

Hydrochloric Acid.

Controlling a chemical – and its fumes.



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.

Hydrochloric Acid



Hydrochloric Acid Systems

Storing a chemical as corrosive and fuming as HCl takes a truly specialized system. We resolve these issues with these 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.

The 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.

We also incorporate airtight lids and customized scrubbers to accommodate the fuming of HCl.

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Hydrochloric Acid ≤ 37%	XLPE with OR-1000 [™]	1.9	PVC	EPDM	C-276

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*** See our website for a complete Chemical Resistance Chart -*

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Hydrochloric Acid



Tank Specifications



- **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.**

The above components are just a few of the many options we offer. See our [website](#) or talk to your Water Tanks and Chemical Tanks representative to find out more.

Recommended System Components



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



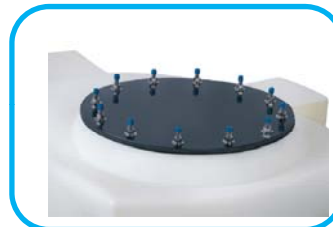
Fittings:
IMFO® system is recommended.



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

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Technical Overview: Hydrochloric Acid Storage Tanks

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 $\geq 3,000$ 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

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 $\geq 1.5''$

Axial Extension $\geq 0.625''$

Lateral Deflection $\geq 0.750''$

Angular Deflection $\geq 14^\circ$

Torsional Rotation $\geq 4^\circ$

VENTING

Please refer to the [Venting Technical Bulletin](#) downloaded at:

http://watertankschemicaltanks.com/Technical_Information.php

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,

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