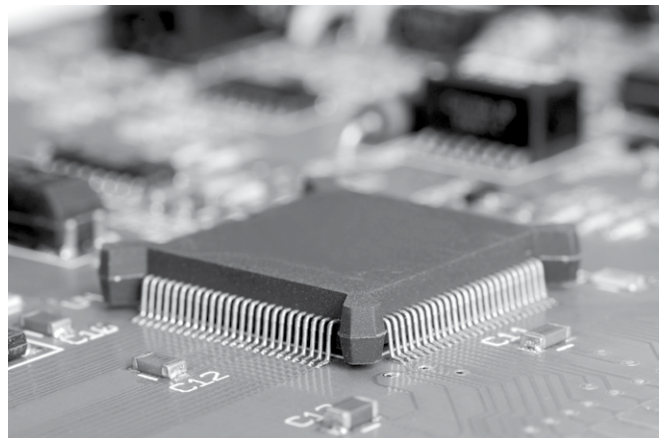


Perchloric Acid Exhaust



Perchloric acid is commonly used in the creation of ammonium perchlorate for rocket fuel. Millions of kilograms of perchloric acid are produced every year to meet the growing needs for the aerospace industry.

Perchloric acid is also used in the computer industry for etching liquid crystal displays in critical electronic applications as well as a solvent for many metals and alloys and the separation of certain materials.



Safely exhausting an airstream where perchloric acid is present can be difficult and special considerations to be taken to limit risk of damage to equipment and human beings.

Perchloric acid is highly acidic and over time is even capable of corroding stainless steel if present in high enough concentrations and not properly maintained. Perchloric acid creates a salty build-up if the system is not properly maintained. If this build-up is struck with a high enough force it can also be explosive.

Any system being used for the exhaust of fumes where perchloric acid may be present should be constructed, as a minimum, with PVC or 316 SS. Also included in the system should be water spray down nozzles and adequate drainage to prevent any build up of the acid. The ductwork of the system should also be 316 SS construction.

If the concentration of the acid in the airstream is high enough it is recommended to use a passive exhaust stack with a heavy duty pressure blower mounted on the side to induce air through the stack. This installation avoids having any moving parts in the airstream. All ductwork and stacks should contain smooth welds with no crevices or pits to prevent any building up of contaminants.

Any exhaust system or fumehood being used for perchloric acid should be used exclusively for perchloric acid alone. Perchloric acid can react explosively when mixing with many other chemicals.



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