

Material Safety Data Sheets

1. IDENTIFICATION

Product Name	Potassium dichromate
Other Names	Bichromate of potash; Dipotassium Dichromate; Potassium bichromate; Potassium dichromate
Code No	200-PD-2
Uses	No Data Available
Chemical Family	No Data Available
Chemical Formula	$K_2Cr_2O_7$
Chemical Name	Potassium dichromate
Product Description	No Data Available
Company	Arman sina.co
Contact Information	info@armansina.com www.armansina.com

2. HAZARD IDENTIFICATION

Hazard Categories	danger of very environment Toxic
Risk Phrases	Toxic by inhalation, in contact with skin and if swallowed. Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Symbol



3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Potassium dichromate	$K_2Cr_2O_7$	7778-50-9	100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Eye	After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
Skin	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately. 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.

5. FIRE FIGHTING MEASURES

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	combustible materials, organic materials
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
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Avoid accidents, clean up immediately. Increase ventilation. Avoid walking through spilled product as it is slippery when spilled. Use clean, non-sparking tools and equipment. Contact emergency services where appropriate.
Clean Up Procedures	Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar). When saturated collect material, transfer to suitable, labelled, dry chemical-waste containers and dispose of promptly as hazardous waste.
Containment	Stop leak if safe to do so. Isolate the area.
Environmental Precautionary Measures	Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.
Evacuation Criteria	Evacuate all unnecessary personnel.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing and Keep away from incompatibles such as reducing agents, combustible materials, organic materials. Do not inhale product vapours. Avoid prolonged or repeated exposure. Prohibit eating, drinking and smoking in contaminated areas.
Storage	Store in a cool, dry, well-ventilated area. Oxidizing materials should be stored in a separate safety storage cabinet or room. Keep containers tightly sealed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Ground and bond storage containers. Store away from incompatible materials as listed in section 10. Store removed from oxidising agents, acids, alkalis, heat or ignition sources and foodstuffs. Large storage areas should have appropriate fire protection systems. This product has a UN classification of 1230, Dangerous Goods Class 3 (flammable), and Subsidiary Risk 6 (toxic) according to the Australian Code for the Transport of Dangerous Goods By Road and Rail.
Container	Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC); Methanol CAS 67-56-1: TWA = 200ppm (262mg/m³) STEL = 250ppm (328mg/m³) 'Sk' Notice. NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. 'Sk' Notice - Absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
Exposure Limits	Exposure Limits: CEIL: 0.1 (mg(CrO₃)/m³) from OSHA (PEL) [United States] TWA: 0.05 (mg(Cr)/m³) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.
Biological Limits	No data available
Engineering Measures	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 Equipment	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.
Work Hygienic Practices	No Data Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Solid
Odour	Odorless.
Colour	Orange-Red
pH (1% soln/water)	4 [Acidic.]
Vapour Pressure	

Relative Vapour Density	1.11 Air = 1
Boiling Point	Decomposition temperature: 500°C (932°F)
Melting Point	398°C (748.4°F)
Freezing Point	
Solubility	Easily soluble in hot water. Soluble in cold water. Solubility in water: 4.9 g/100 ml water @ 0 deg. Insoluble in alcohol.
Specific Gravity	2.676 @ 25 deg. C(Water = 1) Bulk Density: 1.6 g/m3 @ 20 deg. C
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	100%
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	
Fast or Intensely Burning Characteristics	Vapours are heavier than air and may travel some distance to an ignition source and flash back.
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours may form explosive mixtures with air. Vapours	
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information	The product is stable
Chemical Stability	No Data Available
Conditions to Avoid	No Data Available
Materials to Avoid	Reactive with reducing agents, combustible materials, organic materials, metals, acids, alkalis.
Hazardous Decomposition Products	May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.
Hazardous Polymerisation	No

11. TOXICOLOGICAL INFORMATION

General Information

Acute toxicity LD50 Oral - Rat - female - 90.5 mg/kg
LC50 Inhalation - Rat - female - 4 h - 0.083 mg/l - dust/mist
Acute toxicity estimate Dermal - 1,100 mg/kg (Expert judgment)
Serious eye damage/eye irritation : Causes serious eye damage.
Respiratory or skin sensitization Patch test:
- Human Result: positive
- May cause allergic respiratory and skin reactions
- Germ cell mutagenicity: May cause genetic defects.
- Reproductive toxicity: May damage the unborn child. May damage fertility.
Specific target organ toxicity - single exposure: May cause respiratory irritation.
- Respiratory system
- Specific target organ toxicity - repeated exposure: Inhalation - Causes damage to organs through prolonged or repeated exposure. - Cardio-vascular system

Eye/Irritant

Ingestion

Inhalation

No Data Available

Skin/Irritant

Skin - Rabbit Result: Causes burns. - 4 h (OECD Test Guideline 404)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Carcinogen Category

Presumed to have carcinogenic potential for humans

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic toxicity:
Toxicity to fish LC50 - Danio rerio (zebra fish) - 58.5 mg/l - 96 h
EC50 - Daphnia magna (Water flea) - 0.035 mg/l - 48 h
Toxicity to bacteria IC50 - activated sludge - 30 mg/l - 3 h

Chronic aquatic toxicity possible above 32 ppm.

Persistence/Degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Mobility

No data available

Environmental Fate

Avoid contaminating waterways, drains and sewers.
If released to the atmosphere methanol degrades via reaction with photochemically produced hydroxyl radicals.

Bioaccumulation Potential

No Data Available

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS

General Information

Waste material must be disposed of in accordance with the national and local regulations.
Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Special Precautions for Land Fill

Contact a specialist disposal company or the local waste regulator for advice.
Wearing the protective equipment outlined, ensure all ignition sources are extinguished.
For small quantities, absorb on paper, sand or similar and evaporate under a fume cupboard or open area.
For large volumes, atomise into incinerator (mixing with more flammable solvent if required) or recycle by gravimetric separation, distilling & reusing.

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name	Potassium Dichromate
Class	Oxidizing material, Poisonous material
Subsidiary Risk(s)	
ERG	141
UN Number	3086
Hazchem	
Pack Group	II
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	potassium dichromate
Class	Oxidizing material, Poisonous material
Subsidiary Risk(s)	
UN Number	3086
Hazchem	
Pack Group	II
Special Provision	No Data Available
EMS	F-A, S-Q
Marine Pollutant	yes

Air Transport

IATA

Proper Shipping Name	potassium dichromate
Class	Oxidizing material, Poisonous material
Subsidiary Risk(s)	
UN Number	3086
Hazchem	
Pack Group	II
Special Provision	No Data Available

15. OTHER INFORMATION

Revision 2

Key/Legend

- < Less Than
- > Greater Than
- atm Atmosphere
- CAS Chemical Abstracts Service (Registry Number)
- cm Square Centimetres
- CO₂ Carbon Dioxide
- COD Chemical Oxygen Demand
- Degrees Celcius
- EPA (New Zealand) Environmental Protection Authority of New Zealand
- Degrees Farenheit
- g Grams
- g/cm Grams per Cubic Centimetre
- g/l Grams per Litre
- HSNO Hazardous Substance and New Organism
- IDLH Immediately Dangerous to Life and Health
- immiscible Liquids are insoluable in each other.
- inHg Inch of Mercury
- inH₂O Inch of Water
- K Kelvin
- kg Kilogram
- kg/m Kilograms per Cubic Metre

lb Pound

LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

ltr or L Litre

m Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m Milligrams per Cubic Metre

Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight