

SAFETY DATA SHEET

Creation Date 08-Jul-2009

Revision Date 19-Jan-2018

Revision Number 4

1. Identification

Product Name Potassium dichromate

Cat No. : AC197760000; AC197760010; AC197760050; AC197765000

CAS-No 7778-50-9
Synonyms Potassium bichromate.; Dipotassium dichromate; Dichromic acid, dipotassium salt

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.
Details of the supplier of the safety data sheet

Company

| | |
|---------------------|---------------------|
| Fisher Scientific | Acros Organics |
| One Reagent Lane | One Reagent Lane |
| Fair Lawn, NJ 07410 | Fair Lawn, NJ 07410 |
| Tel: (201) 796-7100 | |

Emergency Telephone Number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|--------------|
| Oxidizing solids | Category 2 |
| Acute oral toxicity | Category 3 |
| Acute dermal toxicity | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 2 |
| Skin Corrosion/Irritation | Category 1 B |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Respiratory Sensitization | Category 1 |
| Skin Sensitization | Category 1 |
| Germ Cell Mutagenicity | Category 1B |
| Carcinogenicity | Category 1A |
| Reproductive Toxicity | Category 1B |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system. | |
| Specific target organ toxicity - (repeated exposure) | Category 1 |
| Target Organs - Respiratory system, Liver, Kidney, Blood. | |

Label Elements**Signal Word**

Danger

Hazard Statements

May intensify fire; oxidizer

Toxic if swallowed

Harmful in contact with skin

Fatal if inhaled

Causes severe skin burns and eye damage

May cause respiratory irritation

May cause an allergic skin reaction

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause genetic defects

May cause cancer

May damage fertility. May damage the unborn child

Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Use personal protective equipment as required

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Do not get in eyes, on skin, or on clothing

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

In case of inadequate ventilation wear respiratory protection

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep/Store away from clothing/ other combustible materials

Take any precaution to avoid mixing with combustibles

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

If skin irritation or rash occurs: Get medical advice/attention

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

Rinse mouth

Do NOT induce vomiting

FireIn case of fire: Use CO₂, dry chemical, or foam for extinction**Storage**

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

WARNING. Cancer and Reproductive Harm - <https://www.p65warnings.ca.gov/>.

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|----------------------|-----------|----------|
| Potassium dichromate | 7778-50-9 | >95 |

4. First-aid measures

| | |
|--|---|
| General Advice | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required. |
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. |
| Ingestion | Do NOT induce vomiting. Call a physician or poison control center immediately. |
| Most important symptoms and effects | Causes burns by all exposure routes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | No information available |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | No data available |
| Lower | No data available |
| Oxidizing Properties | Oxidizer |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.). Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

Chromium oxide.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

| | | | |
|--------------------|--------------------------|-------------------------|-------------------------------|
| Health 4 | Flammability 0 | Instability 1 | Physical hazards OX |
|--------------------|--------------------------|-------------------------|-------------------------------|

6. Accidental release measures**Personal Precautions**

Use personal protective equipment as required. Evacuate personnel to safe areas. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid dust formation.

Environmental Precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

7. Handling and storage**Handling**

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not ingest. If swallowed then seek immediate medical assistance. Do not breathe (dust, vapor, mist, gas). Avoid dust formation. Keep away from clothing and other combustible materials.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. Corrosives area.

8. Exposure controls / personal protection**Exposure Guidelines**

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|----------------------|---|--|---|-----------------------------|
| Potassium dichromate | TWA: 0.0002 mg/m ³ STEL: 0.0005 mg/m ³ Skin | (Vacated) Ceiling: 0.1 mg/m ³ Ceiling: 0.1 mg/m ³ | IDLH: 15 mg/m ³ TWA: 0.0002 mg/m ³ | TWA: 0.05 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard

EN166.

| | |
|---------------------------------|---|
| Skin and body protection | Wear appropriate protective gloves and clothing to prevent skin exposure. |
| Respiratory Protection | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |

9. Physical and chemical properties

| | |
|---|---|
| Physical State | Solid |
| Appearance | Orange |
| Odor | Odorless |
| Odor Threshold | No information available |
| pH | 4 (5%) |
| Melting Point/Range | 398 °C / 748.4 °F |
| Boiling Point/Range | 500 °C / 932 °F |
| Flash Point | No information available |
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Specific Gravity | 2.676 |
| Solubility | Soluble |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | > 500°C |
| Viscosity | Not applicable |
| Molecular Formula | Cr ₂ K ₂ O ₇ |
| Molecular Weight | 294.19 |

10. Stability and reactivity

| | |
|---|---|
| Reactive Hazard | Yes |
| Stability | Oxidizer: Contact with combustible/organic material may cause fire. |
| Conditions to Avoid | Incompatible products. Excess heat. Combustible material. Avoid dust formation. |
| Incompatible Materials | Strong oxidizing agents, Reducing Agent, Acids, Strong bases, Acid anhydrides, Strong reducing agents, Combustible material |
| Hazardous Decomposition Products | Chromium oxide |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

Product Information

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|----------------------|-------------------|-----------------------|--------------------|
| Potassium dichromate | 130 mg/kg (Rat) | 1150 mg/kg (Rabbit) | 0.09 mg/L/4h (Rat) |

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Causes burns by all exposure routes

Sensitization May cause sensitization by skin contact

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|----------------------|-----------|---------|-------|-------|------|--------|
| Potassium dichromate | 7778-50-9 | Group 1 | Known | A1 | X | A1 |

IARC (International Agency for Research on Cancer)

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

NTP: (National Toxicity Program)

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits - Carcinogens

A1 - Confirmed Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Confirmed Animal Carcinogen

A4 - Not Classifiable as a Human Carcinogen

A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects May cause heritable genetic damage

Reproductive Effects May impair fertility.

