



## MATERIAL SAFETY DATA SHEET

Name: Potassium dichromate Material Safety Data Sheet  
Synonym: Dichromic acid, dipotassium salt; Bichromate of potash; Dipotassium dichromate; Potassium bichromat  
Supplier: Huangshi Yucheng Trade Co.,Ltd  
Address: 60 Room, 6 Suit, Lakeshore Area, Huangshi City, Hubei, China  
Tel/Fax: 86-714-6403185/86-714-6401119

### ➤ Section 1 Chemical Product

MSDS Name: Potassium dichromate  
Synonym: Dichromic acid, dipotassium salt; Bichromate of potash; Dipotassium dichromate; Potassium bichromate

### ➤ Section 2 COMPOSITION, INFORMATION ON INGREDIENTS

CAS No.	Chemical Name	content	EINECS#	UN#
7778-50-9	Potassium dichromate	99.8	231-906-6	3087

Hazard Symbols: T+ N  
Risk Phrases: 21 25 26 37/38 41 43 46 49 50/53

### ➤ Section 3 HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Harmful in contact with skin. Toxic if swallowed. Very toxic by inhalation. Irritating to respiratory system and skin. Risk of serious damage to eyes. May cause sensitization by skin contact. May cause heritable genetic damage. May cause cancer by inhalation. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Dangerous for the environment.  
Potential Health Effects

#### Eye:

Causes eye burns. May cause chemical conjunctivitis and corneal damage.

#### Skin:

May be fatal if absorbed through the skin. Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Chrome ulcers, penetrating lesions of the skin, occur chiefly on the hand and forearm where there has been a break in the epidermis.

#### Ingestion:

May be fatal if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood.

#### Inhalation:

May cause asthmatic attacks due to allergic sensitization of the respiratory tract. May cause ulceration and perforation of the nasal septum if inhaled in excessive quantities. Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema.

#### Chronic:

Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. May cause respiratory tract cancer. May cause liver and kidney damage. Chronic inhalation may cause nasal septum ulceration and perforation. May cause reproductive and fetal effects. Effects may be delayed.

Laboratory experiment has resulted in mutagenic effects. Repeated or prolonged exposure may cause erosion and discoloration of the teeth.

### ➤ Section 4 FIRST AID MEASURES

#### Eyes:

Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

#### Skin:

Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.



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## **Ingestion:**

Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

## **Inhalation:**

Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

## **Notes to Physician:**

Consider the use of calcium gluconate for muscle spasms and gastric lavage followed by saline catharsis if soluble barium salts are ingested. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Effects may be delayed.

## ➔ Section 5

### **FIRE FIGHTING MEASURES**

#### **General Information:**

As in any fire, wear a self-contained breathing apparatus in pressure-demand MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Use water spray to keep fire-exposed containers cool. Use water with caution and in flooding amounts. Containers may explode if exposed to fire.

#### **Extinguishing Media:**

Use water only! Do NOT use dry chemical. Do NOT use halocarbons and sodium bicarbonate. Do NOT use carbon dioxide or dry chemical.

Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out.

## ➔ Section 6

### **ACCIDENTAL RELEASE MEASURES**

#### **General Information:**

Use proper personal protective equipment as indicated in Section 8.

#### **Spills/Leaks:**

Vacuum or sweep up material and place into a suitable disposal container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately observing precautions in the Protective Equipment section. Avoid generating dusty conditions.

Remove all sources of ignition. Provide ventilation. Do not use combustible materials, such as paper towels to clean up spill.

## ➔ Section 7

### **HANDLING and STORAGE**

#### **Handling:**

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed.

Keep away from heat, sparks and flame. Avoid contact with clothing and other combustible materials. Do not ingest or inhale. Use only in a chemical fume hood. Discard contaminated shoes.

#### **Storage:**

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry well-ventilated area away from incompatible substances. Keep away from reducing agents.

## ➔ Section 8

### **EXPOSURE CONTROLS, PERSONAL PROTECTION**

#### **Engineering Controls:**

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

#### **Personal Protective Equipment**

##### **Eyes:**

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:**



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Wear appropriate protective gloves to prevent skin exposure.

## **Clothing:**

Wear appropriate protective clothing to prevent skin exposure.

## **Respirators:**

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

## ➔ **Section 9**

### **PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Crystalline powder  
Color: orange  
Odor: odorless  
pH: 4.0 (1.0% solution)  
Vapor Pressure: Not available.  
Viscosity: Not available.  
Boiling Point: 500 deg C (dec)  
Freezing/Melting Point: 398 deg C  
Autoignition Temperature: Not applicable.  
Flash Point: Not applicable.  
Explosion Limits, lower: Not available.  
Explosion Limits, upper: Not available.  
Decomposition Temperature: 500 deg C  
Solubility in water: Soluble.  
Specific Gravity/Density: 2.676  
Molecular Formula: K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>  
Molecular Weight: 294.1844

## ➔ **Section 10**

### **STABILITY AND REACTIVITY**

#### **Chemical Stability:**

Stable under normal temperatures and pressures.

