

**criteria for a recommended standard . . . .**

**OCCUPATIONAL EXPOSURE  
TO  
CHROMIC ACID**



**U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
Public Health Service  
National Institute for Occupational Safety and Health**

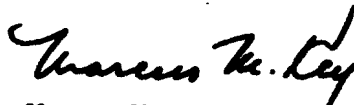
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## PREFACE

The Occupational Safety and Health Act of 1970 emphasizes the need for standards to protect the health of workers exposed to an ever-increasing number of potential hazards at their workplace. To provide relevant data from which valid criteria and effective standards can be deduced, the National Institute for Occupational Safety and Health has projected a formal system of research, with priorities determined on the basis of specified indices.

It is intended to present successive reports as research and epidemiologic studies are completed and sampling and analytic methods are developed. Criteria and standards will be reviewed periodically to ensure continuing protection of the worker.

I am pleased to acknowledge the contributions to this report on chronic acid by members of my staff, by Robert B. O'Connor, M.D., NIOSH consultant in occupational medicine, and by Edwin C. Hyatt, NIOSH consultant on respiratory protection. Valuable and constructive comments were presented by the Review Consultants on Chronic Acid and by the ad hoc committees of the Industrial Medical Association and of the American Academy of Industrial Hygiene. The NIOSH recommendations for standards are not necessarily a consensus of all the consultants and professional societies that reviewed this criteria document on chronic acid. Lists of the NIOSH Review Committee members and of the Review Consultants appear on the following pages.



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**CRITERIA DOCUMENT: RECOMMENDATIONS FOR AN  
OCCUPATIONAL EXPOSURE STANDARD FOR CHROMIC ACID**

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## I. RECOMMENDATIONS FOR A CHROMIC ACID STANDARD

The National Institute for Occupational Safety and Health recommends that worker exposure to chromic acid (chromium trioxide) in the workplace be controlled by compliance with the following sections. The standard is designed to protect the health and safety of workers for an 8-hour day, 40-hour week over a working lifetime. Compliance with the standard should prevent adverse effects of occupational exposure to chromic acid. The standard is measurable by techniques that are valid, reproducible, and available. Sufficient technology exists to permit compliance with the recommended standard. The standard will be subject to review and revision as necessary.

"Chromic acid" is defined to mean chromium trioxide (chromium (VI) oxide, or chromic acid anhydride) and aqueous solutions thereof. "Occupational exposure to chromic acid" is defined as exposure above half the recommended workroom environmental standard.

### Section 1 - Environmental (Workplace air)

(a) Concentration: Occupational exposure to chromic acid shall be controlled so that no worker is exposed either to:

(1) A concentration of chromic acid greater than 0.05 milligram as chromium trioxide per cubic meter of air determined as a time-weighted average exposure for an 8-hour workday, 40-hour work week; or

(2) A ceiling concentration in excess of 0.1 milligram as chromium trioxide per cubic meter as determined by a sampling time of fifteen (15) minutes.

