

## 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](http://www.polyprocessing.com) for a complete Chemical Resistance Chart.

## Tank Specifications & Technical Overview

### IMFO® VERTICAL FLAT / SLOPED BOTTOM OF XLPE:

- 230-15,500 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:

- 30-15,500 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 at [www.polyprocessing.com/venting](http://www.polyprocessing.com/venting).

**Foundation:** PolyBase or smooth concrete 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](http://www.polyprocessing.com) for additional information and products, or talk to your Poly Processing representative.

