



CERTIFIED TO
NSF/ANSI 61

CHEMICAL STORAGE TANK SYSTEMS AND ACCESSORIES

Product and Resource Guide



POLYPROCESSING
SOLUTIONS, SIMPLIFIED.

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INTRODUCTION

When chemical storage solutions are smarter, your job is easier.

That is our goal at Poly Processing – to bring you safer, smarter tanks and fittings that make chemical storage easy for you.

We do this by basing our systems on your processing needs. At Poly, **each storage system is designed specifically for the chemical it will contain**. So issues like fuming, temperature sensitivity, weight and chemical reaction are all used to create the ideal storage situation, at drawing-board level.

We've been pioneers in rotational molding – and that has led to one of the most durable and affordable solutions for chemical storage: high-density crosslinked polyethylene, or **XLPE**. This thermoset resin gives you 20 times the environmental stress crack resistance, 10 times the molecular weight and 5 times the impact and tensile strength of standard high-density linear polyethylene.

Our **IMFO® (Integrally Molded Flanged Outlet) tanks** give you the capability for full drainage, which makes sludge buildup easier to control. Our **B.O.S.S.™** fitting is designed for a sure seal, with a simplified structure that prevents leakage. Our **SAFE-Tank® double-wall tanks** provide containment with a minimal footprint. And our **OR-1000™ engineered system** gives you 4 times the antioxidant strength of a standard polyethylene.

Combine those innovations with bend-over-backwards service, and you get a true partner in advanced chemical storage.

WHO IS POLY PROCESSING?

Known as a leader in crosslinked polyethylene chemical tanks, Poly Processing is a company dedicated to storage safety, as well as operational- and cost-effectiveness. This national company has worked to raise the standards of the industry and continually develops new and better storage concepts that are based on client feedback.

Formerly known as the Abell Company, Poly was founded in 1955 as an agricultural distribution service. In 1970, the Abell family recognized a need for better storage solutions for corrosive chemicals. They developed a process for rotomolded, crosslinked plastic storage as an alternative to FRP, stainless steel and lined steel. Today, Poly Processing has manufacturing facilities in Louisiana, California and Virginia.

Poly Processing works with industry professionals and major educational facilities to research and develop further advances in chemical storage.

While Poly is known for its technological innovations, it is also known for its human approach to business and service. Here, every phone call is answered by a person, not a machine - and customer service is at the heart of all we do.



NODUR HYDROXIDE

Informational sign detailing safety procedures and hazard symbols for Sodium Hydroxide.

ABOUT XLPE

High-density crosslinked polyethylene, or XLPE, is a thermoset resin that is specifically designed for critical applications like chemical storage. During the XLPE manufacturing process, a catalyst (peroxide) is built into the resin, which creates a free radical. The free radical generates the crosslinking of the polymer chain, so the tank essentially becomes one giant molecule. The result is a resin that is specifically designed for critical chemical applications.

XLPE versus Linear Polyethylene

- XLPE has 20 times the environmental stress crack resistance of HDPE.
- It has 10 times the molecular weight of HDPE.
- It has 5 times the impact and tensile strength of HDPE.

XLPE versus Fiberglass-Reinforced Plastic (FRP)

- XLPE offers seamless construction for greater strength.
- With FRP, chemicals can wick into the fiber, compromising tank life.
- XLPE can have a lower cost of ownership, due to the low amount of required maintenance compared to FRP.
- FRP often requires special handling to avoid cracking.

XLPE versus Carbon and Stainless Steel

- XLPE has seamless one-piece construction, which eliminates the potential for chemical attack points and bad welds.
- Unlike carbon and stainless steel, XLPE has very broad chemical resistance capabilities without the need for high-cost coatings.
- XLPE does not require ongoing maintenance and inspection.
- XLPE is a cost-effective solution to high-priced alloys.

WE'RE THE ONLY COMPANY

with chemical tanks certified to NSF/ANSI 61 standards!

NSF/ANSI Standard 61 addresses crucial aspects of drinking water system components – and Poly Processing is the ONLY company offering storage tanks certified to NSF/ANSI 61 standards for chemical storage. Most products are tested under NSF-61 with the pH 5, pH 8 and pH 10 exposure waters defined in the standard. These exposure waters were designed to simulate the wide variety of potable water chemistries encountered across North America. However, these exposure waters were not designed to predict leaching of materials in chemical storage tanks. Poly Processing's OR-1000™ products have been tested with the NSF-61 exposure waters, as well as with corrosive chemicals, to ensure they are safe for potable water use.

