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----------ISO 9001: 2015----------

MATERIAL SAFETY DATA SHEET

SECTION 1 Product identifiers

Product name : Potassium dichromate, GR 99%+
Product Code: P 2207
CAS-No. : 7778-50-9

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Oxidizing solids (Category 2), H272
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 2), H330
Acute toxicity, Dermal (Category 4), H312
Skin corrosion (Sub-category 1B), H314
Serious eye damage (Category 1), H318
Respiratory sensitization (Category 1), H334
Skin sensitization (Category 1), H317
Germ cell mutagenicity (Category 1B), H340
Carcinogenicity (Category 1B), H350
Reproductive toxicity (Category 1B), H360FD
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Specific target organ toxicity - repeated exposure, Inhalation (Category 1), Cardio-vascular system, H372
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410
For the full text of the H-Statements mentioned in this Section, see Section 16.
2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word	Danger
Hazard statement(s)	
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.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.
H360	FD May damage fertility. May damage the unborn child.
H372	Causes damage to organs (Cardio-vascular system) through prolonged or repeated exposure if inhaled.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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.
Supplemental Hazard Statements	none

Restricted to professional users.

Reduced Labeling	(<= 125 ml)
Pictogram	
Signal word	Danger
Hazard statement(s)	
H301	Toxic if swallowed.
H330	Fatal if inhaled.
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.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H314	Causes severe skin burns and eye damage.
H360	FD May damage fertility. May damage the unborn child.
Precautionary statement(s)	
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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.
Supplemental Hazard Statements	none

2.3 Other hazards

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.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Potassium bichromate

Formula : Cr2K2O7

Molecular weight : 294,18 g/mol

CAS-No. : 7778-50-9

EC-No. : 231-906-6

Component	Classification	Concentration
potassium dichromate		
CAS-No. 7778-50-9 EC-No. 231-906-6	Ox. Sol. 2; Acute Tox. 3; Acute Tox. 2; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Resp. Sens. 1; Skin Sens. 1; Muta. 1B; Carc. 1B; Repr. 1B; STOT SE 3; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H301, H330, H312, H314, H318, H334, H317, H340, H350, H360FD, H335, H372, H400, H410 Concentration limits: >= 5 %: STOT SE 3, H335; M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 1	<= 100 %

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

SECTION 4: First aid measures
4.1 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.
4.2 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
4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures
5.1 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.
5.2 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.
5.3 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.
5.4 Further information
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures
6.1 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.
6.2 Environmental precautions
Do not let product enter drains.
6.3 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.
6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage
7.1 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.
7.2 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.
7.3 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
8.1 Control parameters
Ingredients with workplace control parameters
8.2 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
9.1 Information on basic physical and chemical properties

a) Appearance Form:	crystalline Color: orange
b) Odor	odorless
c) Odor Threshold	Not applicable
d) pH	3,5 - 5,0 at 29,4 g/l at 25 °C
e) Melting point/freezing point	Melting point/range: 398 °C - lit.
f) Initial boiling point and boiling range	> 500 °C at 1.013 hPa - Decomposition
g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or	No data available

explosive limits	
k) Vapor pressure	Not applicable
l) Vapor density	No data available
m) 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
n) Water solubility	ca.29,4 g/l at 20 °C
o) Partition coefficient: n-octanol/water	Not applicable for inorganic substances
p) Autoignition temperature	does not ignite
q) Decomposition temperature	ca.500 °C -
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s) Explosive properties	No data available
t) Oxidizing properties	The substance or mixture is classified as oxidizing with the category 2.

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity
10.1 Reactivity
No data available
10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .
10.3 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
10.4 Conditions to avoid
no information available
10.5 Incompatible materials
No data available
10.6 Hazardous decomposition products
In the event of fire: see section 5.

SECTION 11: Toxicological information
11.1 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. - Cardiovascular system
Aspiration hazard
No data available
11.2 Additional Information
RTECS: HX7680000
Ulceration, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information
12.1 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)
12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.
12.3 Bioaccumulative potential
Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 180 d
- 200 µg/l(potassium dichromate)
Bioconcentration factor (BCF): 17,4
12.4 Mobility in soil
No data available
12.5 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.
12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations
13.1 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.

SECTION 14: Transport information
14.1 UN number
ADR/RID: 3086 IMDG: 3086 IATA: 3086
14.2 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)
14.3 Transport hazard class(es)
ADR/RID: 6.1 (5.1) IMDG: 6.1 (5.1) IATA: 6.1 (5.1)
14.4 Packaging group
ADR/RID: II IMDG: II IATA: II
14.5 Environmental hazards
ADR/RID: yes IMDG Marine pollutant: yes IATA: no
14.6 Special precautions for user
No data available

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
Authorisations and/or restrictions on use
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
: potassium dichromate
This product contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006.
Listed substance / Sunset Date : potassium dichromate / 21.09.2017
After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)
: potassium dichromate
National legislation
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
: ACUTE TOXIC
: OXIDISING LIQUIDS AND SOLIDS
: ENVIRONMENTAL HAZARDS
: ACUTE TOXIC
: OXIDISING LIQUIDS AND SOLIDS
: ENVIRONMENTAL HAZARDS
Other regulations
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
Take note of Dir 94/33/EC on the protection of young people at work.
15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

Section 16: Other Information
This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.