Section 1. Product and Company Identification

Product Identification: 1000 µg/mL Chromium^{+6} in Water
MSDS Number: 100012-7
Recommended Use: For Laboratory Use.
Company Identification: High-Purity Standards
P.O. Box 41727
Charleston, SC 29423
Telephone: (843) 767-7900
FAX: (843) 767-7906
In case of emergency call INFOTRAC: 800-535-5053

Section 2. Hazard Identification

Classification:
Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1B
Reproductive toxicity, Category 1B

Labeling:

Symbol: 

Signal Word: Danger
Hazard Statement: May cause genetic defects. May cause cancer. May damage fertility or the unborn child.
Precautionary Statement: Obtain special instruction before use. Do not handle until safety precautions have been read and understood. Use personal protective equipment as required.

Section 3. Composition

Component	CAS/EINECS Registry #	Percent Concentration
Potassium Dichromate ($K_2Cr_2O_7$)	7778-50-9/ 231-906-6	0.1 (as Cr)
Water, deionized	7732-18-5/231-791-2	Balance

Section 4. First Aid Measures

Emergency Overview: Potassium dichromate is immediately dangerous to life and health in concentrations of above regulated levels. Potassium dichromate is recognized as a carcinogen. An evaluation on chromium (VI) compounds based on the combined results of epidemiological studies, carcinogenicity studies in experimental animals, and several types of other relevant data that support the underlying concept that chromium (VI) ions generated at critical sites in the target cells are responsible for the carcinogenic action observed.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Call a physician if irritation develops.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a physician. May cause nausea, vomiting, and diarrhea.

Section 5. Fire Fighting Measures

Fire & Explosion hazards: Potassium dichromate is a negligible fire hazard when exposed to heat and/or flames. When evaporated to near dryness, this material is an oxidizer and may ignite or explode on contact with combustible materials. During a fire, irritating and highly toxic gases may be generated.

Extinguishing Media: Use any extinguishing media that is suitable for the surrounding area.

Specific Methods: Firefighters should wear proper protective equipment and breathing apparatus for surrounding fire.

Section 6. Accidental Release Measures

Notify safety personnel of large leaks or spills. Do not touch spilled material. Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Small spills can be taken up with sand or other absorbent material and placed in a container for later disposal. Do not allow to reach sewer or surface waters.

Section 7. Handling and Storage

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection. Store in a cool, dry, ventilated storage area. Keep away from incompatible materials. Keep container tightly sealed. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Refer to Section 8 for personal handling instructions.

Section 8. Exposure Controls and Personal Protection

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Personal Protection: Wear proper gloves, safety glasses with side shields, lab coat/apron.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Exposure Limits:

Component	ACGIH TLV
Potassium Dichromate	OSHA Ceiling Limit: 0.1 mg (CrO_3)/ m^3; OSHA TLV-TWA: 0.05 (Cr)/ m^3; NIOSH TLV-TWA: 0.,001 (Cr(VI))/ m^3

:

Section 9. Physical and Chemical Properties

Physical State: Liquid

Color: Clear, orange liquid

Odor: Odorless

Odor threshold: None

pH: 5-8

Melting point: N/A

Freezing Point: N/A
Boiling Point: Approximately 100°C
Flash point: N/A
Evaporation rate: N/A
Flammability: N/A
Explosion limits: N/A
Vapor Pressure (mm): N/A
Vapor Density (air+1): N/A
Relative density: (H_2O = 1): Approximately 1.0
Solubility in H_2O: Complete
Auto ignition temperature: N/A
Decomposition temperature: N/A
Molecular Weight: 52.00 (Cr)

Section 10. Stability and Reactivity

Stability Indicator: YES
Conditions to Avoid: Keep this material from excessive heat and incompatible materials. Do not store near acids, powdered metals, Organic materials, Hydrazine
Incompatibles: Potassium Dichromate is a strong oxidizer. It is incompatible with acetone, sulfuric acid, hydrazine, hydroxylamine, slaked lime, mercury cyanides, reducing agents and organic materials.
Hazardous Decomposition products: Thermal decomposition of potassium dichromate may release toxic and/or hazardous gases.
Hazardous Polymerization: Has not been reported.

Section 11. Toxicological Information

Toxicity Data:
$K_2Cr_2O_7$-RTECS# HX7680000
LD_{50}, intraperitoneal, Mouse: (Potassium Dichromate) 37 mg/kg; LD_{50},oral, Rat (Potassium Dichromate) 25 mg/kg

Section 12. Ecological Information

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)

Section 13. Disposal Considerations

General: Follow Federal, state and local regulations for waste.

Section 14. Transport Information

D.O.T. Classification: Not Hazardous by DOT regulations (based on analyte concentration).

Section 15. Regulations (Not meant to be all inclusive-selected regulation listed)

TSCA Status: Components of this solution are listed on the TSCA Inventory.

CERCLA Reportable Quantity: Potassium Dichromate – 10 pounds
RCRA Status: If this product becomes a waste, it maybe characterized as a hazardous waste due to the potassium dichromate content and following testing as prescribed by RCRA regulations for D007 wastes
SARA: Section 302 (Extremely Hazardous Substances) No
Section 313 Yes
Risk Phrases: R 45/46 May cause cancer. May cause heritable genetic damage. R 60/61 May impair fertility. May cause harm to the unborn child.
Safety Phrases: S36/37/39 S/53 S/45 S/60/61Wear suitable protective clothing, gloves and eye/face protection. Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.
WHMIS Information (Canada): D1A, D2A

Section 16. Other Information

HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel only. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The MSDS was prepared carefully and represents the best data currently available to us; however, HPS does not certify the data on the MSDS. Certified values for this material are given only on the Certificate of Analysis.

Theodore C. Rains, Ph.D.