ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

Potassium dichromate

Revision Date:2025-02-01 Revision Number:1

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

Product identifier

Product name	: Potassium dichromate
CBnumber	: CB5854318
CAS	: 7778-50-9
EINECS Number	: 231-906-6
Synonyms	: POTASSIUM DICHROMATE,potassium bichromate

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

Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.
Uses advised against	: none

Company Identification

Company	: Chemicalbook
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)

Signal word Danger

Precautionary statements

P405 Store locked up.

P320 Specific treatment is urgent (see … on this label).

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing.

P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P284 Wear respiratory protection.

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

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

P221 Take any precaution to avoid mixing with combustibles/…

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

P201 Obtain special instructions before use.

Hazard statements

H412 Harmful to aquatic life with long lasting effects

H411 Toxic to aquatic life with long lasting effects

H410 Very toxic to aquatic life with long lasting effects

H402 Harmful to aquatic life

H401 Toxic to aquatic life

H400 Very toxic to aquatic life

H373 May cause damage to organs through prolonged or repeated exposure

H372 Causes damage to organs through prolonged or repeated exposure

H360 May damage fertility or the unborn child

H350 May cause cancer

H340 May cause genetic defects

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

H333 May be harmful if inhaled

H331 Toxic if inhaled

H330 Fatal if inhaled

H319 Causes serious eye irritation

H318 Causes serious eye damage

H317 May cause an allergic skin reaction

H315 Causes skin irritation

H314 Causes severe skin burns and eye damage

H312 Harmful in contact with skin

H303 May be harmfulif swallowed

H301 Toxic if swalloed

H272 May intensify fire; oxidizer

SECTION 3: Composition/information on ingredients

Substance

Product name	: Potassium dichromate
Synonyms	: POTASSIUM DICHROMATE,potassium bichromate
CAS	: 7778-50-9
EC number	: 231-906-6
MF	: Cr2K2O7
MW	: 294.185

SECTION 4: First aid measures

Description of first aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Potassium oxides Chromium oxides Not combustible.

Has a fire-promoting effect due to release of oxygen. Ambient fire may liberate hazardous vapours.

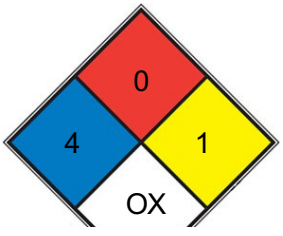
Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA 704



■	HEALTH	4	Very short exposure could cause death or major residual injury (e.g. hydrogen cyanide, phosgene, methyl isocyanate, hydrofluoric acid)
■	FIRE	0	Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)
■	REACT	1	Normally stable, but can become unstable at elevated temperatures and pressures (e.g. propene)
□	SPEC. HAZ.	OX	

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons. Do not store near combustible materials.

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

---

SECTION 8: Exposure controls/personal protection

control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

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).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested:KCL 741 Dermatril? L

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).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested:KCL 741 Dermatril? L

Body Protection

protective clothing

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P3

The entrepeneur 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.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Appearance	orange crystalline
Odour	odorless
Odour Threshold	Not applicable d) pH 3,5 - 5,0 at 29,4 g/l at 25 °C Melting point/freezing point Initial boiling point and boiling range Melting point/range: 398 °C - lit. >500 °C at 1.013 hPa - Decomposition Flash point Not applicable Evaporation rate No data available Flammability (solid, gas) Upper/lower flammability or explosive limits No data available No data available Vapour pressure Not applicable Vapour density No data available Density ca.2,680 g/cm3 at 20 °C - OECD Test Guideline 109 Relative density ca.2,7 at 20 °C - OECD Test Guideline 109 Water solubility ca.29,4 g/l at 20 °C Partition coefficient: n-octanol/water Autoignition temperature Decomposition temperature Not applicable for inorganic substances does not ignite ca.500 °C - Viscosity Viscosity, kinematic: No data available Viscosity, dynamic: No data available Explosive properties No data available Oxidizing properties The substance or mixture is classified as oxidizing with the category 2.
Melting point/freezing point	Melting point/range: 398 °C - lit.
Initial boiling point and boiling range	>500 °C at 1.013 hPa - Decomposition
Flash point	Not applicable
Evaporation rate	50 °F
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	Not applicable
Vapour density	No data available
Relative density	ca.2,680 g/cm3 at 20 °C - OECD Test Guideline 109 ca.2,7 at 20 °C - OECD Test Guideline 109
Water solubility	ca.29,4 g/l at 20 °C
Partition coefficient: n-octanol/water	Not applicable for inorganic substances
Autoignition temperature	does not ignite
Decomposition temperature	ca.500 °C -
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	The substance or mixture is classified as oxidizing with the

