

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Trade name: POTASSIUM DICHROMATE

Substance name: Potassium Dichromate

Index-No.: 024-002-00-6

CAS-No.: 7778-50-9

EC-No.: 231-906-6

EU REACH-Reg. No.: 01-2119454792-32-XXXX

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

Use of the Substance/Mixture:

Identified use: See table in front of appendix for a complete overview of identified uses.

Uses advised against: At this moment we have not identified any uses advised against.

Remarks: Before referring to any Exposure Scenario attached to this Safety Data Sheet, please check the grade of the product: the Exposure Scenarios presented are not related to the product grade.

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008:

REGULATION (EC) No 1272/2008:

Hazard class	Hazard category	Target Organs	Hazard statements
Oxidizing solids	Category 2	---	H272
Carcinogenicity	Category 1B	---	H350
Germ cell mutagenicity	Category 1B	---	H340
Reproductive toxicity	Category 1B	---	H360FD
Acute toxicity (Inhalation)	Category 2	---	H330

[cont...]

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Hazard class	Hazard category	Target Organs	Hazard statements
Acute toxicity (Dermal)	Category 4	---	H312
Acute toxicity (Oral)	Category 3	---	H301
Specific target organ toxicity – repeated exposure	Category 1	---	H372
Skin corrosion	Category 1B	---	H314
Respiratory sensitisation	Category 1	---	H334
Skin sensitisation	Category 1	---	H317
Acute aquatic toxicity	Category 1	---	H400
Chronic aquatic toxicity	Category 1	---	H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

Most important adverse effects:

Human Health: See section 11 for toxicological information.

Physical and chemical hazards: See section 9/10 for physicochemical information.

Potential environmental effects: See section 12 for environmental information.

Label elements:

Labelling according to Regulation (EC) No 1272/2008:

Hazard symbols:



Signal word: Danger

Hazard statements:

- H272 May intensify fire; oxidizer.
- 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.
- H330 Fatal if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- 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.
- H410 Very toxic to aquatic life with long lasting effects.

[cont...]

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Precautionary statements:

Prevention:

P201 Obtain special instructions before use.
P260 Do not breathe dust.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 In case of inadequate ventilation wear respiratory protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
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 + P313 IF exposed or concerned: Get medical advice/ attention.

Additional Labelling:

Restricted to professional users.

Hazardous components which must be listed on the label: Potassium Dichromate

Other hazards:

For Results of PBT and vPvB assessment see section 12.5.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

Hazardous components	Amount [%]	Hazard class/Hazard category	Hazard statements
Potassium Dichromate			
Index-No.: 024-002-00-6	<= 100	Ox. Sol.2	H272
CAS-No.: 7778-50-9		Carc.1B	H350
EC-No.: 231-906-6		Muta.1B	H340
EU REACH-Reg. No.: 01-2119454792-32-XXXX		Repr.1B	H360FD
		Acute Tox.2	H330
		Acute Tox.4	H312
		Acute Tox.3	H301
		STOT RE1	H372
		Skin Corr.1B	H314
		Resp. Sens.1	H334
		Skin Sens.1	H317
		Aquatic Acute1	H400
		Aquatic Chronic1	H410

Remarks:

This product contains a substance included in Annex XIV of Regulation EC No. 1907/2006 ('REACH') in a concentration $\geq 0.1\%$ w/w.

For the full text of the H-Statements mentioned in this Section, see Section 16.

[cont...]

4. FIRST AID MEASURES**Description of first aid measures:**

General advice:	Remove from exposure, lie down. Take off all contaminated clothing immediately.
If inhaled:	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Oxygen, if needed. No artificial respiration, mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus. Call a physician immediately.
In case of skin contact:	Wash off immediately with soap and plenty of water. Call a physician immediately.
In case of eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
If swallowed:	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician immediately. Keep patient warm and at rest. If a person vomits when lying on his back, place him in the recovery position. Risk of aspiration!

