

HYDROFLUORIC ACID.

Reducing the risk of human exposure.



Used in the production of aluminum, fluorocarbons and gasoline and for applications like glass etching and uranium processing, hydrofluoric acid is an extremely dangerous chemical that must be handled with the utmost care.

- This corrosive liquid penetrates tissue more quickly than typical acids. Toxicity can occur through dermal, ocular, inhalation and oral routes.
- Since HF alters nerve function, accidental exposure can go unnoticed by the victim, delaying treatment and increasing the extent of injury.
- It can also be absorbed by the blood through the skin, reacting with blood calcium and potentially causing a heart attack.

The extreme nature of this chemical calls for superior structural integrity – the level of integrity Poly Processing is known for.



The Poly Processing HYDROFLUORIC ACID SYSTEM.

When people's lives are at risk, you can take no chances. You need a system that goes above and beyond to prevent contact with this corrosive acid. That system starts with a crosslinked polyethylene tank. XLPE is a thermoset resin that gives customers **20 times the environmental stress-crack resistance, 10 times the molecular weight and 5 times the impact and tensile strength of HDPE.** This system carries a warranty for a full five years.

A SAFE-Tank® can help **reduce health and environmental concerns** due to closed containment of hydrofluoric acid. If a SAFE-Tank® is not a possibility, an IMFO® flange can be used to **reduce hands-on maintenance**, thereby reducing the risk to your employees.

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Hydrofluoric Acid	XLPE	1.9	PP	Viton®	C-276

» See our website at www.polyprocessing.com for a complete Chemical Resistance Chart.

Tank Specifications & Technical Overview

IMFO® VERTICAL FLAT BOTTOM OF XLPE:

- 230-13,650 gallons
- 1.9 spg rating

NON-IMFO® ALTERNATIVES:

SAFE-Tank® XLPE:

- 55-8,700 gallons
- 1.9 spg rating for primary tank
- 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.

Standard Vertical Flat Bottom XLPE:

- 30-13,650 gallons
- 1.9 spg rating

Alternative secondary containment: PPC secondary containment basin or other secondary containment suitable for hydrofluoric acid, of adequate size for use

Plumbing: Requires use of flexible connections with fittings on lower third of sidewall.

Venting: See chart in Poly Processing Company's Installation Manual.

Foundation: PPC IMFO® tank pad or smooth concrete, asphalt or steel foundation designed to accommodate IMFO®, SAFE-Tank® or vertical 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, mixer mounts and engineering stamp

The above components are just a few of the many options offered by Poly Processing. Visit us online at www.polyprocessing.com for additional information and products, or talk to your Poly Processing representative.



HYDROFLUOSILICIC ACID.

Controlling heat to avoid hazardous reactions.



Hydrofluosilicic acid is used in water fluoridation, ceramic production, electroplating, bottle sterilizing, brewing and many other applications. This colorless, fuming liquid presents a host of challenges in storage:

- It decomposes in heat, giving off toxic fluoride compounds, which may react violently with alkaline materials.
- Hydrofluosilicic acid is corrosive to most metals – and it attacks glass and stoneware.
- Like lye and sodium hypo, hydrofluosilicic acid has a tendency to find leak paths.
- The chemical is incompatible with strong alkalis and strong concentrated acids. It reacts with oxidizing agents, combustible solids and organic peroxides.
- Its reaction with metals produces flammable hydrogen gas.

A complete system equipped with specialized features can reduce the risks associated with this toxic chemical.



The Poly Processing HYDROFLUOSILICIC ACID SYSTEM.



Hydrofluosilicic acid is an extremely dangerous chemical. Human contact with it can result in severe injury or fatality. But when the chemical is controlled in a stable environment, risk can be dramatically reduced. XLPE tanks are ideal in this situation. **The thermosetting of XLPE's polymer chains acts as a netting to prevent permeation, leakage or seepage.**

With its full drain design, a built-in IMFO® flange can help eliminate any buildup of sediment, **lessening the potential for lead and arsenic deposits** over time. The IMFO® system's design also **keeps the tank intact**, which is important for chemicals that try to find leak paths. If an IMFO® isn't an option, wetted fittings should be kept to an absolute minimum to avoid failure.

If secondary containment is not available, a SAFE-Tank® is recommended instead of an IMFO® tank. This tank within a tank greatly reduces the chance for leaks.

