

Perchloric Acid Hood Policy

Science & Engineering Building

I. INTRODUCTION:

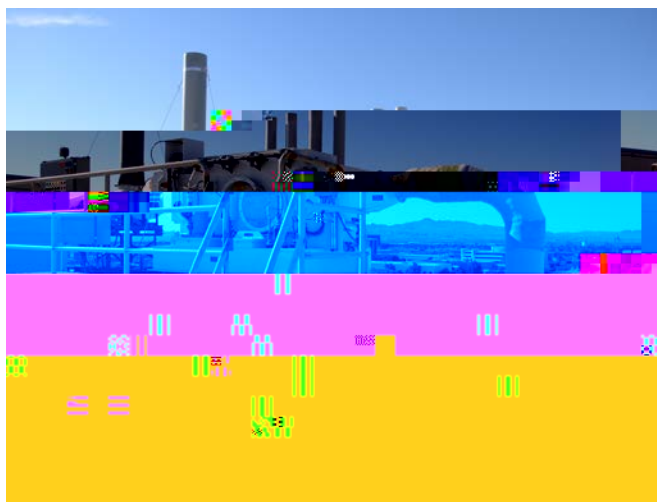
The Science & Engineering Building (SEB) has two fume hoods dedicated to Perchloric Acid use. These reside in SEB-3111 and SEB-4120. Even though use of these hoods by SEB researchers and laboratory personnel should be uncomplicated, improper use of this building infrastructure by untrained persons must be prevented by careful control. This policy document will delineate:

- A) Perchloric Acid Hood Construction
- B) How to Request Use and Start-up
- C) Risk Managements and Safety (RMS) Guidelines for Use

II. DEFINITIONS:

CROSS FLOW SCRUBBER:

A piece of equipment which directs the perchloric acid fume hood exhaust horizontally over media which increases surface area and is continuously flushed with water often containing a PH buffer. This effectively removes all inorganic compounds, and maintains emissions to specific ppm levels, eliminating concentrations of perchloric acid crystals from developing within the system.



WASH DOWN SYSTEM: A water irrigation system local to the hood designed to wash the hood interior exhaust baffle and ventilation piping.

PERCHLORIC ACID: A clear colorless liquid, HClO_4 , explosively unstable under some conditions, that is a powerful oxidant used as a catalyst and in explosives.

C) RMS Guidelines for Use:

http://rms.unlv.edu/environmental-and-lab/lab/Perchloric_Acid_Safety.pdf

Perchloric Acid Safe Use and Storage

1. Always wear goggles, neoprene or rubber gloves and lab coats when pouring or handling perchloric acid (less than 70 %).
2. Working with solutions of 70% or more requires a face shield, heavy duty gloves, and lab coat. Special handling procedures are identified below.
3. Perchloric acid work must be with standard analytical procedures from well recognized sources unless specifically approved by the department head.
4. A current MSDS should be kept in the laboratory. Lab personnel working with perchloric acid should read the MSDS prior to commencing work.
5. Clean up spills immediately. Neutralize the liquid with sodium carbonate, clean the area with wet rags or spill pillows. Materials should be kept wet and sealed in a plastic bag. Do not allow materials to dry. Contact RMS immediately for pickup of materials or if you need assistance with cleanup.
6. A preventive maintenance program must be in effect for perchloric acid hoods

7. Opened bottles should not be stored longer than one year from the date opened. Unopened containers may be stored for a maximum of two years from the date received. If an "old" bottle of perchloric