Protection of First Aid Responders: First Aid responders should pay attention to self-protection and use the recommended protective clothing.

Most important symptoms and effects, both acute and delayed:

Symptoms:	See Section 11 for more detailed information on health effects and symptoms.
Effects:	See Section 11 for more detailed information on health effects and symptoms.

Indication of any immediate medical attention and special treatment needed:

Treatment:	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES**Extinguishing media:**

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.

Unsuitable extinguishing media: High volume water jet.

Special hazards arising from the substance or mixture:

Specific hazards during firefighting: During fire may be released toxic vapours.

Hazardous combustion products: Chromium oxides.

Advice for firefighters:

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit).

Further advice: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal precautions: Use personal protective equipment. Keep people away from and upwind of spill/leak. Avoid dust formation. Avoid contact with skin and eyes. Do not breathe dust. Respirator must be worn if exposed to dust.

Environmental precautions: Should not be released into the environment. If material reaches soil inform authorities responsible for such cases. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up: Use mechanical handling equipment. Keep in suitable, closed containers for disposal.

Further information: Treat recovered material as described in the section "Disposal considerations".

Reference to other sections: See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

7. HANDLING AND STORAGE

Precautions for safe handling:

Advice on safe handling: Keep container tightly closed. Use personal protective equipment. Avoid dust formation. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Avoid contact with the skin and the eyes. Do not breathe dust. Respirator must be worn if exposed to dust. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. Take off all contaminated clothing immediately. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Keep working clothes separately.

Conditions for safe storage, including any incompatibilities:

Requirements for storage areas and containers: Store in a place accessible by authorized persons only. Keep only in the original container.

Advice on protection against fire and explosion: Keep away from combustible material.

Further information on storage conditions: Keep tightly closed in a dry and cool place. Keep in a well-ventilated place.

Advice on common storage: Keep away from food, drink and animal feeding stuffs. Keep away from combustible material.

Specific use(s): Identified use: See table in front of appendix for a complete overview of identified uses.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Control parameters:**

Component: Potassium Dichromate CAS-No. 7778-50-9

Derived No Effect Level (DNEL)/ Derived Minimal Effect Level (DMEL):

Workers, Long-term - systemic effects, Inhalation: 0.01 mg/m³

Workers, Acute - systemic effects, Inhalation: 0.01 mg/m³

Predicted No Effect Concentration (PNEC):

Fresh water: 0 mg/l

Sewage treatment plant (STP): 0.21 mg/l

Fresh water sediment: 0.15 mg/kg dw

Marine sediment: 0.15 mg/kg dw

Soil: 0.035 mg/kg dw

Other Occupational Exposure Limit Values:

UK. EH40 Workplace Exposure Limits (WELs), Time Weighted Average (TWA): as Cr 0.05 mg/m³

ELV (IE), Time Weighted Average (TWA): as Cr 0.05 mg/m³

Biological Exposure Indices:

UK. EH40 Biological Monitoring Guidance Values (BMGVs): Chromium, Creatinine in urine 10 µmol/mol; Sampling time: End of shift.

Exposure controls:

Appropriate engineering controls: Refer to protective measures listed in sections 7 and 8.

Personal protective equipment:**Respiratory protection:**

Advice: In case of brief exposure or low pollution use breathing filter apparatus.

Recommended Filter type: Combination filter:B-P3

In case of intensive or longer exposure use self-contained breathing apparatus.

Hand protection:

Advice: Protective gloves complying with EN 374.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Protective gloves should be replaced at first signs of wear.

Material: Natural rubber

Break through time: >= 8 h

Glove thickness: 0.5 mm

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Advice: The following information applies to aqueous, saturated solutions.