Poly Processing offers NSF-certified solutions for the storage of:

Acetic Acid ≤ 80%	Ferrous Sulfate ≤ 30%	Sodium Aluminate ≤ 100%
Aluminum Sulfate ≤ 50% (Alum)	Hydrochloric Acid ≤ 37%	Sodium Bisulfite ≤ 40%
Calcium Carbonate 60-100%	Hydrofluoric Acid ≤ 52%	Sodium Carbonate ≤ 85%
Calcium Chloride ≤ 30%	Hydrofluosilicic Acid ≤ 30%	Sodium Chlorite ≤ 34%
Chlorine Dioxide ≤ 38%	Liquid Ammonium Sulfate 35-45%	Sodium Hydroxide ≤ 50%
Citric Acid ≤ 100%	Magnesium Chloride ≤ 35%	Sodium Hypochlorite ≤ 0.08%
Copper Sulfate ≤ 25%	Phosphoric Acid ≤ 75%	Sodium Hypochlorite ≤ 15%
Deionized Water	Poly Aluminum Chloride ≤ 100%	Sodium Permanganate ≤ 40%
Ferric Chloride ≤ 50%	Polyorthophosphate ≤ 100%	Sodium Silicate ≤ 100%
Ferric Sulfate ≤ 60%	Potable Water	Sulfuric Acid ≤ 98%
Ferrous Chloride ≤ 37%	Potassium Hydroxide ≤ 50%	Zinc Orthophosphate ≤ 100%

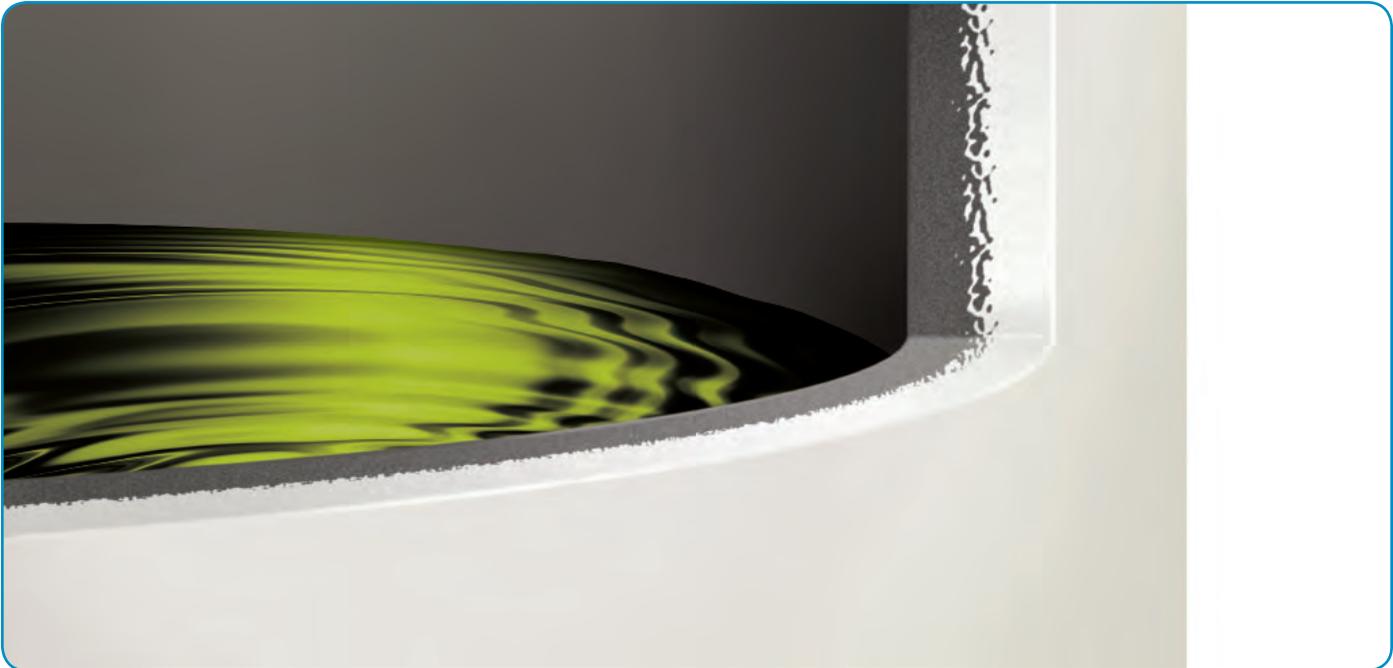
Talk to your Poly Processing representative to find out more – or visit our website, www.polyprocessing.com, to review our NSF white paper.