Other safety information

No data available

SECTION 10: Stability and reactivity

Reactivity

No data available

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Risk of explosion with:

Iron magnesium

hydrazine and derivatives hydroxylamine ammonium nitrate

Boron

Acetic anhydride oxidisable substances Reducing agents sulfuric acid

silicon

Exothermic reaction with:

anhydrides phosphides Sulfides nitrides Fluorine

Risk of ignition or formation of inflammable gases or vapours with: organic combustible substances

glycerol Powdered metals hydrides

alkali compounds Acetone

with sulfuric acid

Generates dangerous gases or fumes in contact with: hydrochloric acid

Conditions to avoid

no information available

Incompatible materials

No data available

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - 90,5 mg/kg (OECD Test Guideline 401)

LC50 Inhalation - Rat - female - 4 h - 0,083 mg/l (OECD Test Guideline 403)

Acute toxicity estimate Dermal - Expert judgment - 1.100 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns. - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Patch test: - Human Result: positive Remarks: (IUCLID)

Germ cell mutagenicity

May cause genetic defects.

Carcinogenicity

No data available

Reproductive toxicity

May damage the unborn child. May damage fertility.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Inhalation - Causes damage to organs through prolonged or repeated exposure. - Cardio- vascular system

Aspiration hazard

No data available

Toxicity

LD50 orally in Rabbit: 90.5 mg/kg LD50 dermal Rat 1170 mg/kg

SECTION 12: Ecological information

Toxicity

Toxicity to fish

LC50 - Danio rerio (zebra fish) - 58,5 mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 0,035 mg/l - 48 h Remarks: (ECHA)

Toxicity to algae

static test ErC50 - Selenastrum capricornutum (green algae) - 0,233 mg/l - 72 h

Remarks: (ECHA)

Toxicity to bacteria

IC50 - activated sludge - 30 mg/l - 3 h

Remarks: (in analogy to similar products) (ECHA)

Persistence and degradability

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

Bioaccumulative potential

Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 180 d

- 200 µg/l(potassium dichromate)

Bioconcentration factor (BCF): 17,4

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

No data available

SECTION 13: Disposal considerations

Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Incompatibilities

A powerful oxidizer. Violent reactions with combustibles, organics, powdered metals; or easily oxidizable substances. Contact with hydroxylamine, hydrazine causes explosion.

SECTION 14: Transport information

UN number

ADR/RID: 3086 IMDG: 3086 IATA: 3086

UN proper shipping name

ADR/RID: (potassium dichromate)

IMDG: TOXIC SOLID, OXIDIZING, N.O.S. (potassium dichromate) IATA: Toxic solid, oxidizing, n.o.s. (potassium dichromate)

Transport hazard class(es)

ADR/RID: 6.1 (5.1) IMDG: 6.1 (5.1) IATA: 6.1 (5.1)

Packaging group

ADR/RID: II IMDG: II IATA: II

Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: no

Special precautions for user

No data available

SECTION 15: Regulatory information

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

Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Listed. website: https://www.mem.gov.cn/

Measures for Environmental Management of New Chemical Substances

Vietnam National Chemical Inventory:Listed. website: https://chemicaldata.gov.vn/

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: https://www.epa.gov/

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: https://emb.gov.ph/

New Zealand Inventory of Chemicals (NZIoC):Listed. website: https://www.epa.govt.nz/

Korea Existing Chemicals List (KECL):Listed. website: http://ncis.nier.go.kr

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: https://echa.europa.eu/

EC Inventory:Listed.

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: https://www.mee.gov.cn/

SECTION 16: Other information

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

References

【1】CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

【2】ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

【3】ECHA - European Chemicals Agency, website: https://echa.europa.eu/

【4】eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

【5】ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

【6】Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

【7】HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

【8】IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

【9】IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

【10】Sigma-Aldrich, website: https://www.sigmaaldrich.com/

Other Information

Do NOT take working clothes home.Rinse contaminated clothing with plenty of water because of fire hazard.Anyone who has shown symptoms of asthma due to this substance should avoid all further contact.The symptoms of asthma often do not become manifest until a few hours have

passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.