

**MATERIAL SAFETY DATA SHEET  
FOR  
THORN SMITH LABORATORIES  
STUDENT REFERENCE STANDARDS AND REAGENT CHEMICALS**

---

Potassium Dichromate  
Catalog Number 81-1055

---

Manufacturer: Auric Enterprises, Inc.  
d/b/a Thorn Smith Laboratories  
Address: 7755 Narrow Gauge Road  
Beulah, MI 49617  
Phone Number: 231-882-4672  
MSDS Number: TSL-108  
Date Prepared: November 16, 1983  
Date Updated: March 21, 2006

---

**SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION**

---

COMPONENTS - Chemical Name & Common Names

(Hazardous Components 1% or greater; Carcinogens 0.1% or greater)

Potassium Dichromate

Common Synonyms: Bichromate of Potash; Potassium Bichromate, Dichromic Acid, Dipotassium Salt.

Chemical Family: Chromium Compounds

Formula:  $K_2Cr_2O_7$

Chemical Weight: 294.19

CAS No.: 7778-50-9

OSHA PEL:  $0.1 \text{ mg/m}^3$

ACGIH TLV:  $0.5 \text{ mg/m}^3$

---

**SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS**

---

Boiling Point: (500° C) 932° F

Specific Gravity (H<sub>2</sub>O=1): 2.87 ( )

Vapor Pressure (mm Hg and Temperature): N/A

Melting Point: (398° C) 748° F

Vapor Density (Air-1): N/A

Evaporation Rate ( -1): N/A

Solubility in Water: Appreciable (more than 10%).

Water Reactive: No

Appearance and Odor: Bright, orange-red crystals. Odorless.

pH: 3.6 (10% solution)

---

### SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

---

NFPA 704M Rating: 1-0-1 OXY

Flash Point and Method Used: N/A

Auto-Ignition Temperature: N/A

Flammability Limits in Air (% by volume): N/A

LEL: N/A UEL: N/A

Extinguisher Media: Use water spray.

Special Fire Fighting Procedures: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

Unusual Fire and Explosion Hazards: Contact with combustible materials, flammable materials, or powdered metals may cause fire or explosion. NOTE: Decomposes at boiling point.

Decomposition Products: Chromium oxide fumes.

---

### SECTION 4 - REACTIVITY HAZARD DATA

---

STABILITY:  Stable  Unstable

Conditions to Avoid: Heat

Incompatibility (Materials to Avoid): Combustible materials, organic materials, strong reducing agents, strong acids.

Hazardous Decomposition Products: Chromium oxide fumes.

HAZARDOUS POLYMERIZATION:  May Occur  Will Not Occur

---

### SECTION 5 - HEALTH HAZARD DATA

---

This substance is listed as a NTP human carcinogen and an IARC human carcinogen (Group 1). TLV is listed for water soluble Chromium (VI) Compounds, as Cr. PEL (Ceiling) is listed for Chromic Acid and Chromates, as CrO<sub>3</sub>.

PRIMARY ROUTES OF ENTRY:

Inhalation  Ingestion  Skin Contact  Eye Contact  Not Hazardous

CARCINOGEN LISTED IN:

NTP  OSHA  IARC Monograph  Not Listed

Threshold Limit Value (TLV/TWA): 0.05 mg/m<sup>3</sup>

Permissible Exposure Limit (PEL): 0.1 mg/m<sup>3</sup>

Toxicity: LD50 (ipr-mouse) (mg/kg) - 37

STEL: N/E

HEALTH HAZARDS - Acute:

Inhalation: May cause irritation of respiratory system. Prolonged contact with airborne substance may lead to perforated septum.

Ingestion: Ingestion and skin absorption are harmful and may be fatal. May cause burns to mouth and stomach, which may cause perforation of tissue.

Skin Contact: Prolonged skin contact may result in dermatitis and skin ulceration.

Eye Contact: Can cause severe irritation and burns.

HEALTH HAZARDS - Chronic: May include damage to kidneys, liver, blood and lungs.

Target Organs: Blood, respiratory system, lungs, liver, kidneys, eye, skin, GI tract.

Signs and Symptoms of Exposure: No information found.

Medical Conditions Generally Aggravated by Exposure: Damaged skin.

EMERGENCY FIRST AID PROCEDURES - CALL A PHYSICIAN

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: If conscious, give large amounts of water. Induce vomiting.

Skin Contact: Remove any contaminated clothing and shoes. Wipe off excess from skin. Immediately wash skin with soap and water for at least 15 minutes. Wash clothing before re-use.

Eye Contact: Immediately flush with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally.

### SARA/TITLE III HAZARD CATEGORIES AND LISTS

Acute: Yes Chronic: Yes Flammability: Yes Pressure: No Reactivity: No

Extremely Hazardous Substance: No

CERCLA Hazardous Substance: Yes Contains Chromium (RQ=1 LB)

SARA 313 Toxic Chemicals: Yes Contains Chromium

TSCA Inventory: Yes

For products sold in the state of California, the state requires that we provide to users and their employees the following message:

**Warning: This product is a chemical known to the State of California to cause cancer.**

---

### SECTION 6 - CONTROL AND PROTECTIVE MEASURES

---

Respiratory Protection (Specify Type): A NIOSH-approved dust/mist respirator is recommended. If airborne concentration exceeds TLV, a self-contained breathing apparatus is advised.

Protective Gloves: Wear rubber gloves.

Eye Protection: Wear chemical safety goggles

VENTILATION TO BE USED: Use adequate general or local exhaust ventilation to keep fume or dust levels as low as possible.

Local Exhaust       Mechanical (General)       Special

Other(Specify)

Other Protective Clothing and Equipment: Wear clean body-covering clothing. Rubber or plastic apron. Uniform.

Hygienic Work Practices: Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling.

---

### SECTION 7 - PRECAUTIONS FOR SAFE HANDLING & LEAK/USE PROCEDURES

---

Steps to be taken if material is spilled or released: Wear self-contained breathing apparatus and full protective clothing. Keep combustibles (wood, paper, oil, etc.) away from spilled material. With clean shovel, carefully place material into clean, dry container and cover; remove from area. Flush spill area with water.

Waste Disposal Methods: Dispose in accordance with all applicable local, state, federal environmental regulations.

EPA Hazardous Waster Number: D001, D002 (Ignitable, Corrosive Waste)

Precautions to be taken in handling and storage: Keep in a tightly closed container stored in a cool, dry ventilated area. Protect against physical damage. Store in accordance with all applicable local, state, and federal environmental regulations.

Other precautions and/or special hazards: No information available.

NFPA Rating: No information available.

HMIS Rating: No information available.

---

## SECTION 8 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

---

### Domestic (D.O.T.)

Proper Shipping Name: OXIDIZING, SOLID, CORROSIVE, N.O.S.  
(Potassium Bichromate)

Hazard Class: 5.1, 8

UN/NA: UN3085

Labels: OXIDIZER, CORROSIVE

Reportable Quantity: 10 lbs. (4.54 kg)

Packaging Group: II

The information published in this Material Safety Data Sheet has been compiled from our experience and data presented in various technical publications. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and assume no liability resulting from its use. We reserve the right to revise Material Safety Data Sheets periodically as new information becomes available.