

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Potassium dichromate for analysis, ACS

Revision date: 11.08.2023

Product code: 06161

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

1.1. Product identifier

Potassium dichromate for analysis, ACS

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
E-mail: info@analytichem.de
Contact person: Abteilung Produktsicherheit
E-mail: produktsicherheit@analytichem.de
Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit
Telefax: 0203/5194-290
Telephone: 0203/5194-107/117

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

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; H340
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.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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:	K ₂ Cr ₂ O ₇
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	Value
Environmental compartment		
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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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
Boiling point or initial boiling point and boiling range:	>500 °C
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
Decomposition temperature:	~500 °C
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:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Density:	2,70 g/cm ³
Relative density:	No data available
Bulk density:	1250 kg/m ³
Relative vapour density:	No data available
Particle characteristics:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties	No data available
Sustaining combustion:	No data available
Self-ignition temperature	No data available
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
Solvent content:	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:	No data available
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

Toxicokinetics, 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 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

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)

<u>14.1. UN number or ID number:</u>	UN 3086
<u>14.2. UN proper shipping name:</u>	TOXIC SOLID, OXIDIZING, N.O.S. (potassium dichromate)
<u>14.3. Transport hazard class(es):</u>	6.1
<u>14.4. Packing group:</u>	II
Hazard label:	6.1+5.1
Classification code:	TO2
Special Provisions:	274
Limited quantity:	500 g
Excepted quantity:	E4
Transport 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): 6.1
14.4. Packing group: II
Hazard label: 6.1+5.1
Classification code: TO2
Special Provisions: 274 802
Limited quantity: 500 g
Excepted quantity: E4

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)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: II
Hazard label: 6.1+5.1
Special Provisions: 274
Limited quantity: 500 g
Excepted quantity: E4
EmS: 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): 6.1
14.4. Packing group: II
Hazard label: 6.1+5.1
Special Provisions: A5
Limited quantity Passenger: 1 kg
Passenger LQ: Y644
Excepted 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 (SEVESO III): H2 ACUTE TOXIC

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.

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.