Developmental Effects Component substance is listed on California Proposition 65 as a developmental hazard.

Teratogenicity May cause harm to the unborn child.

STOT - single exposure Respiratory system

STOT - repeated exposure Respiratory system Liver Kidney Blood

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not allow material to contaminate ground water system. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|----------------------|------------------|--|------------|--------------------|
| Potassium dichromate | Not listed | LC50: 24.81 - 34.55 mg/L, 96h semi-static (Poecilia reticulata) LC50: 23 - 41.2 mg/L, 96h | Not listed | EC50: 1.4 mg/L 24h |

| | | | |
|--|--|--|--|
| | | static (Poecilia reticulata) LC50: = 26 mg/L, 96h static (Morone saxatilis) LC50: 14 - 20.9 mg/L, 96h static (Pimephales promelas) LC50: > 139 mg/L, 96h static (Cyprinus carpio) LC50: 113.6 - 155.7 mg/L, 96h flow-through (Lepomis macrochirus) LC50: = 320 mg/L, 96h (Lepomis macrochirus) LC50: 65.6 - 137.6 mg/L, 96h static (Lepomis macrochirus) LC50: = 12.3 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: 21.209 - 30.046 mg/L, 96h semi-static (Oryzias latipes) LC50: 15.41 - 30.36 mg/L, 96h flow-through (Pimephales promelas) | |
|--|--|--|--|

Persistence and Degradability May persist based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN3087
Proper Shipping Name Oxidizing solid, toxic, n.o.s.
Technical Name Potassium dichromate
Hazard Class 5.1
Subsidiary Hazard Class 6.1
Packing Group II

TDG

UN-No UN3087
Proper Shipping Name Oxidizing solid, toxic, n.o.s.
Hazard Class 5.1
Subsidiary Hazard Class 6.1
Packing Group II

IATA

UN-No UN3087
Proper Shipping Name Oxidizing solid, toxic, n.o.s.
Hazard Class 5.1
Subsidiary Hazard Class 6.1
Packing Group II

IMDG/IMO

UN-No UN3087
Proper Shipping Name Oxidizing solid, toxic, n.o.s.
Hazard Class 5.1
Subsidiary Hazard Class 6.1

Packing Group II

15. Regulatory information

United States of America Inventory

| Component | CAS-No | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|----------------------|-----------|------|---|-----------------------------|
| Potassium dichromate | 7778-50-9 | X | ACTIVE | R |

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

' - Not Listed

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

TSCA 12(b) - Notices of Export

| Component | CAS-No | TSCA 12(b) - Notices of Export |
|----------------------|-----------|--------------------------------|
| Potassium dichromate | 7778-50-9 | Section 6 |

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component | CAS-No | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|----------------------|-----------|-----|------|-----------|-------|------|------|-------|----------|
| Potassium dichromate | 7778-50-9 | X | - | 231-906-6 | X | X | X | X | KE-29094 |

U.S. Federal Regulations**SARA 313**

| Component | CAS-No | Weight % | SARA 313 - Threshold Values % |
|----------------------|-----------|----------|-------------------------------|
| Potassium dichromate | 7778-50-9 | >95 | 0.1 |

SARA 311/312 Hazard Categories See section 2 for more information**CWA (Clean Water Act)**

| Component | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|----------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Potassium dichromate | X | 10 lb | X | - |

Clean Air Act

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|----------------------|-----------|-------------------------|-------------------------|
| Potassium dichromate | X | | - |

OSHA - Occupational Safety and Health Administration Not applicable

| Component | Specifically Regulated Chemicals | Highly Hazardous Chemicals |
|----------------------|---|----------------------------|
| Potassium dichromate | 5 µg/m ³ TWA 2.5 µg/m ³ Action Level | - |

CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|----------------------|--------------------------|----------------|
| Potassium dichromate | 10 lb | - |

California Proposition 65 This product contains the following Proposition 65 chemicals.

| Component | CAS-No | California Prop. 65 | Prop 65 NSRL | Category |
|----------------------|-----------|---------------------|--------------|---------------|
| Potassium dichromate | 7778-50-9 | Carcinogen | 0.001 µg/day | Developmental |

| | | | | |
|--|--|---|--|------------|
| | | Developmental Female Reproductive Male Reproductive | | Carcinogen |
|--|--|---|--|------------|

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|----------------------|---------------|------------|--------------|----------|--------------|
| Potassium dichromate | X | X | X | X | X |

U.S. Department of Transportation

Reportable Quantity (RQ): Y
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By Regulatory Affairs
 Thermo Fisher Scientific
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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS