

A photograph of an industrial facility. In the center, a large, cylindrical, metallic tank is being moved or positioned by a crane. A worker in a green shirt and blue jeans is standing next to the tank, operating a control panel. The background shows a large industrial building with a yellow roll-up door and various pieces of machinery.

CHEMICAL STORAGE RECOMMENDATIONS
FROM ASSMANN CORPORATION OF AMERICA

HYDROCHLORIC ACID < 37% STORAGE

Hydrochloric acid, also known as muriatic acid, is an aqueous solution of hydrogen chloride (chemical formula: HCl). The specific gravity of HCL is 1.19, However due to its corrosive natural a 1.9 Specific gravity tank should be utilized for storage. It is a colorless solution with a distinctive pungent smell. Hydrochloric acid should be stored in a cool, dry, well-ventilated area away from sources of moisture. Storing large quantities of hydrochloric acid can cause hazardous vapor buildup. Therefore, you need vents or fume scrubbers, which is the EPA-approved method for mitigating HCl fumes.

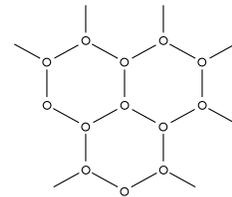
HCL is an important part of many manufacturing processes. It is used in the food industry, as well as oil well acidizing, steel pickling, neutralizing basic solutions, and maintaining pH levels in swimming pools to name a few. Hydrochloric acid (HCl) is powerful, toxic, and highly corrosive and should always be handled with caution. It is corrosive to the eyes, skin, and mucous membranes. Concentrated hydrochloric acid is toxic if inhaled, so avoid breathing. Wear a chemical-resistant apron, chemical-resistant gloves, and chemical splash goggles always. 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 chemical from contacting the tank wall cross section. When practical, Hydrochloric Acid should not exceed 100°F at delivery or during storage. Tank should be kept from direct sunlight to avoid excessive heat. When possible, multiple smaller storage tanks should be used in lieu of one large storage tank. Special attention needs to be paid to venting Hydrochloric Acid fumes.

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

HYDROCHLORIC ACID 37%

Resin	Specific Gravity	Fitting Material	Gasket Material	Hardware
XLPE	1.9	PVC	Viton	Hastelloy C-276



Venting polyethylene storage tanks is one of the most commonly overlooked steps but is a significant one. It is extremely important that polyethylene tanks are not over-pressurized or placed under vacuum. Adequate vent size will always be based on flow rates and delivery rates; however you can NEVER have too much venting. Over-pressurization and vacuum are the two leading causes of failure in a polyethylene storage tank. Vents should be sized a minimum of 2-3 times the largest inlet or outlet connection when tanks are filled by a tanker that uses air unloading techniques. Venting is critical when considering tank longevity. Polyethylene storage tanks must maintain atmospheric pressure. Tanks vented through a scrubber system, the vent size cannot be reduced passing through the scrubber. If a dispersion pipe is used in the scrubbing system, the pipe should not be submersed in more than 6" of liquid. A perforated dispersion pipe must allow for the same cross-sectional area of the pipe to prevent vent restriction. Storing large quantities of hydrochloric acid can cause hazardous vapor buildup. Assmann recommends that you speak with your chemical supplier for proper venting and scrubbing techniques for HCL fumes. **Under no circumstances should tank be placed under pressure or vacuum conditions.**



Assmann offers manway covers specifically designed to help minimize HCL fumes. Our bolted and gasketed manway covers are available in 16", 22", and 24" sizes depending on tank model. These covers include chemical resistant bolts that compress an XLPE foam gasket between the tank wall and a rigid cover. These manways should be used on any application where fumes need to be restricted from leaving the storage tank.

SECONDARY CONTAINMENT

Proper design of a storage system will include adequate containment in case of tank failure. Containment should be adequate in capacity and suitable for Hydrochloric Acid. Typically, containment basins are sized to a minimum of a 110% of the primary tank's capacity. Assmann offers both secondary containment basins and double-walled tanks to meet containment requirements. End user should check local regulations to meet secondary containment requirements and ensure that all coating and linings are compatible with Hydrochloric Acid.





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 independent of 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.



Assmann recommends the following fitting materials of construction; Materials should be PVC or Hastelloy C-276 for nozzles. Gaskets should be VITON material. Metallic fittings and hardware should be Hastelloy C-276. All connections below liquid level must prevent chemical 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 Hastelloy C-276 construction. (Flange-style fittings are not recommended). There are no restrictions on dome fittings. Special attention needs to be paid to vents and manway openings.



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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