye damage.

Causes serious eye damage.

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (potassium dichromate)

May cause an allergic skin reaction. (potassium dichromate)

Carcinogenic/mutagenic/toxic effects for reproduction

May cause genetic defects. (potassium dichromate)

May cause cancer. (potassium dichromate)

May damage fertility. May damage the unborn child. (potassium dichromate)

STOT-single exposure

May cause respiratory irritation. (potassium dichromate)

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure. (potassium dichromate)

Aspiration hazard

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

Information on likely routes of exposure

No data available

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

Endocrine disrupting properties

No data available

Other information

No data available

Further information

corrosive

Irritant

Cough

Dyspnoea

Allergic reactions

Risk of serious damage to eyes.

Gastrointestinal complaints

Pneumonia

Spasms

Circulatory collapse



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Unconsciousness

Methaemoglobin formation Liver and kidney damage

Vomiting

SECTION 12: Ecological information

12.1. Toxicity

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

BCF: 17,4

Oncorhynchus mykiss

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

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.

Send to a physico-chemical treatment facility under observation of official regulations.

Dispose of waste according to applicable legislation.

Do not allow to enter into surface water or drains.

Do not mix with other wastes.

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: UN 3086

14.2. UN proper shipping name: TOXIC SOLID, OXIDIZING, N.O.S. (potassium dichromate)

14.3. Transport hazard class(es):6.114.4. Packing group:IIHazard label:6.1+5.1Classification code:TO2Special Provisions:274Limited quantity:500 gExcepted quantity:E4Transport category:2



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Hazard No: 65
Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 3086

14.2. UN proper shipping name: TOXIC SOLID, OXIDIZING, N.O.S. (potassium dichromate)

14.3. Transport hazard class(es):6.114.4. Packing group:IIHazard label:6.1+5.1Classification code:TO2Special Provisions:274 802Limited quantity:500 g

Excepted quantity:

Marine transport (IMDG)

14.1. UN number or ID number: UN 3086

14.2. UN proper shipping name: TOXIC SOLID, OXIDIZING, N.O.S. (potassium dichromate)

F4

14.3. Transport hazard class(es):6.114.4. Packing group:IIHazard label:6.1+5.1Special Provisions:274Limited quantity:500 gExcepted quantity:E4EmS:F-A, S-Q

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3086

14.2. UN proper shipping name: TOXIC SOLID, OXIDIZING, N.O.S. (potassium dichromate)

14.3. Transport hazard class(es):6.114.4. Packing group:IIHazard label:6.1+5.1Special Provisions:A5Limited quantity Passenger:1 kgPassenger LQ:Y644Excepted quantity:E4

IATA-packing instructions - Passenger: 667
IATA-max. quantity - Passenger: 5 kg
IATA-packing instructions - Cargo: 674
IATA-max. quantity - Cargo: 25 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

Danger releasing substance: potassium dichromate

SECTION 15: Regulatory information

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 29, Entry 75

Information according to 2012/18/EU H2 ACUTE TOXIC

(SEVESO III):

Additional information: E1



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Additional information

SVHC substance.

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): 3,12,13.

Abbreviations and acronyms

Ox. Sol: Oxidising solid Acute Tox: Acute toxicity Skin Corr: Skin corrosion Eye Dam: Eye damage

Resp. Sens: Respiratory sensitisation

Skin Sens: Skin sensitisation Muta: Germ cell mutagenicity

Carc: Carcinogenicity
Repr: Reproductive toxicity

STOT SE: Specific target organ toxicity - single exposure STOT RE: Specific target organ toxicity - repeated exposure

Aquatic Acute: Acute aquatic hazard
Aquatic Chronic: Chronic aquatic hazard

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.

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.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Further Information

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



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product properties and establishes no contract legal rights.

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