CERTIFIED TO
NSF/ANSI 61

OR-1000™

An inner-surface technology for four times the antioxidant power.



Poly Processing's exclusive OR-1000™ system was specifically designed to address the aggressive oxidation effects of sodium hypochlorite, sulfuric acid and hydrochloric acid by adding an additional chemical barrier between XLPE and the chemical. OR-1000's engineered inner surface is made of medium-density polyethylene, specifically formulated to resist oxidation. Its outer surface is made of XLPE for superior strength. The 2 surfaces are molecularly bound together during the rotomolding process, creating a truly seamless bond between the XLPE and the inner surface.

The advantages of OR-1000™:

- The result gives you 4 times the antioxidant strength of any polyethylene on the market today!
- All wetted surfaces are covered by OR-1000™, eliminating the opportunity for a chemical attack on the structural portion of the tank.
- OR-1000™ can be used on any of our tanks, including SAFE-Tank® and IMFO® tank systems.

INNOVATIVE TANK SOLUTIONS

IMFO®: integrally molded for major hazard control.



Traditional tank maintenance can be a challenge with many chemicals – so Poly has developed a unique system that helps minimize the hazards associated with traditional vertical tank maintenance. With Poly's Integrally Molded Flanged Outlet, or IMFO® system, the flange is molded while the tank is processing, making it a stress-free part of the tank. The flange is created from the same material as the tank – it's not an insert introduced during or at post-production.

The IMFO's advantages are many:

- Since the flange is at the bottom of the tank, full drainage is achieved below the tank knuckle radius, which can eliminate the need to enter the tank for cleaning.
- One-piece construction enhances long-term performance of the tank, since it doesn't compromise the tank hoop's integrity or structural design.
- In aggressive applications, the complete flange face is protected by the antioxidant OR-1000™ system.
- The IMFO's design brings you the highest amount of static head pressure, which contributes to the highest net positive suction head (NPSH) of any vertical non-coned tank.

INNOVATIVE TANK SOLUTIONS

SAFE-Tank®: a complete system for secondary containment.



Poly Processing's SAFE-Tank® is a "tank-within-a-tank" system that keeps contaminants from entering the interstitial area. These tanks provide secondary containment to avoid the damaging of equipment or property, loss of chemical, or injury to employees in the event of a spill.

The SAFE-Tank®:

- Provides 110% secondary containment.
- Will equalize the liquid and allow the chemical to be continually used until it is convenient to repair the tank.
- Is ideal for chemicals like sulfuric acid that can have dangerous exothermic reactions to water.
- Eliminates the expense, cost and maintenance of secondary concrete containment.
- Minimizes the system's footprint by providing secondary containment in a more compact way.
- Adding an enhanced bellows transition fitting will maximize your SAFE-Tank® system's performance.

SAFE-Tank® systems (see page 41 for details) are also available with OR-1000™ for superior antioxidant resistance.

OUR OTHER INNOVATIONS

THE B.O.S.S.™:

A Simple Design For Better Leak Protection.

With its streamlined one-piece design, the B.O.S.S.™ (bolted one-piece sure seal) reduces the seal point to a single gasket to greatly reduce chances for leakage. This unique fitting:

- Is constructed of polyethylene for chemical compatibility with your tank.
- Has an innovative backing ring design to reduce stress on the fitting and make it three times stronger than plastic fittings.
- Is easy to maintain and troubleshoot since the pipe connection is extended beyond the sidewall of the tank.
- Is available in 1, 2 and 3 inches I.D.

The B.O.S.S.™ is available in three alloy options: 316 stainless steel, titanium and C-276. It comes fully assembled and pressure tested and can be installed through the tank wall as with any other standard bulkhead fitting. See page 49 to find out more.



SAFE-Surge™ MANWAY COVERS:

Emergency Air Surge Protection For Pneumatic-Filled Tanks.

