SAFETY DATA SHEET: POTASSIUM DICHROMATE

1. IDENTIFICATION

Product Name: POTASSIUM DICHROMATE

Synonyms: Potassium bichromate; Bichromate of potash

Formula and Formula Weight: K2Cr2O7 294.19

Integra numbers beginning with: P722.10; P722.11; P722.50

Recommended Use: Commercial/industrial use

Restrictions on Use: No information available

INTEGRA Chemical Company
24 Hour Emergency Response: CHEMTREC 800-424-9300 (Outside USA 703-527-3887)
1216 6th Ave N
Kent WA 98032
Phone: 253-479-7000

2. HAZARDS IDENTIFICATION

OSHA Classification:

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Hazard Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity - Oral</td>
<td>2 Fatal if swallowed.</td>
</tr>
<tr>
<td>Acute Toxicity - Dermal</td>
<td>1 Fatal in contact with skin.</td>
</tr>
<tr>
<td>Acute Toxicity - Inhalation</td>
<td>1 Fatal if inhaled.</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>1B Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Eye Damage/Irritation</td>
<td>1 Causes serious eye damage.</td>
</tr>
<tr>
<td>Sensitization - Respiratory</td>
<td>1 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>Sensitization - Skin</td>
<td>1A May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>1B May cause genetic defects.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>1A May cause cancer.</td>
</tr>
<tr>
<td>Toxic to Reproduction</td>
<td>1B May damage fertility or the unborn child.</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity (single exposure)</td>
<td>3 May cause respiratory irritation.</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity (repeated exposure)</td>
<td>1 Causes damage to organs through prolonged or repeated exposure if inhaled.</td>
</tr>
<tr>
<td>Oxidizing Solids</td>
<td>2 May intensify fire; oxidizer.</td>
</tr>
</tbody>
</table>

Signal Word: Danger

Precautionary Statements

Prevention:
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat.
- Keep and store away from clothing, combustible materials.
- Take any precaution to avoid mixing with combustibles.
- Do not breathe dust, fume, gas, mist, vapors, spray.
- Do not get in eyes, on skin, or on clothing.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing must not be allowed out of the workplace.
- Wear protective gloves, protective clothing, eye protection, face protection.
- Wear respiratory protection.

Response
- If swallowed: Immediately call a poison center, doctor.
- If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center, doctor.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water, shower.
- If inhaled: Remove person to fresh air and keep comfortable for breathing.
- If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a poison center, doctor
- Specific treatment is urgent (see first aid section on this label)
- If skin irritation or a rash occurs: Get medical advice, attention.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Synonyms</th>
<th>CAS #</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium dichromate</td>
<td>Potassium bichromate; Bichromate of potash</td>
<td>07778-50-9</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Inhalation: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult administer oxygen. Seek medical attention.

Eye Contact: Flush eyes with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek immediate medical attention.

Skin Contact: Immediately remove contaminated clothing. Flush skin with water for at least 15 minutes. Seek immediate medical attention.

Ingestion: Do not induce vomiting. If victim is conscious, rinse mouth, give water. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Additional notes: Symptoms and effects include burns to skin, eyes, respiratory tract; allergy-like symptoms, breathing difficulties. May be fatal if swallowed, inhaled, or in contact with skin. Carcinogen.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Flood with water. Contain water runoff.

Special Equipment and Precautions: Use water to cool nearby containers and structures. Wear full protective equipment, including suitable respiratory protection.

Specific Hazards: Strong oxidizer. Contact with combustible or flammable materials can cause fire or explosion. Thermal decomposition produces toxic fumes.

Hazardous combustion products: Oxides of chromium, oxides of potassium.

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Remove all potential ignition sources. Prevent spread of spill. Wear suitable protective equipment. Sweep or scoop into disposal container in a manner that minimizes dust dispersion. Contain rinse water for proper disposal. Do not flush residues to sewer or storm drain.

7. HANDLING AND STORAGE


Storage and Handling: Store locked up in a cool, dry, well-ventilated area dedicated to the storage of oxidizers. Keep away from incompatible materials, especially flammable or combustible materials. Keep containers tightly closed and protect them from physical damage. Protect from direct light and minimize contact with air. Material is a health hazard.

Obtain special instructions before use.

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

Keep away from heat.

Keep and store away from clothing, combustible materials.

Take any precaution to avoid mixing with combustibles

Do not breathe dust, fume, gas, mist, vapors, spray.

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

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves, protective clothing, eye protection, face protection.

Wear respiratory protection.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

OSHA & ACGIH Exposure Limits:

Potassium dichromate

OSHA TWA: 5 ug/m3 [as Cr(VI)]

ACGIH TWA: 0.05 mg/m3 (as Cr)

Engineering Controls: Use general or local exhaust ventilation to meet TLV and PEL requirements.

