

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Potassium Dichromate
Chemical name	: potassium dichromate
CAS-No.	: 7778-50-9
Product code	: LC18940
Formula	: K ₂ Cr ₂ O ₇

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: For laboratory and manufacturing use only.
Recommended use	: Laboratory chemicals
Restrictions on use	: Not for food, drug or household use

1.3. Supplier

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Oxidizing solids Category 2	H272	May intensify fire; oxidizer
Acute toxicity (oral) Category 3	H301	Toxic if swallowed
Acute toxicity (dermal) Category 4	H312	Harmful in contact with skin
Acute toxicity (inhalation) Category 2	H330	Fatal if inhaled
Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Respiratory sensitization, Category 1	H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Germ cell mutagenicity Category 1B	H340	May cause genetic defects
Carcinogenicity Category 1B	H350	May cause cancer
Reproductive toxicity Category 1B	H360	May damage fertility or the unborn child
Specific target organ toxicity (repeated exposure) Category 1	H372	Causes damage to organs (kidneys, liver, Skin) through prolonged or repeated exposure
Hazardous to the aquatic environment - Acute Hazard Category 1	H400	Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 1	H410	Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

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2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

Hazard statements (GHS-US)

Precautionary statements (GHS-US)

- : Danger
- : 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 an allergy or asthma symptoms or breathing difficulties if inhaled
H340 - May cause genetic defects
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H372 - Causes damage to organs (kidneys, liver, Skin) through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects
- : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
P220 - Keep/Store away from clothing, combustible materials
P221 - Take any precaution to avoid mixing with combustibles
P260 - Do not breathe dust.
P264 - Wash exposed skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P284 - Wear respiratory protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove/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
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P310 - Immediately call a poison center or doctor/physician.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations
If inhaled: Remove person to fresh air and keep comfortable for breathing
Contaminated work clothing must not be allowed out of the workplace

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification

: None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type

: Mono-constituent

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Name	Product identifier	%	GHS-US classification
Potassium Dichromate (Main constituent)	(CAS-No.) 7778-50-9	100	Ox. Sol. 2, H272 Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 2 (Inhalation), H330 Skin Corr. 1B, H314 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 1B, H340 Carc. 1B, H350 Repr. 1B, H360 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes 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 general	: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
First-aid measures after skin contact	: Immediately call a poison center or doctor/physician. Wash contaminated clothing before reuse. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: Causes severe skin burns and eye damage. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.
Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: May intensify fire; oxidizer.
Explosion hazard	: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity	: Thermal decomposition generates : Corrosive vapors.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Fight fire remotely due to the risk of explosion.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: No naked lights. No smoking.
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6.1.1. For non-emergency personnel

- Protective equipment : Combined gas/dust mask with filter type B/P3. Gloves. Protective goggles. Protective clothing. Face-shield.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Hazardous waste due to potential risk of explosion.
- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Take any precaution to avoid mixing with Combustibles. Do not breathe dust. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : combustible materials, Heat sources, Ignition sources, incompatible materials. Keep container closed when not in use. Keep in fireproof place.
- Incompatible products : Strong reducing agents. organic materials. combustible materials. metals.
- Incompatible materials : Sources of ignition. Direct sunlight. Heat sources. Combustible material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Potassium Dichromate (7778-50-9)		
ACGIH	ACGIH TWA (mg/m ³)	0.05 mg/m ³ as Cr
NIOSH	NIOSH REL (TWA) (mg/m ³)	0.001 mg/m ³ as Cr

8.2. Appropriate engineering controls

- Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation. Material should be handled in a laboratory hood whenever possible.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Chemical resistant apron. Face shield. Protective clothing. Safety glasses. Dust/aerosol mask with filter type P1.



Hand protection:

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Wear protective gloves.

Eye protection:

Chemical goggles or face shield

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Dust production: dust mask with filter type P1

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder.
Color	: Orange
Odor	: None.
Odor threshold	: No data available
pH	: 4-5% solution
Melting point	: 398 °C
Freezing point	: No data available
Boiling point	: 500 °C
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 2.676
Molecular mass	: 294.19 g/mol
Solubility	: Soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: > 500 °C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: May intensify fire; oxidizer.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

10.2. Chemical stability

May intensify fire; oxidizer.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Overheating. Open flame.

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10.5. Incompatible materials

Organic compounds. Strong reducing agents. metals. combustible materials.

10.6. Hazardous decomposition products

Contains hexavalent chromium.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact

Acute toxicity : Not classified

Potassium Dichromate (7778-50-9)	
LD50 oral rat	25 mg/kg
LD50 dermal rabbit	1150 mg/kg
LC50 inhalation rat (mg/l)	0.09 mg/l/4h
ATE US (oral)	25 mg/kg body weight
ATE US (dermal)	1150 mg/kg body weight
ATE US (gases)	100 ppmV/4h
ATE US (vapors)	0.09 mg/l/4h
ATE US (dust, mist)	0.09 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: 4 5% solution

Serious eye damage/irritation : Eye damage, category 1, implicit

pH: 4 5% solution

Respiratory or skin sensitization : May cause an 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.