Poly's SAFE-Surge™ manway covers ensure that your tank maintains the proper ACFM at all times – even in the event of air surges that can't be handled by primary venting. This system was designed specifically for pneumatic-filled tanks. SAFE-Surge™:

- Is never to be considered part of your primary venting.
- Releases at a 6-inch water column to prevent over-pressurization.
- Features an easy inspection port.
- Is available for 19- and 24-inch manways.

This cover is REQUIRED in pneumatic filling operations excluding scrubbers. For detailed venting requirements, please refer to the chart on page 63.



ENHANCED BELLOWS TRANSITION FITTINGS:

A Secure Yet Flexible Fully Contained SAFE-Tank® Bottom Discharge.

By incorporating an expansion joint, the tank expands freely during loading and unloading, and it also virtually eliminates damage from piping vibrations caused by pumps. With this performance-maximizing fitting:

- Containment of the expansion joint eliminates the threat of uncontained chemical leaks and dangerous “spurts.”
- Piping layouts can be fully contained by connecting a dual-wall piping system onto the fitting. This can mean a safer workplace and less threat to the environment.
- Unsurpassed containment of discharge is allowed on a SAFE-Tank®.

The pressure-tested internal components of the fitting come to you pre-assembled and ready to install.



OUR TANK SYSTEMS

Poly Processing understands the very specific storage requirements for every chemical - so we have developed systems that meet the unique requirements of each product. The following systems have been designed to optimize your system's safety, longevity and compatibility, based on the properties of the stored chemical. Please note that each of these systems can be adapted to suit your particular needs.



SODIUM-HYPOCHLORITE



SULFURIC ACID



HYDROCHLORICACID



SODIUM-HYDROXIDE



HYDROFLUORICACID



HYDROFLUOSILICACID



FERRIC-ALUMINUM-POLYMERS



HYDROGENPEROXIDE

SODIUM HYPOCHLORITE.

An aggressive oxidizer that presents a major storage challenge.



Commonly known as bleach, sodium hypochlorite is used in a variety of applications, particularly for the disinfection of drinking water and wastewater. When it comes to storage of this chemical, three factors must be considered:

- UV can degrade sodium hypochlorite, so special precautions must be taken to reduce this effect.
- Sodium hypochlorite typically contains transition metals such as nickel, iron and copper, which can buildup in a storage tank creating off-gassing.
- “Hypo” is a potent oxidizer, so all materials in the chemical’s storage tank must be up to the task.

By addressing all three of these issues, this caustic chemical can be contained in a more secure and effective manner, with a tank system that meets NSF/ANSI Standard 61 for chemical storage.



The Poly Processing Hypo System

Poly Processing's Sodium Hypochlorite Storage Systems are specifically designed for containment of this challenging chemical. By using carbon black, white or gray compound XLPE resin, **UV degradation of the chemical can be dramatically reduced.** Mastic coatings and insulation are other ways to reduce UV's effect on the chemical.

To **prevent the potential buildup of transition metals in the tank**, Poly has developed the IMFO® system. This special design allows for full drainage of the tank, which can greatly increase the half-life of the chemical.*

*Natural tanks are available for indoor use.

Poly's OR-1000™ system is another key component of the Hypo System. OR-1000™ is the result of our exclusive rotomolding process, which creates a seamless bond between an inner surface of medium-density polyethylene and an outer surface of high-density crosslinked polyethylene. OR-1000™ allows **four times the antioxidant strength** of a normal polyethylene. In any application where OR-1000™ is used, all wetted surfaces - including covering the face of the IMFO® drain - are completely covered by the material, eliminating any opportunity for a chemical attack on the structural portion of the tank.

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Sodium Hypochlorite 9%-15%	XLPE with OR-1000™	1.9	PVC	EPDM/Viton®	Titanium

» See our website for a complete Chemical Resistance Chart.

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

Tank Specifications



- **High-density crosslinked polyethylene (XLPE)** outer surface ensures maximum corrosion protection through molecular bonding.
- **OR-1000™** molecularly bonds XLPE with an antioxidant inner surface that resists the heavily oxidizing nature of sodium hypochlorite.
- **Integrally Molded Flanged Outlet (IMFO®)** constructed as part of tank ensures complete drainage. Non-IMFO® options also available
- **UV protection** for the chemical is achieved by using compounded black, white or gray resin or insulation coating to help maximize the half-life of the chemical for outdoor applications.

