



CHEMICAL STORAGE RECOMMENDATIONS
FROM ASSMANN CORPORATION OF AMERICA

HYDROFLUORIC ACID

Hydrofluoric acid (HF), otherwise known as Fluoric Acid, is a solution of hydrogen fluoride in water. Because of its highly corrosive properties, safe storage solutions are non-negotiable for Hydrofluoric Acid. This chemical can react with metals and glass, so polyethylene tanks offer a compatible storage option. However, Hydrofluoric Acid is one of the most dangerous industrial chemicals and should always be stored in a cool, well-ventilated area away from incompatible materials like bases and alkalis. Because of its toxic property, proper ventilation is imperative for proper storage of Hydrofluoric Acid.

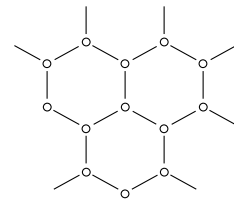
HF is an important component to many manufacturing processes, ranging from rust removal to glass and metal etching. Additionally, many refrigerants, herbicides, and pharmaceuticals require HF for production. Special considerations should be made when choosing the correct storage tank for this application. This document is to be used as a guideline for selecting the best options for your Assmann Polyethylene Tank.

ASSMANN POLYETHYLENE TANKS ARE NSF CERTIFIED

Assmann Corporation is the only manufacturer that has NSF certification for our Crosslink polyethylene in chemical storage applications. Other storage tank manufacturers do not carry the NSF certification on Crosslink polyethylene without the use of expensive liners, or they simply have potable water certification and do not have chemical certification. While selecting your storage tank, consider if NSF certification is required.



Certified to
NSF/ANSI 61



Assmann recommends that tanks be constructed of Crosslink Polyethylene. Assmann requires that tanks be rated for a minimum of 1.9 Specific Gravity. All connections below liquid level must prevent chemicals from contacting the tank wall cross section.

Assmann's Crosslink polyethylene has a much higher softening point than conventional linear polyethylene. Crosslink also has a much higher impact resistance.

HYDROFLUORIC ACID

Specific Gravity

1.9

Resin

Crosslink

Fitting Material

Polypropylene (PP)

Gasket Material

Viton

Hardware

Hastelloy



CROSSLINK DOUBLE WALL POLYETHYLENE STORAGE TANKS

Double wall plastic tanks provide the best protection against spills, making it the safest option for Hydrofluoric Acid.

The inner tank dome overlaps the outer tank sidewall to help prevent rainwater, snow, and debris from entering the containment basin, making them among our most safe tanks. Molded-in upper and lower fitting flats are standard. We can customize these tanks with either a top suction or sturdy designed bottom outlet. All double wall containment tanks are designed with wall thicknesses equal to or greater than that required by ASTM D-1998 standards.

VENTING

Venting polyethylene storage tanks is one of the most overlooked steps in storage solutions. However, proper venting is crucial to maintaining safety, especially when storing highly corrosive chemicals such as HF. We cannot stress how important it is that polyethylene tanks are not over-pressurized or placed under a vacuum. Our storage experts can help identify the right venting solution for your storage needs. Vent size will always be based on flow and delivery rates, but you can never have too much venting.



FITTINGS

Our experts recommend the following fitting materials of construction: Polypropylene (PP) for nozzles, Viton material for Gaskets, and Hastelloy for metallic fittings and hardware. All connections below liquid level must prevent chemicals from contacting the tank wall cross section. Bulkhead-style connections can be used on tanks 2,000 gallons and below. The sidewall connections of tanks above 2,000 gallons should be 316 Stainless Steel construction. There are no restrictions on dome fittings.

JOINTS

Flexible hoses or expansion joints must be used on all lower ½ sidewall connections. A lightweight isolation valve is permitted prior to the flexible joint. All piping must be supported independently of the tank. Pipe supports must be installed after the flexible joint to allow the tank to expand and contract under normal service conditions. Polyethylene tanks expand and contract both laterally and vertically; expansion hose or joint must accommodate this expansion.



MANWAYS AND LIDS

Assmann offers manway covers specifically designed to prevent tank over-pressurization. Manways are available in 16", 22", and 24" sizes depending on the tank model. Available in 22" and 24" sizes, hinged lids offer full access into the tank and its contents. We also offer weighted hinged lids, recommended for applications where secondary vents — in case of over-pressurization — are required. Hinged lids are not equipped with gaskets and should not be used in fume tight applications.



SECONDARY CONTAINMENT

Proper design of storage solutions should include adequate containment in case of tank failure. Containment should be adequate in capacity and suitable for Hydrofluoric Acid. Typically, containment basins are sized to a minimum of 110% of the primary tank's capacity. Assmann offers both secondary containment basins and double walled tanks to meet containment requirements. Customers are responsible for checking local regulations to meet secondary containment requirements, as well as ensuring that all coatings and linings are compatible.



Certificate Number:
DAS 90024930/39/Q Rev: 001

Quality: First and Forever

Assmann polyethylene bulk storage tanks are built the right way – even if that's not the easiest or fastest way. We're the only manufacturer who uses non-shielded molds with low temperature heat and gradual air cooling. The result is truly uniform wall thickness, unparalleled certified quality, and reliability that proves itself every time and across decades.

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