Material: Polychloroprene

Break through time: ≥ 8 h

Glove thickness: 0.5 mm

Material: Nitrile rubber

Break through time: ≥ 8 h

Glove thickness: 0.35 mm

Material: Butyl-rubber

Break through time: ≥ 8 h

Glove thickness: 0.5 mm

Material: Fluorinated rubber

Break through time: ≥ 8 h

Glove thickness: 0.4 mm

Material: Polyvinylchloride

Break through time: ≥ 8 h

Glove thickness: 0.5 mm

Eye protection:

Advice: Tightly fitting safety goggles

Skin and body protection:

Advice: Acid resistant protective clothing.

Environmental exposure controls:

General advice: Should not be released into the environment. If material reaches soil inform authorities responsible for such cases.

If the product contaminates rivers and lakes or drains inform respective authorities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Form: Crystalline powder

Colour: Orange

Odour: Odourless

Odour Threshold: No data available

pH: 3.5 (20 °C)

Melting point/range: 398°C

Boiling point/boiling range: $> 500^{\circ}\text{C}$ decomposes before boiling.

Flash point: Not applicable

Evaporation rate: No data available

Flammability (solid, gas): The product is not flammable.

[cont...]

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Upper explosion limit:	Not applicable
Lower explosion limit:	Not applicable
Vapour pressure:	No data available
Relative vapour density:	No data available
Density:	2.690 g/cm ³ (20 °C)
Water solubility:	130 g/l (20 °C)
Partition coefficient: n-octanol/water:	This product is inorganic substance.
Auto-ignition temperature:	Not applicable
Thermal decomposition:	ca. 500°C
Viscosity, dynamic:	Not applicable
Explosivity:	Product is not explosive.
Oxidizing properties:	May intensify fire; oxidizer.

Other information:

Molecular weight:	294.18 g/mol
Bulk density:	ca. 1250 kg/m ³

10. STABILITY AND REACTIVITY

Reactivity:

Advice:	Stable under recommended storage conditions.
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Chemical stability:

Advice:	No decomposition if stored and applied as directed.
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Possibility of hazardous reactions:

Hazardous reactions:	Contact with combustible material may cause fire.
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Reacts with the following substances: Reducing agents

Conditions to avoid:	Avoid moisture.
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Thermal decomposition:	ca.500 °C
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Incompatible materials:

Materials to avoid:	Keep away from combustible material.
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Materials to avoid:	Reducing agents, Acids.
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Hazardous decomposition products: Under fire conditions: Chromium oxides

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Component:	Potassium Dichromate	CAS-No. 7778-50-9
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Acute toxicity:

Oral:

LD50 Oral:	57 mg/kg (Rat)
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Inhalation:

LC50: 0.09 mg/l (Rat; 4 h)

Dermal:

LD50 Dermal: 1170 mg/kg (Rabbit)

Irritation:

Skin Result: No skin irritation (Rabbit)

Eyes:

Result: Causes serious eye damage. (Rabbit)

Sensitisation:

Result: May cause sensitisation by inhalation and skin contact.

CMR effects:

CMR Properties:

Carcinogenicity: May cause cancer.

Mutagenicity: May cause genetic defects.

Teratogenicity: May damage the unborn child.

Reproductive toxicity: May damage fertility.

Specific Target Organ Toxicity:

Single exposure:

Remarks: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure:

Remarks: Causes damage to organs through prolonged or repeated exposure.

Other toxic properties:

Aspiration hazard: Not applicable.

12. ECOLOGICAL INFORMATION

Toxicity:

Component: Potassium Dichromate CAS-No. 7778-50-9

Acute toxicity:

Fish:

LC50: 17.6 mg/l (Pimephales promelas (fathead minnow))

LC0: 200 mg/l (Leuciscus idus (Golden orfe))

Toxicity to daphnia and other aquatic invertebrates:

LC50: 0.89 mg/l (Daphnia magna (Water flea))

Algae: No data available

[cont...]

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Persistence and degradability:

Component: Potassium Dichromate CAS-No. 7778-50-9

Persistence and degradability:

Persistence:

Result: No data available.