Recommended System Components



Secondary containment:
Recommended.
Alternative: PPC secondary containment basin of XLPE, or SAFE-Tank® if concrete containment is not available.



Fittings:
IMFO® to prevent transition metal buildup

NOTE: Do NOT use stainless steel or Alloy C-276 due to nickel content reaction.



Plumbing:
Requires flexible, Hypo-resistant connections [see page 54] to allow for lateral and vertical tank contraction and expansion, and to reduce vibration stress

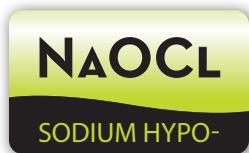


Venting:
SAFE-Surge™ manway cover is recommended on pneumatically loaded systems to support tank longevity.

The above components are just a few of the many options offered by Poly Processing. See pages 38-63 for additional information and products, or talk to your Poly Processing representative.

CAUTION! The life of a Sodium Hypochlorite Storage System is greatly affected by the quality of the chemical itself. Tank owners are cautioned to use high-quality sodium hypo with low iron, nickel and copper content, to avoid decomposition of the chemical and acceleration of the oxidization and degradation of the tank.

TECHNICAL OVERVIEW: Sodium Hypochlorite 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™.

*Three-year warranty offered on Non-IMFO® alternatives.

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™.

Black, white or gray color or insulation with mastic coating required in outdoor applications to minimize bleach degradation and maximize chemical half-life.

SECONDARY CONTAINMENT

Recommend **SAFE-Tank®** secondary XLPE as shown above.

Non-SAFE-Tank® Alternatives:

- PPC secondary containment basin
- Other secondary containment suitable for sodium hypochlorite, 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 0.67"
 - » Axial Extension \geq 0.67"
 - » Lateral Deflection \geq 0.51"
 - » Angular Deflection \geq 14°
 - » Torsional Rotation \geq 4°

VENTING

See chart on page 63.

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 reduce the decomposition of the chemical and maintain ASTM D1998 design parameters.

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, NSF-61 certification and engineering stamp.

ADDITIONAL SPECIAL REQUIREMENTS:

On-site generation (.08%) max size : 4000 gallons without engineering review. **0.8% may require OR1000 system depending on the installation parameters.**

SULFURIC ACID.

Challenging a storage tank's strength and design safety.



Sulfuric acid is used in a huge array of industrial applications, for everything from water and wastewater treatment to the manufacture of chemicals, fertilizer and car batteries. But this highly exothermic acid presents serious storage challenges, for a number of reasons.

- Sulfuric acid is an extremely heavy chemical that will test the mechanical integrity of any material.
- The addition of water to concentrated sulfuric acid leads to the dispersal of a sulfuric acid aerosol – or worse yet, an explosion.
- If sulfuric acid is spilled on metals, it can create highly flammable hydrogen gas.
- Skin and other bodily burns from sulfuric acid are potentially more serious than burns from other strong acids. Sulfuric acid dehydrates whatever it touches, and the heat caused by that reaction with water can create secondary thermal damage.

Poly Processing's tanks and fittings can be combined specifically to contain sulfuric acid, reducing the risks presented by this highly acidic chemical.



The Poly Processing Sulfuric Acid System

Through a combination of innovative features, Poly Processing creates the ideal system for sulfuric acid storage. With their **robust load tolerance**, crosslinked polyethylene tanks can more than handle the chemical's heavy weight. The molecular bonding of XLPE and tank wall thickness is particularly important in the bottom third of the tank, where high levels of load are concentrated.

If secondary containment is not present, the Poly Processing SAFE-Tank® is a smart choice. Along with containing the chemical from its surrounding environment, this double-walled tank

greatly lowers the risk for hazardous contact of sulfuric acid with water. SAFE-Tank® systems are designed with OR-1000™.

If secondary containment* is present, the IMFO® tank is recommended. With the use of an IMFO® system instead of mechanical fittings, the tank's **structural integrity is maximized**. Combine this tank design with the OR-1000™ system, and **oxidation is reduced dramatically**.

All of these features lead to a safer tank - designed to **reduce safety risks and improve the longevity of the system**.

*Containment tank is required with this chemical in all applications.

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Sulfuric Acid ≥ 93%	XLPE with OR-1000™	2.2	PVC	Viton®	316SS
Sulfuric Acid 80%-92%	XLPE with OR-1000™	2.2	PVC	Viton®	C-276
Sulfuric Acid < 80%	XLPE	1.9	PVC	Viton®	C-276

» See our website for a complete Chemical Resistance Chart.

