

UNIVERSITY OF VICTORIA  
Occupational Health, Safety and Environment  
*Chemical Safety – Special Hazards*

Safe Work Procedure (SWP – 001)

**Perchloric Acid**

Last revised: 16 Apr 2019

**REVISION HISTORY**

	<i>Revision Date</i>	<i>Author</i>	<i>Position</i>
1.	23-June-2014	Troy Hasanen	OHSE Consultant
2.	16-Apr-2019	Troy Hasanen	OHSE Consultant

**DOCUMENT APPROVAL**

*Approved by:* Laboratory Safety Committee

Martin Boulanger  
*Chair, Laboratory Safety Committee*

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*\*This revision replaces all previous versions of this document. If a copy is printed, it is the users' responsibility to verify the copy is the most current version of the document.*





perchloric acid. Perchloric acid vapours can condense to form perchlorate crystals, which are highly explosive and sensitive to physical shock. To reduce potential for vapours, no use of perchloric acid above room temperature is permitted. The perchloric acid SDS must be reviewed for hazards and compatibilities prior to any use.

## PROCEDURES

### 1. Handling

- a. To safely handle (>20% v/v) perchloric acid a dedicated perchloric acid fume hood with wash down capabilities is required. UVic does not have any perchloric acid hoods available, so all perchloric activities must be with perchloric acid concentrations of 3.3M or 20% v/v or less.
- b. To safely handle perchloric acid (3.3 M or 20% v/v/ or less) dedicated areas with no combustible material and Lab SWP (Safe Work Procedures) are required.
- c. Perchloric acid digestions and experiments involving heating or exothermic reaction are not permitted. These activities would produce vapours requiring a dedicated perchloric acid fume hood with wash down capabilities.
- d. Current perchloric acid usage on campus is for electrochemistry experiments and biochemical histone work. It is permissible to use unheated 20% v/v/ perchloric acid in general laboratories where a Lab SWP has been approved by OHSE. The SDS lists perchloric acid as safe to use with no engineering controls (fume hood) at room temperature due to its very low vapour pressure.

### 2. Storage

- a. Perchloric acid should be stored separately from other chemicals, and must never be stored with known incompatible materials.
- b. No more than 2 L of 20% v/v perchloric acid may be stored in a laboratory.
- c. Perchloric acid should be stored in the original container or a clear glass or Teflon bottle utilizing a non metallic cap with Teflon seal.
- d. Containers of perchloric acid must be stored using secondary containment glass or ceramic trays that will contain the entire volume of stored acid in a designated metal acid storage cabinet.
- e. Perchloric acid must be stored in such a manner that, in the event of breakage, the spilled acid will not contact flammable materials, wood or similar combustible materials.
- f.



