SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (3N) 99.9% Potassium Dichromate

Product Code: K-CRAT2-03

CAS Number: 7778-50-9

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
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+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
GHS03 Flame over circle
Ox. Sol. 2 H272 May intensify fire; oxidizer.
GHS06 Skull and crossbones
Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 2 H330 Fatal if inhaled.
GHS08 Health hazard
Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Muta. 1B H340 May cause genetic defects.
Carc. 1B H350 May cause cancer.
Repr. 1B H360 May damage fertility or the unborn child.
STOT RE 1 H372 Causes damage to the lung, the kidneys, the liver, the heart, the reproductive system, the blood, the bladder and the endocrine system through prolonged or repeated exposure.
Route of exposure: Oral.
GHS05 Corrosion
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
GHS07
Acute Tox. 4 H312 Harmful in contact with skin.
Skin Sens. 1 H317 May cause an allergic skin reaction.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T+; Very toxic
R26: Very toxic by inhalation.
T; Toxic
Carc. Cat. 2, Muta. Cat. 2, Repr. Cat. 2
R45-46-60-61-25-48/23: May cause cancer.
May cause heritable genetic damage. May impair fertility. May cause harm to the unborn child. Toxic if swallowed.
Toxic: danger of serious damage to health by prolonged exposure through inhalation.
C; Corrosive
R34: Causes burns.
Xn; Harmful
R21: Harmful in contact with skin.
Xn; Sensitizing
R42/43: May cause sensitization by inhalation and skin contact.
O; Oxidizing
R8: Contact with combustible material may cause fire.
N; Dangerous for the environment
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Information concerning particular hazards for human and environment:
N/A
Hazards not otherwise classified
No data available
Label elements
Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labeled according to the CLP regulation.
Hazard pictograms



GHS03
GHS05
GHS06
GHS08
Signal word
Danger
Hazard statements
H272 May intensify fire; oxidizer.
H301 Toxic if swallowed.
H312 Harmful in contact with skin.
H330 Fatal if inhaled.
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.
H360 May damage fertility or the unborn child.
H372 Causes damage to the lung, the kidneys, the liver, the heart, the reproductive system, the blood, the bladder and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral.
Precautionary statements
P221 Take any precaution to avoid mixing with combustibles.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with

water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P320 Specific treatment is urgent (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/ national/international regulations.
WHMIS classification
C - Oxidizing materials
D1A - Very toxic material causing immediate and serious toxic effects
D2A - Very toxic material causing other toxic effects
E - Corrosive material
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
HEALTH
FIRE
REACTIVITY
3
2
3
Health (acute effects) = 3
Flammability = 2
Physical Hazard = 3
Other hazards
Results of PBT and vPvB assessment
PBT:
N/A
vPvB:
N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS No. / Substance Name:
7778-50-9 Potassium dichromate
Identification number(s):
EC number:
231-906-6
Index number:
024-002-00-6

SECTION 4. FIRST AID MEASURES

Description of first aid measures
General information
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
If inhaled:
Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.
In case of skin contact:
Immediately wash with soap and water; rinse thoroughly.
Seek immediate medical advice.
In case of eye contact:
Rinse opened eye for several minutes under running water. Consult a physician.
If swallowed:
Do not induce vomiting; immediately call for medical help.
Information for doctor
Most important symptoms and effects, both acute and delayed
Causes severe skin burns.
Causes serious eye damage.
Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents
Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
For safety reasons unsuitable extinguishing agents
Halocarbon extinguisher
Special hazards arising from the substance or mixture
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
If this product is involved in a fire, the following can be released:
Potassium oxide
Chromium oxides
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions:
Do not allow material to be released to the environment without official permits.
Do not allow product to enter drains, sewage systems, or other water courses.
Do not allow material to penetrate the ground or soil.
Methods and materials for containment and cleanup:
Use neutralizing agent.
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Prevention of secondary hazards:
Acts as an oxidizing agent on organic materials such as wood, paper and fats
Keep away from combustible material.
Reference to other sections

See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Open and handle container with care.
Information about protection against explosions and fires:
Substance/product can reduce the ignition temperature of flammable substances.
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles:
No special requirements.
Information about storage in one common storage facility:
Store away from flammable substances.
Store away from reducing agents.
Do not store with organic materials.
Store away from metal powders.
Do not store together with acids.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
Specific end use(s)
No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Control parameters
Components with limit values that require monitoring at the workplace:
BMGV: Chromium VI; 10 µ mol chromium/mol creatine in urine (sample post shift)
7778-50-9 Potassium dichromate (100.0%)
PEL (USA) Long-term value: 0.005* mg/m³
Ceiling limit value: 0.1** mg/m³
*as Cr(VI) **as CrO3; see 29 CFR 1910.1026
REL (USA) Long-term value: 0.001 mg/m³
as Cr; See Pocket Guide Apps. A and C
TLV (USA) Long-term value: 0.05 mg/m³
as Cr; BEI
Ingredients with biological limit values:
7778-50-9 Potassium dichromate (100.0%)
BEI (USA) 25 µg/L
Medium: urine