NOTE: To meet NSF-61 certification, use Viton® GF.

Tank Specifications



- **High-density crosslinked polyethylene (XLPE)** accommodates the heavy weight of sulfuric acid.
- **OR-1000™** bonds the XLPE with an antioxidant inner surface, minimizing oxidation, reducing the potential for fault and maximizing life span.
- **SAFE-Tank® design** creates a “tank within a tank,” ensuring that water will not enter the containment area. (Recommended where secondary containment is not available)
- **IMFO® tank** is molded as a single unit. This maintains hoop stress rating, adding to the strength of the tank. (Recommended for situations with existing secondary containment)
- **B.O.S.S.™ fitting** provides bolted one-piece sure-seal design, limiting the seal point to a single gasket for major leak prevention.

Recommended System Components



Venting:
SAFE-Surge™ manway cover is recommended on pneumatically loaded systems to support tank longevity.



Fittings:
Recommend enhanced bellows transition fitting for bottom sidewall discharge



Fittings:
B.O.S.S.™ fitting also recommended to prevent leaks

NOTE: For concentrations less than 93%, DO NOT use stainless steel.



Plumbing:
Reverse float gauge recommended to ensure proper tank leveling. See page 55.

The above components are just a few of the many options offered by Poly Processing. See pages 38–63 for additional information and products, or talk to your Poly Processing representative.

TECHNICAL OVERVIEW:

Sulfuric Acid Storage Tanks



TANK

SAFE-Tank® of XLPE with OR-1000™:

- 3,150–8,700 gallons
 - » 2.2 spg rating with OR-1000™ for primary tank
 - » 1.9 spg rating for secondary tank
- 1,550–2,500 gallons
 - » 2.2 spg rating with OR-1000™ for primary tank
 - » 2.2 spg rating for secondary tank
- 55–1,000 gallons
 - » 1.9 spg primary and secondary tanks

NOTE: 55–1,000 gallons do not require OR-1000™.

* ≥ 94% concentration max tank size: 4,400 gallons (without engineering review)

Non-SAFE-Tank® alternatives:

IMFO® Vertical Flat Bottom of XLPE with OR-1000™:

- 1,150–6,600 gallons
- 2.2 spg rating

IMFO® Vertical Flat Bottom of XLPE:

- 230–905 gallons
 - 1.9 spg rating
- NOTE: Limit one IMFO® per tank

Standard Vertical Flat Bottom of XLPE with OR-1000™:

- 1,050–6,600 gallons
- 2.2 spg rating

Standard Vertical Flat Bottom of XLPE:

- 30–1,000 gallons
- 1.9 spg rating

NOTE: ≥ 94% concentration max tank size: 4,000 gallons (without engineering review)

SECONDARY CONTAINMENT

Non-SAFE-Tank® alternatives:

- PPC secondary containment basin
- Other secondary containment suitable for sulfuric 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 ≥ 0.67"
 - » Axial Extension ≥ 0.67"
 - » Lateral Deflection ≥ 0.51"
 - » Angular Deflection ≥ 14°
 - » Torsional Rotation ≥ 4°

VENTING

See chart on page 63.

FOUNDATION AND RESTRAINTS

- 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

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, NSF-61 certification and engineering stamp

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.



HCL
HYDROCHLORICACID

The Poly Processing Hydrochloric Acid System

Storing a chemical as corrosive and fuming as HCL takes a truly specialized system. Poly Processing resolves these issues with its 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.

Poly Processing's 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.**

Poly also incorporates **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

»» See our website for a complete Chemical Resistance Chart.

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 offered by Poly Processing. See pages 38-63 for additional information and products, or talk to your Poly Processing representative.

Recommended System Components



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



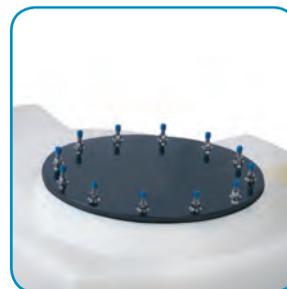
Fittings:
IMFO® system is recommended.



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

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 0.67"
 - » Axial Extension \geq 0.67"
 - » Lateral Deflection \geq 0.51"
 - » Angular Deflection \geq 14°
 - » Torsional Rotation \geq 4°

VENTING

See chart on page 63.

