Also known as muriatic acid, hydrochloric acid is used to acidize petroleum wells, remove scales from boilers, aid in ore reduction and serve as a chemical intermediate, among other applications. This pungent liquid is a strong, highly corrosive acid, and it presents serious storage challenges.

- Hydrochloric acid has an extremely low pH, making it highly corrosive.

- The chemical creates toxic fumes that can deteriorate equipment – and these fumes can be fatal to employees. To control the chemical’s fumes, the tank’s venting system must be exact.

- Tank maintenance can also be an issue because of fuming. Entering the tank must be avoided at all costs, and part replacement must be minimized.

By creating a strong, corrosion-resistant tank system that ties into a scrubber system, all of these issues can be addressed.
The Poly Processing Hydrochloric Acid System

Storing a chemical as corrosive and fuming as HCL takes a truly specialized system. Poly Processing resolves these issues with its tank, venting and fittings solutions. An Integrally Molded Flanged Outlet, or IMFO®, allows for complete drainage of the tank, which eliminates the need to enter the tank for cleaning. This is imperative when dealing with such a strongly fuming chemical. The IMFO® design also reduces chances of having to replace parts, as the drainage system is part of the tank’s mold.

Poly Processing’s OR-1000™ surface is ideal for HCL storage. OR-1000™ has proven so effective in containing HCL that systems using it have a 5-year warranty. These tanks bring you the strength of high-density crosslinked polyethylene with an antioxidant surface.

Poly also incorporates airtight lids and customized scrubbers to accommodate the fuming of HCL.

<table>
<thead>
<tr>
<th>CHEMICAL</th>
<th>RESIN TYPE</th>
<th>SPECIFIC GRAVITY</th>
<th>FITTING MATERIAL</th>
<th>GASKET MATERIAL</th>
<th>BOLT MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric Acid ≤ 37%</td>
<td>XLPE with OR-1000™</td>
<td>1.9</td>
<td>PVC</td>
<td>EPDM</td>
<td>C-276</td>
</tr>
</tbody>
</table>

See our website for a complete Chemical Resistance Chart.
OR-1000™ binds the XLPE with an antioxidant inner surface, which is vital when storing such a corrosive chemical.

IMFO® construction eliminates the need to enter the tank for cleaning, helping employees avoid HCl’s toxic fumes.

High-density crosslinked polyethylene (XLPE) ensures the strength of the tank.

Tank Specifications

Recommended System Components

Secondary containment: SAFE-Tank® is recommended where secondary containment is not available.

Fittings: IMFO® system is recommended.

Fittings: B.O.S.S.® fitting is also recommended to prevent leaks.

Plumbing: Requires flexible connections with fittings on lower third of sidewall to accommodate expansion and contraction and reduce vibration stress on the tank.

Fume-tight manway cover: 17”, 19” or 24” with EPDM gaskets

Scrubbers: Individually designed to support the reduction of dangerous fumes into the environment.
TECHNICAL OVERVIEW:
Hydrochloric Acid Storage Tanks

PLUMBING TO THE TANK
• Required use of flexible connections with fittings on lower third of sidewall
  » Allows for lateral and vertical expansion and contraction of the tank
  » Reduces pump and piping vibration stress on the tank
• Expansion joints must meet the following minimum requirements:
  » Axial Compression ≥ 1.5˝
  » Axial Extension ≥ 0.625˝
  » Lateral Deflection ≥ 0.750˝
  » Angular Deflection ≥ 14°
  » Torsional Rotation ≥ 4°

VENTING
Please refer to the venting chart on www.polyprocessing.com/pdf/technical/Venting.pdf

FOUNDATION AND RESTRAINTS
• PPC IMFO® tank pad or smooth concrete, asphalt or steel foundation designed to accommodate IMFO®, SAFE-Tank® or vertical tank
• No restraint or ladder attachment bands circumscribing the tank are allowed. Cable restraint systems must pass cables over the top of the tank.

TEMPERATURE
Product should not exceed 100°F at delivery or during storage to maintain ASTM D1998 design parameters.

LID
Fume-tight manway cover to manage release of chemical gases

OPTIONS
Restraint systems for wind and seismic, level gauges, ladders, heating pads, insulation and engineering stamp

TANK
IMFO® Vertical Flat Bottom of XLPE with OR-1000™:
• 1,000–13,650 gallons
• 1.9 spg rating
NOTE: 230–1,000 gallons do not require OR-1000™.
Non-IMFO® alternative:
Standard Vertical Flat Bottom XLPE with OR-1000™:
• 1,000–13,650 gallons
• 1.9 spg rating
NOTE: 30–1,000 gallons do not require OR-1000™.

SAFE-Tank® XLPE:
• 1,500–8,700 gallons
• 1.9 spg rating for primary tank with OR-1000™
• Spg ratings for secondary tanks ≥ 3,000 gallons may be equal to or 1 less spg than primary tank.
• All other tank sizes must equal primary tank spg rating.
NOTE: 55–1,000 gallons do not require OR-1000™.

SECONDARY CONTAINMENT
Recommend SAFE-Tank® secondary XLPE as shown above
Non-SAFE-Tank® Alternatives:
• PPC secondary containment basin
• Other secondary containment suitable for hydrochloric acid, of adequate size for use

FITTINGS
Sidewall: Recommend 3” maximum B.O.S.S.® fitting
Dome: No restrictions