



# Environment, Health and Safety

## 8.9.2 Perchloric Acid

### 8.9.2 Perchloric Acid

Perchloric acid is a strong oxidizing acid that can react violently with organic materials. Perchloric acid can also explode if concentrated above 72%. For any work involving heated Perchloric acid (such as in Perchloric acid digestions), the work must be conducted in a special [Perchloric acid fume hood](#) with a wash down function. If heated Perchloric acid is used in a standard fume hood, the hot Perchloric acid vapors can react with the metal in the hood ductwork to form shock sensitive metallic perchlorates. When working with Perchloric acid, be sure to remove all organic materials, such as solvents, from the immediate work area. Due to the potential danger of Perchloric acid, if possible, try to use alternate techniques that do not involve the use of Perchloric acid. If you must use Perchloric acid in your experiments, only purchase the smallest size container necessary.

Because Perchloric acid is so reactive, it is important to keep it stored separate from other chemicals, particularly organic solvents, organic acids, and reducing agents. All containers of Perchloric acid should be inspected regularly for container integrity and the acid should be checked for discoloration. Discolored Perchloric acid should be discarded as hazardous waste. Perchloric acid should be used and stored away from combustible materials, and away from wooden furniture. Like all acids, but particularly with Perchloric acid, secondary containment should be used for storage.



## 2.1.1 Heating Perchloric Acid

[Print Page](#)

DO NOT use heated Perchloric acid in a regular fume hood. If heated Perchloric acid is used in a regular fume hood (without a wash down function), shock sensitive metallic perchlorate crystals can form inside the duct work, and could result in causing an explosion during maintenance work on the ventilation system. Use of heated [Perchloric acid](#) requires a special perchloric acid fume hood with a wash down function. If you suspect your fume hood has perchlorate contamination or would like more information on perchloric acid fume hoods, then contact [askEHS](#).

Laboratory groups who use these hoods shall document standard procedures for the frequency and length of running the washdown system. In some cases, this may be with every use. This procedure shall also include how often a complete cleaning of the hood surfaces is required in order to ensure that dust and splatter on the inside of the hood, that may contain perchlorate salts, do not build up.

[← Previous](#)

[Next →](#)