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

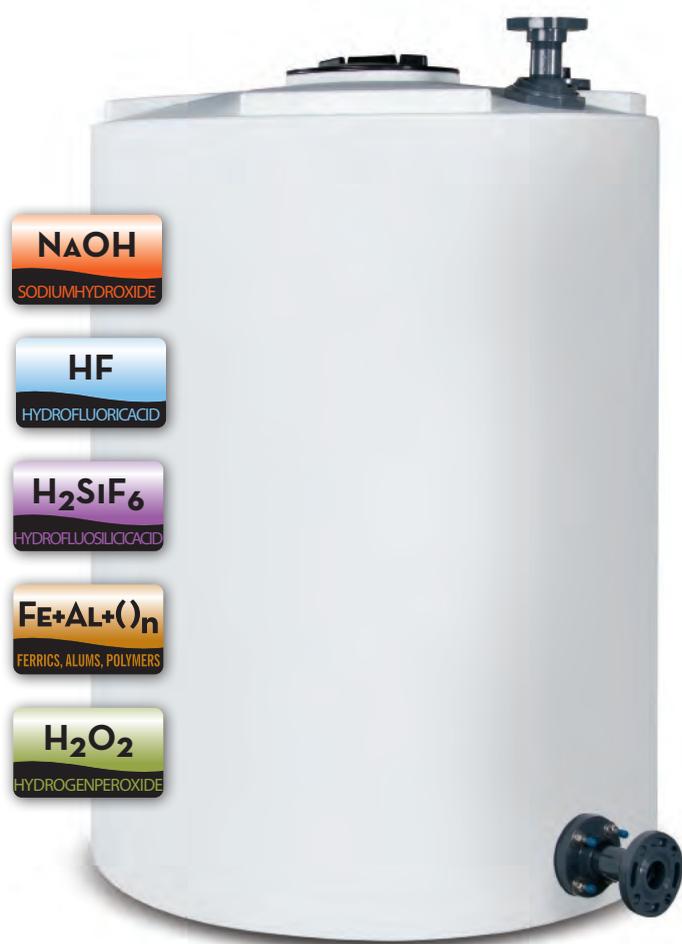
OPTIONS

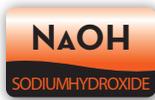
Restraint systems for wind and seismic, level gauges, ladders, heating pads, insulation and engineering stamp

ADDITIONAL CHEMICALS OVERVIEW:

Solutions for storage of more popular chemicals.

Each chemical has its own specific properties, so Poly Processing makes it easy to adapt our tanks with the type of gaskets, venting, fittings and other features necessary for that chemical. The following are just a few of the many chemicals that can be stored safely with a Poly Processing tank system. For details on those chemicals not listed here, talk to your Poly Processing representative.





The Poly Processing SYSTEM RECOMMENDATION.

Tank Specifications



Tank options include:

- **High-density crosslinked polyethylene (XLPE)** construction for maximum strength
- **OR-1000™** antioxidant inner surface
- **Integrally Molded Flanged Outlet (IMFO®)** for complete drainage
- **SAFE-Tank®** design for “tank-within-a-tank” protection

Recommended System Components



Secondary containment:

SAFE-Tank® if concrete containment is not available

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



Fittings:

IMFO® eliminates the need for confined space entry.



Plumbing:

Requires flexible connections [see page 54] to allow for lateral and vertical tank contraction and expansion and to reduce vibration stress

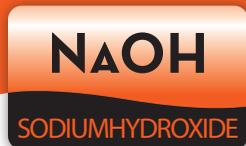


Venting:

SAFE-Surge™ manway cover is recommended on pneumatically loaded systems to support tank longevity.

SODIUM HYDROXIDE.

Defying a chemical that “finds” leaks.



Also known as caustic soda or liquid lye, sodium hydroxide is used to adjust pH in water and wastewater treatment and in the manufacture of chemicals, rayon, cellophane, pulp and paper, aluminum, detergents, soaps and a wide range of other products. As for storage:

- Sodium hydroxide is a “slippery” chemical that tries to find leak paths.
- This chemical is extremely corrosive to tissue. It is also highly toxic if ingested.
- If sodium hydroxide is not kept at a specific temperature, it will crystallize and go solid.

A tank system and proper fittings from Poly Processing can reduce your risk with this hazardous chemical.



