



Drilling Fluids, Inc.

**Commercial Chemical**

## HYDROCHLORIC ACID

**Description**

Hydrochloric Acid (HCl) is an acid solution used to reduce the pH of drilling fluid systems.

**Uses**

Hydrochloric acid is used to reduce the pH of drilling fluid systems as well as to acidify and remove certain acid soluble materials that may be plugging the pore spaces of formations. These materials include Magma Fiber or certain Calcium Carbonates.

**Benefits**

Hydrochloric acid can dramatically change the pH of a drilling fluid system with relatively light treatments.

**Treatment**

Hydrochloric acid is added as needed to maintain a desired pH. It should be added at a low rate directly into the mud pit in a place with good agitation. It can also be run as a sweep when being used to acidify and remove lost circulation material. Additions of hydrochloric acid will increase the chloride level of drilling fluid.

**Function**

Hydrochloric acid adds  $H^+$  ions to the water decreasing the pH. The  $H^+$  reacts with the  $CaCO_3$  to form  $Ca^{2+}$  and  $CO_2$  and  $H_2O$ .

**Typical Physical Properties**

Physical appearance.....Clear Liquid  
Specific Gravity..... up to 1:18 depending on concentration.  
pH.....< 1  
Odor.....Strong



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**Safe Handling  
Recommendations**

## **HYDROCHLORIC ACID (cont'd)**

Contact with hydrochloric acid can cause severe skin and eye irritation/chemical burns.

Spills can be cleaned up with Carbonate (Soda Ash).

Use of appropriate respirator, gloves, goggles, and apron is recommended for employee comfort and protection. See Material Safety Data Sheet (MSDS) for this product prior to use.

**Packaging**

Packaged in 5 gallon plastic buckets and 220 gallon totes. Provided in a variety of concentrations from 25% and up.