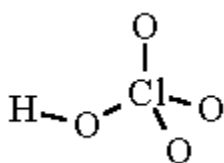


Spotlight On Safety

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SAFE USE OF PERCHLORIC ACID



Perchloric acid is a strong inorganic acid used for many purposes including the complete digestions of organic material. It is normally supplied in bottles of one gallon at 70-72% strength. Perchloric acid is oxidizing only at elevated temperatures (more than 150°C), but it is a corrosive at all temperatures. Perchloric acid presents an additional hazard in that mist and fumes can condense in ventilation systems to form metallic perchlorates that can be explosive.

Safety Tips

- Perchloric acid digestions of any size must be performed **only** in a fume hood. All perchloric acid digestions performed above room temperature (hot) require a special perchloric acid hood with a wash-down system.
- Regardless of the size of the digestion, no organic solvents should be in the hood during the process.
- Solvents must **never** be stored or used in a designated perchloric acid hood.
- When diluting perchloric acid (or any other acid) always add acid to water, not the reverse
- Goggles/ face shield, gloves, and apron should be worn when handling.
- Because of the potential for explosion, no repair or maintenance should be done on a hood used for perchloric acid digestions until it has been thoroughly washed.
- Perchloric acid waste **must not be mixed** with any other waste after it is created. It should be put into acid-resistant bottles (such as the original acid container), clearly labeled, and picked up by EHS using WASTE.
- Storage segregation:
 1. Perchloric acid should be stored with other acids, but in a separate tub from all other oxidizable acids (e.g. acetic acid)
 2. It may be stored in the same cabinet with other inorganic acids (hydrochloric, sulfuric, nitric acid...) if a secondary containment) is provided for spills.
 3. Perchloric acid must **not** be stored near organic acids (acetic acid...) near bases, or near any other organic or flammable material

If you have any questions about safe use and handling of perchloric acid, or wish to have a fume hood approved for use with perchloric acid, call EHS at 951-827-5528.