Time: end of shift at end of workweek
Parameter: Total chromium (fume)
10 µg/L
Medium: urine
Time: increase during shift
Parameter: Total chromium (fume)
Additional information:
No data
Exposure controls
Personal protective equipment
Follow typical protective and hygienic practices for handling chemicals.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Breathing equipment:
Respiratory protection equipment should be worn and maintained according to the suppliers specifictions. Fit testing must be conducted at regular intervals.
Use self-contained respiratory protective device in emergency situations.
Recommended filter device for short term use:
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.
Protection of hands:
Impervious gloves
Inspect gloves prior to use.
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.
Material of gloves
Nitrile rubber, NBR
Penetration time of glove material (in minutes)
480
Glove thickness
0.11 mm
Eye protection:
Tightly sealed goggles
Full face protection
Body protection:
Protective work clothing

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Appearance:
Form: Crystalline powder
Color: Orange
Odor: Odorless
Odor threshold: Not determined.
pH: N/A
Melting point/Melting range: 398 °C (748 °F)
Boiling point/Boiling range: Not determined

Sublimation temperature / start: Not determined
Flammability (solid, gas)
Contact with combustible material may cause fire.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Autoignition: Not determined.
Danger of explosion: Not determined.
Explosion limits:
Lower: Not determined
Upper: Not determined
Vapor pressure at 20 °C (68 °F): 0 hPa
Density at 20 °C (68 °F): 2.676 g/cm³ (22.331 lbs/gal)
Relative density
Not determined.
Vapor density
N/A
Evaporation rate
N/A
Solubility in / Miscibility with Water at 20 °C (68 °F): 125 g/l
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic: N/A
Kinematic: N/A
Other information
No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
May intensify fire; oxidizer.
Chemical stability
Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
Reacts with reducing agents
Reacts with flammable substances
Conditions to avoid
No data available
Incompatible materials:
Acids
Reducing agents
Flammable substances
Organic materials
Metal powders
Hazardous decomposition products:
Potassium oxide
Chromium oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
Harmful in contact with skin.
Fatal if inhaled.
Toxic if swallowed.
Danger through skin absorption.
Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.
LD/LC50 values that are relevant for classification:
Oral LD50 25 mg/kg (rat)
Dermal LD50 14 mg/kg (rabbit)
Skin irritation or corrosion:
Causes severe skin burns.
Eye irritation or corrosion:
Causes serious eye damage.
Sensitization:
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Germ cell mutagenicity:
May cause genetic defects.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.
Carcinogenicity:
May cause cancer.
IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.
ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.
NTP-K: Known to be carcinogenic: sufficient evidence from human studies.
(inhalation) EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer.
(inhalation) EPA-K: Known human carcinogens.
(oral) EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.
(oral) EPA-CBD: Carginogenic potential cannot be determined.
Reproductive toxicity:
May damage fertility or the unborn child.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.
Specific target organ system toxicity - repeated exposure:
Causes damage to the lung, the kidneys, the liver, the heart, the reproductive system, the blood, the bladder and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral.
Specific target organ system toxicity - single exposure:
No effects known.
Aspiration hazard:
No effects known.
Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity:
No data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Ecotoxical effects:
Remark:
Very toxic for aquatic organisms
Additional ecological information:
Do not allow material to be released to the environment without official permits.
Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Very toxic for aquatic organisms
Results of PBT and vPvB assessment
PBT:
N/A
vPvB:
N/A
Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation
Consult official regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN3087
UN proper shipping name
DOT
Oxidizing solid, toxic, n.o.s. (Potassium dichromate)
IMDG, IATA
OXIDIZING SOLID, TOXIC, N.O.S. (Potassium dichromate)
Transport hazard class(es)
DOT

Class
5.1 Oxidising substances.
Label
5.1+6.1
Class
5.1 (OT2) Oxidizing substances
Label
5.1+6.1
IMDG, IATA
Class
5.1 Oxidising substances.
Label
5.1+6.1
Packing group
DOT, IMDG, IATA
II
Environmental hazards:
Environmentally hazardous substance, solid
Special precautions for user
Warning: Oxidizing substances
EMS Number: F-A,S-Q
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A
Transport/Additional information:
DOT
Marine Pollutant (DOT):
No
UN "Model Regulation":
UN3087, Oxidizing solid, toxic, n.o.s. (Potassium dichromate), 5.1 (6.1), II

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
SARA Section 313 (specific toxic chemical listings)
7778-50-9 Potassium dichromate
California Proposition 65
Prop 65 - Chemicals known to cause cancer
7778-50-9 Potassium dichromate
Prop 65 - Developmental toxicity
Substance is not listed.
Prop 65 - Developmental toxicity, female
7778-50-9 Potassium dichromate
Prop 65 - Developmental toxicity, male
7778-50-9 Potassium dichromate
Information about limitation of use:
Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.
For use only by technically qualified individuals.
This substance is subject to a Significant New Use Rule (SNUR) promulgated under Section 5(a)(2) of

the Toxic Substances Control Act (TSCA). See 40 CFR 721.
This product is being sold for research and development use.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.
This substance is included in the Candidate List of Substances of Very High Concern (
SVHC) according to Regulation (EC) No. 1907/2006 (REACH).
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use)
Substance is listed.
REACH - Pre-registered substances
Substance is listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

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16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.