

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form	: Substance
	:
EC Index-No.	: 024-002-00-6
EC-No.	: 231-906-6
CAS-No.	: 7778-50-9
Product code	: 05354
Synonyms	: Potassium bichromate

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	: Industrial For professional use only
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Oxidising Solids, Category 2	H272
Acute toxicity (oral), Category 3	H301
Acute toxicity (dermal), Category 4	H312
Acute toxicity (inhalation:gas) Category 1	H330
Skin corrosion/irritation, Category 1	H314
Respiratory sensitisation, Category 1	H334
Skin sensitisation, Category 1	H317

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

Germ cell mutagenicity, Category 1A	H340
Carcinogenicity, Category 1A	H350
Reproductive toxicity, Category 1B	H360FD
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335
Specific target organ toxicity — Repeated exposure, Category 1	H372
Hazardous to the aquatic environment — Chronic Hazard, Category 1	H410

Full text of H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.1; R45
Muta.Cat.1; R46
Repr.Cat.1; R60
Repr.Cat.1; R61
O; R8
T+; R26
T; R25
T; R48/23
Xn; R21
R42
C; R34
R43
N; R50/53

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS03

GHS05

GHS06

GHS08

GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) :

- 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.
- H330 - Fatal if inhaled.
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 - May cause respiratory irritation.

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

	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.
Precautionary statements (CLP)	: P273 - Avoid release to the environment.
	P280 - Wear protective gloves/protective clothing/eye protection/face protection.
	P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER/doctor
	P302+P352 - IF ON SKIN: Wash with plenty of water/...
	P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	: POTASSIUM DICHROMATE EXTRA PURE
CAS-No.	: 7778-50-9
EC-No.	: 231-906-6
EC Index-No.	: 024-002-00-6

Full text of R- and H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth out with water. If you feel unwell, seek medical advice.

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

Symptoms/effects	: Causes severe skin burns and eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic defects. May damage fertility. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure.
Symptoms/effects after inhalation	: Fatal if inhaled.
Symptoms/effects after skin contact	: Harmful in contact with skin.
Symptoms/effects after ingestion	: Toxic if swallowed.
Chronic symptoms	: May cause cancer.

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : May intensify fire; oxidiser.
Explosion hazard : May cause fire or explosion; strong oxidiser.
Reactivity in case of fire : Reacts with water (moisture): release of highly flammable gases/vapours (methane).

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.
Emergency procedures : Stop release.

6.2. Environmental precautions

Toxic to aquatic life with long lasting effects.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clear up rapidly by scoop or vacuum.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not get in eyes, on skin, or on clothing.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep container tightly closed. Store in a dry place. Protect from moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

8.2. Exposure controls

Hand protection	: protective gloves
Eye protection	: Chemical goggles or safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: [In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Molecular mass	: 294.18 g/mol
Colour	: Orange Crystalline.
Odour	: odourless.
Odour threshold	: No data available
pH	: 4.04 (1% aq, solution)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 398 °C
Freezing point	: No data available
Boiling point	: 500 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 2.676 g/cm ³
Solubility	: Water: 6.5 % at 20°C
Log Pow	: 5
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

SECTION 10: Stability and reactivity

10.1. Reactivity

May intensify fire; oxidiser.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight. Air contact. Moisture. Water, humidity.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Toxic if swallowed. Harmful in contact with skin. Fatal if inhaled.
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 4.04 (1% aq, solution)
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: 4.04 (1% aq, solution)
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.
Reproductive toxicity	: May damage fertility. May damage the unborn child.
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Harmful in contact with skin. Toxic if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life.

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

POTASSIUM DICHROMATE EXTRA PURE (7778-50-9)

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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

POTASSIUM DICHROMATE EXTRA PURE (7778-50-9)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Ecology - waste materials : Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: 3087
UN-No. (IMDG)	: 3087
UN-No. (IATA)	: 3087
UN-No. (ADN)	: 3087
UN-No. (RID)	: 3087

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: OXIDIZING SOLID, TOXIC, N.O.S.
Proper Shipping Name (IMDG)	: OXIDIZING SOLID, TOXIC, N.O.S.
Proper Shipping Name (IATA)	: Oxidizing solid, toxic, n.o.s.
Proper Shipping Name (ADN)	: OXIDIZING SOLID, TOXIC, N.O.S.
Proper Shipping Name (RID)	: OXIDIZING SOLID, TOXIC, N.O.S.
Transport document description (ADR)	: UN 3087 OXIDIZING SOLID, TOXIC, N.O.S., 5.1 (6.1), II, (E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	: UN 3087 OXIDIZING SOLID, TOXIC, N.O.S., 5.1 (6.1), II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 3087 Oxidizing solid, toxic, n.o.s., 5.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	: UN 3087 OXIDIZING SOLID, TOXIC, N.O.S., 5.1 (6.1), II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	: UN 3087 OXIDIZING SOLID, TOXIC, N.O.S., 5.1 (6.1), II, ENVIRONMENTALLY HAZARDOUS