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Hydrofluosilicic Acid	XLPE	1.9	PVC	EPDM	C-276

» See our website at www.polyprocessing.com for a complete Chemical Resistance Chart.

NOTE: To meet NSF-61 certification, use OR-1000™, EPDM or Viton® GF.

Tank Specifications & Technical Overview

IMFO® VERTICAL FLAT BOTTOM OF XLPE:

- 230-13,650 gallons
- 1.9 spg rating

NON-IMFO® ALTERNATIVES:

SAFE-Tank® XLPE:

- 55-8,700 gallons
- 1.9 spg rating for primary tank
- 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.

Standard Vertical Flat Bottom XLPE:

- 30-13,650 gallons
- 1.9 spg rating

NOTE: We recommend always venting this chemical outside a confined environment due to health risks from the fumes and to the damage it will cause to glass and metals.

Alternative secondary containment: PPC secondary containment basin or other secondary containment suitable for hydrofluosilicic acid, of adequate size for use

Plumbing: Requires use of flexible connections with fittings on lower third of sidewall.

Venting: See chart in Poly Processing Company's Installation Manual.

Foundation: PPC IMFO® tank pad or smooth concrete, asphalt or steel foundation designed to accommodate IMFO®, SAFE-Tank® or vertical 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

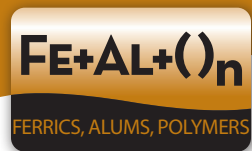
Options: Restraint systems for wind and seismic, level gauges, ladders, heating pads, insulation, mixer mounts, OR-1000™ for NSF-61 certification and engineering stamp

The above components are just a few of the many options offered by Poly Processing. Visit us online at www.polyprocessing.com for additional information and products, or talk to your Poly Processing representative.



FERRICS, ALUMS AND POLYMERS.

Containing chemicals that react to their environment.



Ferrics, alums and polymers are commonly used to treat water and wastewater. There are several reasons why these substances require specialized storage:

- Separation, settling and coagulation are major issues with these chemicals - and those conditions can be compounded by temperature variations.
- Settling and separation issues can lead to difficulty in pumping the chemicals.
- The chemicals are often delivered at elevated temperatures, testing the expansion and contraction capabilities of a tank.
- Ferrics create fumes that can defoliate surrounding trees and plants.
- Polymers can act as an environmental stress-cracking agent.

By providing the right kind of storage for these chemicals, safety can be maintained - and the integrity of the product can be preserved.



The Poly Processing System FOR FERRICS, ALUMS AND POLYMERS.



Several of Poly Processing's features can make your storage system work for handling ferrics, alums and polymers. An IMFO® system is ideal for **sludge control and ease of cleaning**, since the tank drains at its true bottom. Heat pads and insulation can help keep the chemicals at the optimal temperature, **greatly reducing the chance of separation and settling**.

A mixing system can also be installed to **keep the chemicals from separating** - and a scrubber can help **reduce the effects on foliage** if you're venting outdoors. As for handling elevated temperatures - this is where the strength of the XLPE tank comes in. The crosslinked construction of these tanks allows for **greater expansion and contraction**, while maintaining structural integrity, lessening your risk for tank failure.

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Aluminum Sulfate	XLPE	1.65	PVC	EPDM	316SS
Ferric Chloride	XLPE	1.65	PVC	EPDM	Titanium
Ferric Sulfate	XLPE	1.65	PVC	EPDM	Titanium
Ferrous Chloride	XLPE	1.9	PVC	EPDM	Titanium
Ferrous Sulfate	XLPE	1.65	PVC	EPDM	Titanium
Polymers	XLPE	1.35-1.9*	PVC	EPDM	316SS

*Based on type of polymer, amount of solids, etc., specific gravities can vary. Consult the specific MSDS for correct weight.
» See our website at www.polyprocessing.com for a complete Chemical Resistance Chart.

NOTE: To meet NSF-61 certification, use OR-1000™.

Tank Specifications & Technical Overview

IMFO® VERTICAL FLAT BOTTOM OF XLPE:

- 230-13,650 gallons
- Appropriate spg rating for chemical as shown in Chemical Resistance Chart

NON-IMFO® ALTERNATIVES:

Standard Vertical Flat Bottom XLPE:

- 30-13,650 gallons
- Appropriate spg rating for chemical as shown in Chemical Resistance Chart

SAFE-Tank® XLPE:

- 55-8,700 gallons
- Appropriate spg rating for chemical as shown in Chemical Resistance Chart
- 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.