Potassium Dichromate (7778-50-9)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens
In OSHA Hazard Communication Carcinogen list	Yes
In OSHA Specifically Regulated Carcinogen list	Yes

Reproductive toxicity : May damage fertility or the unborn child.

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Causes damage to organs (kidneys, liver, Skin) through prolonged or repeated exposure.

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful in contact with skin. Toxic if swallowed.

Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Symptoms/effects after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

Potassium Dichromate (7778-50-9)	
LC50 fish 1	12.3 mg/l 96 hr.
EC50 Daphnia 1	1.4 mg/l 24 hr.

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12.2. Persistence and degradability

Potassium Dichromate (7778-50-9)

Persistence and degradability : Not established.

12.3. Bioaccumulative potential

Potassium Dichromate (7778-50-9)

Bioaccumulative potential : Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Additional information : Hazardous waste due to potential risk of explosion.

Ecology - waste materials : Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3087 Oxidizing solid, toxic, n.o.s., 5.1, II

UN-No.(DOT) : UN3087

Proper Shipping Name (DOT) : Oxidizing solid, toxic, n.o.s.

Transport hazard class(es) (DOT) : 5.1 - Class 5.1 - Oxidizer 49 CFR 173.128

Packing group (DOT) : II - Medium Danger

Hazard labels (DOT) : 5.1 - Oxidizer
6.1 - Poison inhalation hazard



Dangerous for the environment : Yes

Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 212

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Symbols : G - Identifies PSN requiring a technical name

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DOT Special Provisions (49 CFR 172.102)	: 62 - Oxygen generators (see §171.8 of this subchapter) are not authorized for transportation under this entry. IB6 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2). Additional Requirement: Composite IBCs 11HZ2 and 21HZ2 may not be used when the hazardous materials being transported may become liquid during transport. IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle. T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 152
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 25 kg
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other	: 56 - Stow "separated from" ammonium compounds,58 - Stow "separated from" cyanides,95 - Stow "separated from" foodstuffs,106 - Stow "separated from" powdered metal
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Transport document description (IMDG)	: UN 3087 OXIDIZING SOLID, TOXIC, N.O.S., 5.1 (6.1), II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
UN-No. (IMDG)	: 3087
Proper Shipping Name (IMDG)	: OXIDIZING SOLID, TOXIC, N.O.S.
Class (IMDG)	: 5.1 - Oxidizing substances
Packing group (IMDG)	: II - substances presenting medium danger
Subsidiary risks (IMDG)	: 6.1 - Toxic substances
Limited quantities (IMDG)	: 1 kg
Marine pollutant	: Yes



Air transport

Transport document description (IATA)	: UN 3087 Oxidizing solid, toxic, n.o.s., 5.1, II, ENVIRONMENTALLY HAZARDOUS
UN-No. (IATA)	: 3087
Proper Shipping Name (IATA)	: Oxidizing solid, toxic, n.o.s.
Class (IATA)	: 5.1 - Oxidizing Substances
Packing group (IATA)	: II - Medium Danger
Subsidiary risks (IATA)	: 6.1 - Toxic substances

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SECTION 15: Regulatory information

15.1. US Federal regulations

Potassium Dichromate (7778-50-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of Lists)

10 lb

SARA Section 311/312 Hazard Classes

Physical hazard - Oxidizer (liquid, solid or gas)
Health hazard - Acute toxicity (any route of exposure)
Health hazard - Carcinogenicity
Health hazard - Respiratory or skin sensitization
Health hazard - Germ cell mutagenicity
Health hazard - Reproductive toxicity
Health hazard - Skin corrosion or Irritation
Health hazard - Specific target organ toxicity (single or repeated exposure)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Potassium Dichromate

CAS-No. 7778-50-9

100%

15.2. International regulations

CANADA

Potassium Dichromate (7778-50-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Potassium Dichromate (7778-50-9)

Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

Potassium Dichromate (7778-50-9)

U.S. - California - Proposition 65 - Carcinogens List

Yes

U.S. - California - Proposition 65 - Developmental Toxicity

Yes

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

Yes

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

Yes

This product can expose you to Potassium Dichromate, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Revision date : 05/29/2018

Other information : None.

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Full text of H-phrases: see section 16:

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 an allergy or asthma symptoms or breathing difficulties if inhaled
H340	May cause genetic defects
H350	May cause cancer
H360	May damage fertility or 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

NFPA health hazard

: 4 - Materials that, under emergency conditions, can be lethal.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 2 - Materials that readily undergo violent chemical change at elevated temperatures and pressures.

NFPA specific hazard

: OX - Materials that possess oxidizing properties.

Hazard Rating

Health

: 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures

Flammability

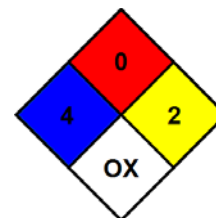
: 0 Minimal Hazard - Materials that will not burn

Physical

: 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

Personal protection

: F
F - Safety glasses, Gloves, Synthetic apron, Dust respirator



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