

# HYDROCHLORIC ACID

■ Well & Formation Treatment Fluid

## > **PRODUCT DESCRIPTION**

Hydrochloric acid (HCL) is commonly used as a break-down fluid to clean and dissolve debris in the perforation tunnels. It is often used in well clean-up and matrix acidizing operations in carbonate laden reservoirs.

## > **PACKAGING**

Hydrochloric acid is typically provided in concentrations of 36% or 28% to location and diluted on the fly. Other packaging and blending methods may be available upon request.

## > **RECOMMENDED APPLICATION**

Perforating normally creates a perforation tunnel with the tunnel walls composed of steel residue, compacted cement and formation material which isolate the well from the reservoir. The volume of strength of HCL vary depending on the reservoir, well architecture and composition. Typical strengths utilized are either 7.5% or 15% concentrations. HCL should always contain a corrosion inhibitor that is suited for the reservoirs temperature. Blending/mixing of HCL with Triethanolamine, potassium hydroxides, hydrogen peroxides and other oxidizers are to be strongly avoided. H<sub>2</sub>S laden waters can also create a violent reaction with HCL and must be avoided.

### Typical Physical Properties

Physical state	Liquid
Odor	Irritating/Pungent
Freeze point	- 29 to -5 °F (- 34 / -15 °C)
Specific Gravity	1.05 - 1.18
Density	8.75 - 9.83 lb/gal
Solubility (water)	Complete
pH (0.2% solution)	2