Alternative secondary containment: PPC secondary containment basin or other secondary containment suitable for ferrics, alums and polymers, of adequate size for use

Plumbing: Requires use of flexible connections with fittings on lower third of sidewall.

Venting: See chart in Poly Processing Company's Installation Manual.

Foundation: PPC IMFO® tank pad or smooth concrete, asphalt or solid steel foundation designed to accommodate IMFO®, SAFE-Tank® or vertical tank

Temperature: Product should not exceed 100°F at delivery or during storage to maintain ASTM D1998 design parameters. Contact Customer Support if chemical is to exceed 100°F.

Lid: SAFE-Surge™ manway cover for pneumatically loaded tanks; bolted manway cover for all other applications

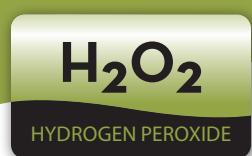
Options: Restraint systems for wind and seismic, level gauges, ladders, heating pads, insulation, fume-tight manway cover, mixer mounts, OR-1000™ for NSF-61 certification and engineering stamp

The above components are just a few of the many options offered by Poly Processing. Visit us online at www.polyprocessing.com for additional information and products, or talk to your Poly Processing representative.



HYDROGEN PEROXIDE.

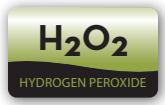
Accommodating a potentially explosive chemical.



Available in a variety of concentrations, hydrogen peroxide is used as an oxidizing agent in textile, paper and fur processing. It is also used as a plasticizer, a polymerization catalyst and a water and sewage treatment chemical. It poses a number of challenges when it comes to storage:

- Concentrated solutions are highly toxic and are strong irritants.
- Hydrogen peroxide is relatively unstable and decomposes into water and oxygen when exposed to the environment. The primary danger of this composition is fire and/or explosion.

For concentrations of hydrogen peroxide that are below 50%, high-density crosslinked polyethylene is a smart option.



The Poly Processing HYDROGEN PEROXIDE SYSTEM.



If there is a chance that hydrogen peroxide has escaped from its storage system, evacuation is mandatory, since explosion could occur. Therefore, it's imperative that an environment be made as leak-free as possible. Poly Processing's crosslinked polyethylene helps ensure that, by providing a **high-strength storage option** for hydrogen peroxide. The SAFE-Tank® system offers **tank-within-a-tank protection** for secondary containment. And if secondary containment is already provided for the tank, Poly Processing recommends the IMFO® tank system to provide complete drainage without entering the vessel shell, **helping personnel avoid contact** with this strong irritant.

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Hydrogen Peroxide	XLPE	1.9	PVC/CPVC	Viton®	316SS

» See our website at www.polyprocessing.com for a complete Chemical Resistance Chart.

Tank Specifications & Technical Overview

IMFO® VERTICAL FLAT BOTTOM OF XLPE:

- 230-13,650 gallons
- 1.9 spg rating

NON-IMFO® ALTERNATIVES:

SAFE-Tank® XLPE:

- 55-8,700 gallons
- 1.9 spg rating for primary tank
- 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.

Standard Vertical Flat Bottom XLPE:

- 30-13,650 gallons
- 1.9 spg rating

NOTE: Use only flanged connections with hydrogen peroxide. Threaded fittings should be avoided!

Alternative secondary containment: PPC secondary containment basin or other secondary containment suitable for hydrogen peroxide, of adequate size for use

Plumbing: Requires use of flexible connections with fittings on lower third of sidewall.

Venting: See chart in Poly Processing Company's Installation Manual.

Foundation: PPC IMFO® tank pad or smooth concrete, asphalt or steel foundation designed to accommodate IMFO®, SAFE-Tank® or vertical tank

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

Lid: A hinged, weighted manway to prevent over-pressurization due to rapid decomposition

Options: Restraint systems for wind and seismic, level gauges, ladders, heating pads, insulation, mixer mounts, OR-1000™ and engineering stamp

The above components are just a few of the many options offered by Poly Processing. Visit us online at www.polyprocessing.com for additional information and products, or talk to your Poly Processing representative.