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 5.1 (6.1)

Danger labels (ADR) : 5.1, 6.1



IMDG

Transport hazard class(es) (IMDG) : 5.1 (6.1)

Danger labels (IMDG) : 5.1, 6.1



IATA

Transport hazard class(es) (IATA) : 5.1 (6.1)

Hazard labels (IATA) : 5.1, 6.1



ADN

Transport hazard class(es) (ADN) : 5.1 (6.1)

Danger labels (ADN) : 5.1, 6.1



RID

Transport hazard class(es) (RID) : 5.1 (6.1)

Danger labels (RID) : 5.1, 6.1



14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

14.5. Environmental hazards

Dangerous for the environment	: Yes
Marine pollutant	: Yes
Other information	: No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: OT2
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 1kg
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P002, IBC06
Mixed packing provisions (ADR)	: MP2
Portable tank and bulk container instructions (ADR)	: T3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAN
Tank special provisions (ADR)	: TU3
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V11
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV24, CV28
Hazard identification number (Kemler No.)	: 56
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 1W

- Transport by sea

Special provisions (IMDG)	: 274, 900
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC06
IBC special provisions (IMDG)	: B21
Tank instructions (IMDG)	: T3
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-Q
Stowage category (IMDG)	: B
Segregation (IMDG)	: SG38, SG49, SG60
Properties and observations (IMDG)	: Toxic if swallowed, by skin contact or by dust inhalation. Should be handled with care to minimize exposure, particularly to dust.
MFAG-No	: 141

- Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y543
PCA limited quantity max net quantity (IATA)	: 1kg
PCA packing instructions (IATA)	: 558

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

PCA max net quantity (IATA)	: 5kg
CAO packing instructions (IATA)	: 562
CAO max net quantity (IATA)	: 25kg
Special provisions (IATA)	: A3
ERG code (IATA)	: 5P

- Inland waterway transport

Classification code (ADN)	: OT2
Special provisions (ADN)	: 274, 802
Limited quantities (ADN)	: 1 kg
Excepted quantities (ADN)	: E2
Equipment required (ADN)	: PP, EP
Number of blue cones/lights (ADN)	: 2

- Rail transport

Classification code (RID)	: OT2
Special provisions (RID)	: 274
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P002, IBC06
Mixed packing provisions (RID)	: MP2
Portable tank and bulk container instructions (RID)	: T3
Portable tank and bulk container special provisions (RID)	: TP33
Tank codes for RID tanks (RID)	: SGAN
Special provisions for RID tanks (RID)	: TU3
Transport category (RID)	: 2
Special provisions for carriage – Packages (RID)	: W11
Special provisions for carriage - Loading, unloading and handling (RID)	: CW24, CW28
Colis express (express parcels) (RID)	: CE10
Hazard identification number (RID)	: 56

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Potassium dichromate is on the REACH Candidate List

Potassium dichromate is on the REACH Annex XIV List:

Authorisation number	Sunset date	REACH authorisation exemptions
	21/09/2017	

15.1.2. National regulations

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV; ID No. 339)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : POTASSIUM DICHROMATE EXTRA PURE is listed

SZW-lijst van mutagene stoffen : POTASSIUM DICHROMATE EXTRA PURE is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : POTASSIUM DICHROMATE EXTRA PURE is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : POTASSIUM DICHROMATE EXTRA PURE is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : POTASSIUM DICHROMATE EXTRA PURE is listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available


SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 1 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 1
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Carc. 1A	Carcinogenicity, Category 1A
Muta. 1A	Germ cell mutagenicity, Category 1A
Ox. Sol. 2	Oxidising Solids, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
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.
H330	Fatal if inhaled.

POTASSIUM DICHROMATE EXTRA PURE

Safety Data Sheet

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.
H410	Very toxic to aquatic life with long lasting effects.
R21	Harmful in contact with skin
R25	Toxic if swallowed
R26	Very toxic by inhalation
R34	Causes burns
R42	May cause sensitization by inhalation
R43	May cause sensitisation by skin contact
R45	May cause cancer
R46	May cause heritable genetic damage
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R60	May impair fertility
R61	
R8	Contact with combustible material may cause fire
C	Corrosive
N	Dangerous for the environment
O	Oxidising
T	Toxic
T+	Very toxic
Xn	Harmful

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.