Biodegradability:

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

Bioaccumulative potential:

Component: Potassium Dichromate CAS-No. 7778-50-9

Bioaccumulation:

Result: No data available.

Mobility in soil:

Component: Potassium Dichromate CAS-No. 7778-50-9

Mobility:

Water: The product is water soluble.

Air: Not volatile

Results of PBT and vPvB assessment:

Component: Potassium dichromate CAS-No. 7778-50-9

Results of PBT and vPvB assessment:

Result: The PBT or vPvB criteria of Annex XIII to the REACH Regulation does not apply to inorganic substances.

Other adverse effects:

Component: Potassium Dichromate CAS-No. 7778-50-9

Additional ecological information:

Result: Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.
Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Product: Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.

Contaminated packaging: Empty remaining contents. Packaging that cannot be cleaned are to be disposed of in the same manner as the product. Dispose of in accordance with local regulations.

European Waste Catalogue Number: No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

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14. TRANSPORT INFORMATION

UN number: 3086

UN proper shipping name:

ADR: TOXIC SOLID, OXIDIZING, N.O.S. (Potassium dichromate)

RID: TOXIC SOLID, OXIDIZING, N.O.S. (Potassium dichromate)

IMDG: TOXIC SOLID, OXIDIZING, N.O.S. (Potassium dichromate)

Transport hazard class(es):

ADR-Class: 6.1

(Labels; Classification Code; Hazard identification No; Tunnel restriction code): 6.1, 5.1; TO2; 65; (D/E)

RID-Class: 6.1

(Labels; Classification Code; Hazard identification No): 6.1, 5.1; TO2; 65

IMDG-Class: 6.1

(Labels; EmS): 6.1, 5.1; F-A, S-Q

Packaging group:

ADR: II

RID: II

IMDG: II

Environmental hazards:

Environmentally hazardous according to ADR: Yes

Environmentally hazardous according to RID: Yes

Marine Pollutant according to IMDG-Code: Yes

Special precautions for user: Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

15. REGULATORY INFORMATION

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

Notification status Potassium Dichromate:

Regulatory List	Notification	Notification number
AICS	YES	
DSL	YES	
INV (CN)	YES	
ENCS (JP)	YES	(1)-278
ISHL (JP)	YES	(1)-278
NZ CLSC	YES	
EINECS	YES	231-906-6
KECI (KR)	YES	KE-29094
NZIOC	YES	
TSCA	YES	
IECSC	YES	

[cont...]

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Chemical safety assessment: A Chemical Safety Assessment has been carried out for this substance.

Note: The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3:

H272 May intensify fire, oxidizer.
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.
H330 Fatal if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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.

Abbreviations and Acronyms: BCF bioconcentration factor.
BOD biochemical oxygen demand.
CAS Chemical Abstracts Service.
CLP Classification, Labelling and Packaging.
CMR carcinogenic, mutagenic or toxic to reproduction.
COD chemical oxygen demand.
DNEL derived no-effect level.
EINECS European Inventory of Existing Commercial Chemical Substances.
ELINCS European List of Notified Chemical Substances.
GHS Globally Harmonized System of Classification and Labelling of Chemicals.
LC50 median lethal concentration.
LOAEC lowest observed adverse effect concentration.
LOAEL lowest observed adverse effect level.
LOEL lowest observed effect level.
NLP no-longer polymer.
NOAEC no observed adverse effect concentration.
NOAEL no observed adverse effect level.
NOEC no observed effect concentration.
NOEL no observed effect level.
OECD Organisation for Economic Cooperation and Development.
OEL occupational exposure limit.

[cont...]

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PBT persistent, bioaccumulative and toxic.

PNEC predicted no-effect concentration.

STOT specific target organ toxicity.

SVHC substance of very high concern.

UVCB substance of unknown or variable composition, complex reaction products or biological materials.

vPvB very persistent and very bioaccumulative.

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation.

This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.