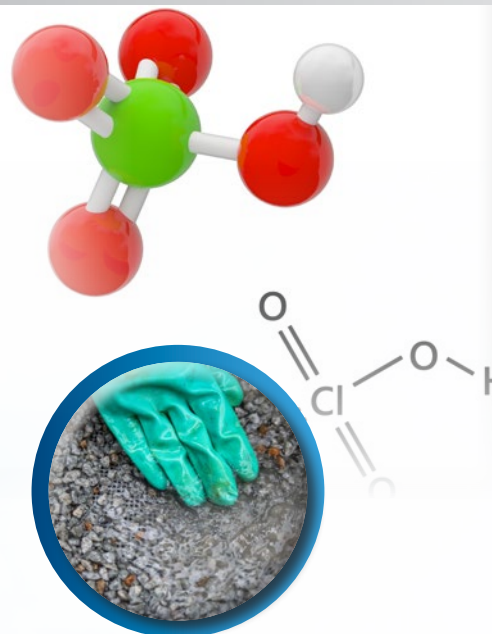




Perchloric acid is an aqueous inorganic compound that is comparable in strength to sulfuric and nitric acid. This chemical is an extremely corrosive liquid and is commonly available as a 70-72% solution. It is important to handle this compound inside a fume hood because of health hazards that users may incur once it is inhaled, ingested, or splashed on skin and eyes.

Once heated above room temperature or used at concentrations above 72%, perchloric acid becomes a strong oxidizing acid. Due to this property, perchloric acid is widely used in:



PREPARATION OF AMMONIUM PERCHLORATE USED IN ROCKET FUELS



ETCHING OF LCD DURING MATERIAL TESTING



ORE EXTRACTION

## SENSITIVITY AND REACTIVITY

When heated, perchloric acid vaporizes and condenses to form perchlorate salts. These salts are used in explosives, pyrotechnics, photography, analytical chemistry, or as desiccants. As a strong oxidizer, the reaction between perchlorate salts and other flammable, organic, or strong oxidizing agents will often result in explosion or combustion.

Aside from being highly corrosive, these salts are known to be unstable and shock-sensitive. It commonly adheres to the hood's corners, ducting, and ventilation system.

## THE SOLUTION: Frontier® Perchloric Acid Ducted Fume Hood

Specially designed fume hoods are required to prevent perchloric acid vapors from forming explosive perchlorate salts. Esco's Frontier® Perchloric Acid (EFP) is a specialized ducted fume hood equipped with a wash down system that removes accumulated salts in the hood's corners and baffle system through a series of water sprays.

The spray nozzles dispersed throughout the hood wash away salt deposits and the water pump system ensures that the water pressure is constant during the wash down process. This specialized fume hood is constructed with stainless steel internal surfaces for easy cleaning.

For added safety, Esco's Fume Scrubber is a required accessory used to prevent the formation of perchlorate salts in the hood's exhaust system.



EFP-4UD6VW-

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