RADCHEM

LABORATORY CHEMICALS AND CONSUMABLES

MATERIAL SAFETY DATA SHEET

POTASSIUM DICHROMATE

1. Chemical Product and Company information.

Product name: Potassium dichromate

Contact Information:
Radchem cc
PO Box 166982
Brackendowns
Alberton 1454
Telephone : **011 867 3726 / 2864**

2. Hazard Identification

Extremely hazardous in case of skin contact (permeator). Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive, sensitizer), of eye contact (corrosive), of inhalation (lung irritant). Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation. Severe over exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

3. Composition / information on ingredients

CAS #: 7778-50-9

Synonym: Bichromate of potash; Dipotassium Dichromate; Potassium bichromate; Potassium dichromate (VI)

Chemical Name: Not available

Chemical Formula: K2Cr2O7

4. First Aid Measures

Eye Contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact: After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention.

Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention

Serious Inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion: Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available

5. Fire-fighting measures

Flammability of the Product: Non-flammable.

Fire Hazards in Presence of Various Substances: combustible materials, organic materials

Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable

Special Remarks on Fire Hazards: Dangerous in contact with organic materials. Contact with combustible or organic materials may cause fire. When heated to decomposition it emits toxic fumes of potassium oxide.

Special Remarks on Explosion Hazards: Reacts explosively with hydrazine, and anhydrous hydroxylamine.

6. Accidental release measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill: Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7. Handling and storage

Precautions: Keep locked up Keep container dry. Keep away from heat. Keep away from sources of ignition. Keep away from combustible material Do not breathe dust. Never add water to this product In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes Keep away from incompatibles such as reducing agents, combustible materials, and organic materials.

Storage: Oxidizing materials should be stored in a separate safety storage cabinet or room.

8. Exposure controls/personal protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

9. Physical and chemical properties

Physical state and appearance: Solid

Odour: Odourless

Taste: Bitter and metallic

Colour: Orange-Red

Boiling Point: Decomposition temperature: 500°C

Melting Point: 398°C

Critical Temperature: Not available

Specific Gravity: 2.676 @ 25 deg. C(Water = 1) Bulk Density: 1.6 g/m3 @ 20 deg. C

Vapour Density: Not available

Volatility: Not available

Odour Threshold: Not available

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water

Solubility: Easily soluble in hot water. Soluble in cold water. Solubility in water: 4.9 g/100 ml water @ 0 deg. C Solubility in water: 10.5% (w/w) @ 20 deg. C Solubility in water: 102 g/100 ml water @ 100 deg. C Insoluble in alcohol.

10. Stability and reactivity

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Reactive with reducing agents, combustible materials, organic materials, metals, acids, alkalis.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Reacts violently or ignites with ethylene glycol above 100 deg. C Other Incompatibles: combustible, organic, or other readily oxidizable materials such as paper, wood, sulphur, aluminium, iron, tungsten, sulphuric acid + acetone, born, glycol, sulphur, plastics

Special Remarks on Corrosivity: Not available

Polymerization: Will not occur.

11. Toxicological information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion

Toxicity to Animals: Acute oral toxicity (LD50): 25 mg/kg [Rat]. Acute dermal toxicity (LD50): 14 mg/kg [Rabbit].

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: blood, kidneys, lungs, liver, upper respiratory tract, skin, eyes.

Other Toxic Effects on Humans: Extremely hazardous in case of skin contact (permeator). Very hazardous in case of skin contact (irritant), of ingestion. Hazardous in case of skin contact (corrosive, sensitizer), of eye contact (corrosive), of inhalation (lung irritant).

Special Remarks on Toxicity to Animals: Lowest Published Lethal Dose: LDL [Man] - Route: Oral; Dose: 143 mg/kg LDL [Child] - Route: Oral; Dose 26 mg/kg

Special Remarks on Chronic Effects on Humans: Passes through the placental barrier in animal. May cause adverse reproductive effects and birth defects (teratogenic). May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: It causes skin irritation and may cause skin burns. It can be absorbed by the skin and cause systemic effects. Deep ulceration of the skin of the hands, resulting from occupational exposure can penetrate as far as the bone in severe cases. Eyes: Causes eye irritation and may cause eye burns. It may cause severe damage with possible loss of vision, transient corneal bulging, residual irregular astigmatism, and anaesthesia of the area after bulging resolves. Inhalation: Causes respiratory tract irritation. Inhalation of dust or mist can also cause irritation of the nose and eyes. Symptoms may include sneezing, rhinorrhea, throat erythema, nasal septum lesions, or perforation with bleeding, discharge, or crusting Ingestion: Harmful if swallowed. When ingested in small amounts, it can cause burns of the oesophagus, with possible stricture formation and perforation of the stomach. Symptoms may include abdominal and oesophageal pain, nausea, vomiting, hyper motility, diarrhoea, gastrointestinal tract irritation and bleeding, respiratory distress, cyanosis, coma, and death. It may also affect the cardiovascular system (cardiovascular shock, peripheral vascular collapse, urinary system (kidney damage - nephritis with glycosuria, acute tubular necrosis, and renal failure), liver (elevated liver enzyme levels, hepatitis, and hepatic failure), behaviour/central nervous system/nervous system (somnolence, ataxia, vertigo, muscle cramps). It may also affect the blood and cause anaemia, methemglobinemia (characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis with bluish skin, rapid heart.

12. Ecological information

Ecotoxicity: Ecotoxicity in water (LC50): 75 mg/l 96 hours [Fish (Striped bass)]. 1.5 mg/l 24 hours [Daphnia (daphnia)]. 17.3 mg/l 11 hours [Fish (Fathead minnow)].

BOD5 and COD: Not available

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic

Special Remarks on the Products of Biodegradation: Dangerous to aquatic life in high concentrations. Chromium probably occurs as the insoluble (CrIII) oxide ($Cr_2O_3.nH_2O$) in the soil, as the organic matter in the soil is expected to reduce any soluble chromate to insoluble chromic oxide (Cr_2O_3). Chromium in the soil can be transported to the atmosphere by way of aerosol formation. Chromium is also transported from the soil through runoff and leaching of water. Most of the chromium in surface waters may be present in particulate from as sediment. Some of the particulate chromium would remain as suspended matter and ultimately be deposited in the sediments. Chromium present usually as (CrIII) in the soil and is characterized by its lack of mobility, except in cases where Cr(VI) is involved. Chromium (VI) of natural origin is rarely found.

13. Disposal considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

DOT Classification: CLASS 5.1: Oxidizing material. CLASS 6.1: Poisonous material..

Identification: : Toxic Solids, Oxidizing, n.o.s (Potassium Dichromate) UNNA: 3086 PG: I

Special Provisions for Transport: Not available