#### **Conditions to Avoid:**

Incompatible materials, ignition sources, dust generation, excess heat, combustible materials, reducing agents, flammable materials.

#### **Incompatibilities with Other Materials:**

Reducing agents, acids, organic matter, hydrazine, sulfuric acid + acetone, hydroxylamine, ethylene glycol, boron, silicon, iron, tungsten, sulfur, aluminum, plastics.

#### **Hazardous Decomposition Products:**

Irritating and toxic fumes and gases, oxides of potassium, chromium dioxide, potassium.

#### **Hazardous Polymerization:**

Has not been reported.

## ➔ **Section 11**

### **TOXICOLOGICAL INFORMATION**

RTECS#:

CAS# 7778-50-9: HX7680000 LD50/LC50:

CAS# 7778-50-9: Draize test, rabbit, eye: 140 mg Severe; Oral, mouse: LD50 = 190 mg/kg; Oral, rat: LD50 = 25 mg/kg; Skin, rabbit: LD50 = 14 mg/kg.

Oral, rat: LD50 = 25 mg/kg.

Carcinogenicity:

Chromic acid, dipotassium salt - California: carcinogen, initial date 2/27/87 (listed as Chromium (VI) NTP: Known carcinogen (listed as Chromium (VI) compounds).

IARC: Group 1 carcinogen (listed as Chromium (VI) compounds).

Other: See actual entry in RTECS for complete information.

## ➔ **Section 12**

### **ECOLOGICAL INFORMATION**

Ecotoxicity:

Fish: Striped bass: LC50 = 75 mg/L; 96 Hr; Static bioassay Fish: Fathead Minnow: LC50 = 17,300 ug/L; Unspecified; as chromium (Unspecified) Fish: Bluegill/Sunfish: LC50 =

118,000-133,000 ug/L; Unspecified; as chromium (Static unmeasured) Water flea Daphnia: EC50

=1,570 ug/L; 24 Hr; as chromium (Unspecified) Chromium probably occurs as the insoluble Cr(III) oxide (Cr<sub>2</sub>O<sub>3</sub>·nH<sub>2</sub>O) in soil, as the organic matter in soil is expected to reduce any soluble chromate to insoluble chromic oxide (Cr<sub>2</sub>O<sub>3</sub>).

Chromium in soil can be transported to the atmosphere by way of aerosol formation.

Chromium is also transported from soil through runoff and leaching of water.

Other Dangerous to aquatic life in high concentrations.



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## ➔ Section 13 DISPOSAL CONSIDERATIONS

Dispose in a manner consistent with federal, state, and local regulations.

## ➔ Section 14 TRANSPORT INFORMATION

IATA

Shipping Name: OXIDIZING SOLID, N.O.S.\*

Hazard Class: 5.1

UN Number: 3087

Packing Group: II

IMO

Shipping Name: OXIDIZING SOLID, N.O.S.

Hazard Class: 5.1

UN Number: 3087

Packing Group: II

RID/ADR

Shipping Name: OXIDIZING SOLID, N.O.S.

Hazard Class: 5.1

UN Number: 3087

Packing group: II

USA RQ: CAS# 7778-50-9: 10 lb final RQ; 4.54 kg final RQ

## ➔ Section 15 REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T+ N

### Risk Phrases:

R 46 May cause heritable genetic damage.

R 49 May cause cancer by inhalation.

R 21 Harmful in contact with skin.

R 25 Toxic if swallowed.

R 26 Very toxic by inhalation.

R 37/38 Irritating to respiratory system and skin.

R 41 Risk of serious damage to eyes.

R 43 May cause sensitization by skin contact.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Safety Phrases:

S 53 Avoid exposure - obtain special instructions before use.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label here possible).

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 7778-50-9: 3

United Kingdom Occupational Exposure Limits

United Kingdom Maximum Exposure Limits

CAS# 7778-50-9: MEL-United Kingdom, TWA(listed as \*\* undefined \*\*): 0.05 mg/m<sup>3</sup> TWA(as Cr)

Canada

CAS# 7778-50-9 is listed on Canada's DSL List.

CAS# 7778-50-9 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 7778-50-9: Not available.

US FEDERAL

TSCA

CAS# 7778-50-9 is listed on the TSCA inventory.

## ➔ Section 16 OTHER INFORMATION

ISSUED BY HUANGSHI YUCHENG TRADE CO.,LTD

