VANDERBILT UNIVERSITY

Principal Investigator: _____   Date Approved: _____

This document covers basic chemical safety information for chromic acid and dichromate salts and supplements the laboratory Chemical Hygiene Plan as appropriate. Additional lab-specific safety operating procedures for the use of any chromic acid and dichromate salts are subject to pre-approval by the Principal Investigator (PI) and/or the designated Laboratory Responsible Safety Person. DO NOT USE CHROMIC ACID OR ANY DICHROMATE SALT UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.

Chromic Acid and Dichromate Salts

Chromic acid (H_2CrO_4) and its derivative, dichromate salts ($M_2Cr_2O_7$, where M is a metal cation) are strong oxidants that are corrosive to human tissue and metal, as well as acutely toxic, carcinogenic, mutagenic, and teratogenic. Chromic acid is the term generally used for a solution of chromium trioxide and sulfuric acid. It is often used as a reagent for cleaning glassware or oxidizing alcohols. Due to the toxic Cr^{6+} ion, all of these substances are poisonous and potentially fatal when ingested, inhaled, or absorbed through the skin. They also cause severe skin, eye and mucous membrane damage.

Personal Protective Equipment & Personnel Monitoring

Lab Coat

Traditional white lab coat. A chemical-resistant lab apron may be appropriate when handling large quantities.

Gloves

Nitrile gloves. **Do not wear latex gloves.**

Eye Protection

ANSI Z87.1-compliant safety goggles, or face shield if a splash hazard is present.

Labeling & Storage

Store containers upright & tightly closed in a dry and well-ventilated place. Containers holding chromic acid and dichromates need to be stored below eye level. Each container's label must include a skull-and-crossbones pictogram, the word "Danger", and identify the material as both acutely toxic and carcinogenic. Containers of chromic acid and dichromate salts must be stored in leak-proof secondary containment within a Designated Area. The secondary container's label must include a skull-and-crossbones pictogram, the word "Danger", and identify the material as both acutely toxic and carcinogenic. Incompatibles: acids, bases, powdered metals, hydrazine, phosphorous, and all organic chemicals.

Engineering Controls, Equipment & Materials

Fume Hood

Use a fume hood when working with materials which are toxic by inhalation. If your protocol does not permit the handling of such materials in a fume hood, contact the Department of Environmental Health, Safety and Sustainability (EHSS) to determine whether additional respiratory protection is warranted.

Housekeeping

Spills	Notify others in the area of the spill, including your PI/Responsible Safety Person. If it is a small spill that you can easily handle, use the contents of your lab spill kit to clean it up. If it is a large spill, then evacuate the area where the spill occurred. Call Vanderbilt University Public Safety (VUPS) at 615-421-1911 or use the VandySafe app on your smart phone. Report any exposure through Risk and Insurance Management's Origami portal and mark that it occurred in research when prompted. Both VUPS and the Origami system will notify EHSS of the incident. Remain on site at a safe distance to provide detailed information to first responders.
Decontamination	Wearing proper PPE, decontaminate equipment and bench tops using soap and water. Dispose of the used chemical and contaminated disposables as solid hazardous waste.
Waste	Refer to the laboratory *Chemical Hygiene Plan* (Section 6.7) for information on proper chemical waste disposal procedures.

First Aid & Emergencies

Skin Contact	Immediately remove contaminated clothing and shoes; flush skin with water for at least 15 minutes. Get medical attention immediately.
Eye Contact	Check for and remove contact lenses. Immediately flush eyes with water for at least 15 minutes. Get medical attention immediately.
Inhalation	Move person into fresh air. Get medical attention immediately.
Ingestion	Do not induce vomiting or give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Name	Signature	Date