Respiratory Protection: Respiratory protection required if airborne concentrations exceed PEL or TLV. Use a NIOSH approved respirator with a particulate filter.

Skin/Eye Protective Equipment: Safety goggles, protective clothing and gloves appropriate for the risk of exposure. Facilities storing or utilizing this material should have readily accessible eyewash stations and safety showers.
9. PHYSICAL AND CHEMICAL PROPERTIES

Apearance: Orange-red crystals or powder
Odor: Odorless
Odor Threshold: Not available
pH: 4.0 for a 1% solution
Melting/Freezing Point: 398 °C
Initial Boiling Point and Boiling Range: Not available
Flash Point: Not available
Evaporation Rate: Not available
Flammability: Not flammable
Flammable or Explosive
   Limits (% by volume in air)
      Upper: Not available
      Lower: Not available
Flash Point: Not available
Viscosity: Not available
Relative Density: Not available
Solubility: In water: 4.3% @0°C; 11.7% @20°C; 20.9% @40°C; 50.2% @100°C
Partition Coefficient: n-octanol/water 5
Auto-Ignition Temperature: Not available
Decomposition Temperature: 500
Vapor Pressure: Not available
Vapor Density: Not available
Relative Density: Not available

10. STABILITY AND REACTIVITY

Reactivity: No information available
Stability: Stable
Possibility of Hazardous Reactions: Hazardous polymerization will not occur
Conditions to Avoid: Excessive heat.
Decomposition Products: Oxides of chromium, oxides of potassium.

11. TOXICOLOGICAL INFORMATION

Effects of Over Exposure:
Inhalation: Harmful or fatal if inhaled. Corrosive material. Dusts are destructive to the mucous membranes and respiratory tract. May cause coughing, wheezing, fever, headache, perforated septum and labored breathing.
Skin Contact: Corrosive material. May cause irritation, redness, ulcerations and scarring. Skin may become sensitized. Absorption through the skin may cause systemic poisoning with symptoms similar to ingestion.
Eye Contact: Corrosive material. May cause redness, pain, burns, conjunctivitis, blurred vision, corneal damage, or blindness.
Ingestion: Harmful or fatal if swallowed. Corrosive material. May cause severe burns, abdominal pain, vomiting, diarrhea, dizziness, muscle cramps, intense thirst, fever, bleeding, shock, liver damage, circulatory collapse, acute renal failure, and coma.
Chronic Effects: Liver damage, kidney damage. Blood and lung damage, skin ulcers, perforated septum, allergic respiratory reaction, allergic skin reaction.
Target Organs: Eyes, skin, respiratory system, liver, kidneys. Blood, gastrointestinal tract.
Additional Effects: May aggravate pre-existing skin conditions. Repeated or prolonged inhalation may cause asthma.
Reproductive Effects: Investigated as a tumorigen, mutagen, reproductive effector. May impair fertility or cause fetal harm.
Carcinogenicity: Potassium dichromate is listed as a carcinogen by OSHA, by the NTP as Known Human Carcinogen (as Chromium Hexavalent Compounds) and by the IARC as Group 1, Known Human Carcinogen (as Chromium (VI) compounds).

Toxicity Data:
<table>
<thead>
<tr>
<th>Material</th>
<th>LD50 (skin, rabbit)</th>
<th>LD50 (oral, rat)</th>
<th>LDLo (oral, child)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium dichromate</td>
<td>14 mg/kg</td>
<td>25 mg/kg</td>
<td>26 mg/kg</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Aquatic Toxicity Data:
Potassium dichromate LC50 Lepomis macrochirus: 0.131 mg/L - 96h; EC50 Daphnia magna: 0.035 mg/L - 48h

Terrestrial Toxicity Data:
No information available

Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility in soil: No information available
Other adverse effects: Very toxic to aquatic life

13. DISPOSAL CONSIDERATIONS

Select respirators and other safety equipment in accordance with regulations and based upon the particular conditions of use and risk of exposure. Always use safe chemical-handling and good industrial hygiene practices.
13. DISPOSAL CONSIDERATIONS
Disposal Procedures: Dispose of material and containers in accordance with all local, state and federal regulations.

14. TRANSPORTATION INFORMATION
This product is a regulated material for domestic ground transporation, per CFR Title 49.

- UN Number: UN3086
- Proper Shipping Name: Toxic solid oxidizing, nos (potassium dichromate)
- Packing Group: I
- Hazard Class: 6.1
- Subsidiary Risk: 5.1
- Environmental hazards: No information available
- Special precautions: No information available
- Bulk transport: No information available

15. REGULATORY INFORMATION
Potassium dichromate is listed in the TSCA inventory and in SARA 313 (as chromium and compounds).

16. OTHER INFORMATION
OSHA SDS #: 26171 rev 102 6.21.2017

NE = Not established, NA = Not applicable or Not available

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***** END OF SDS *****