The Poly Processing SODIUM HYDROXIDE SYSTEM.



The key to storing sodium hydroxide properly is strong, safe containment. Since the chemical is so corrosive, secondary containment is an absolute.

If secondary containment is already available, the IMFO® tank is recommended. IMFO® systems are ideal for Sodium Hydroxide Systems, since their flange is actually a molded part of the tank, not an insert that could leak or fail. The IMFO® also **ensures long-term performance of the overall system**, since it eliminates the need to drill into the sidewall of the tank and install a mechanical fitting, which can create a maintenance issue for this chemical.

When secondary containment is not available, a SAFE-Tank® can meet this requirement. This “tank within a tank” extends the margin of safety by providing a system with **110% secondary containment**.

The tank’s high-density crosslinked polyethylene construction means greater strength. It is so strong, in fact, that Poly offers a **warranty of five full years** on all tanks.

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Sodium Hydroxide 50%	XLPE	1.65	PVC	EPDM	316SS

» See our website 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
- 1.65 spg rating

NON-IMFO® ALTERNATIVES:

SAFE-Tank® XLPE:

- 55-8,700 gallons
- 1.65 spg rating for primary tank
- Spg ratings for secondary tanks must be equal to primary tank.
- All other tank sizes must equal primary tank spg rating.

Standard Vertical Flat Bottom XLPE:

- 30-13,650 gallons
- 1.65 spg rating

NOTE: Heating pad and insulation are highly recommended to prevent crystallization of the chemical.

Alternative secondary containment: PPC secondary containment basin or other secondary containment suitable for sodium hydroxide, of adequate size for use

Plumbing: Requires use of flexible connections with fittings on lower third of sidewall. See page 54 for flexible connections options.

Venting: See chart on page 63.

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 or drop below 50°F to prevent damage to the chemical. 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, 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. See pages 38-63 for additional information and products, or talk to your Poly Processing representative.

HYDROFLUORIC ACID.

Reducing the risk of human exposure.



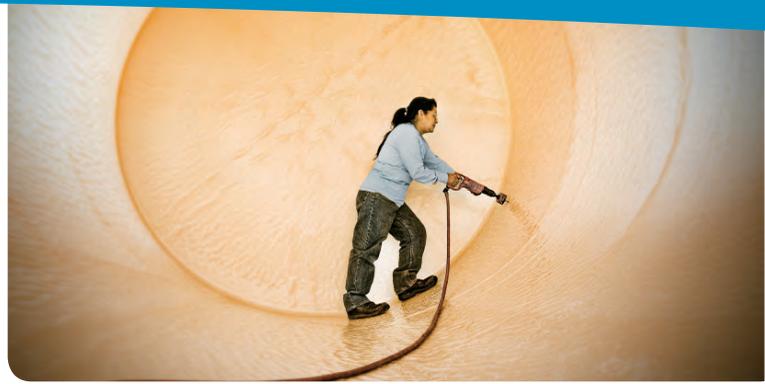
Used in the production of aluminum, fluorocarbons and gasoline and for applications like glass etching and uranium processing, hydrofluoric acid is an extremely dangerous chemical that must be handled with the utmost care.

- 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 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. See page 54 for flexible connections options.

Venting: See chart on page 63.

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

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 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. See page 54 for flexible connections options.

Venting: See chart on page 63.

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

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 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. See page 54 for flexible connections options.

Venting: See chart on page 63.

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

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 for 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. See page 54 for flexible connections options.

Venting: See chart on page 63.

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

PRE-PURCHASE GUIDE

Before Ordering:

1. Determine capacity and location restrictions: gallons, maximum height and diameter, and indoor or outdoor installation.
2. Conduct a chemical review: name, concentration, specific gravity and temperature.
3. See the chemical resistance guide (page 36) for tank and fittings materials, specific gravity rating, and full-drain and secondary containment requirements.
4. Use the complete 8-digit stock number when placing orders. Note: the first digit of each stock number indicates the manufacturing location: 4 = Monroe, LA; 7 = Winchester, VA; 1 = French Camp, CA.
5. Download a tank schematic from polyprocessing.com and use this drawing to specify the fitting locations.
6. Contact a Poly Processing distributor for details.

Operating Parameters

TEMPERATURE

- Tank specific gravity ratings are based on a product temperature of 100 degrees F.
- For tank designs for temperatures up to 150 degrees F, contact Customer Service.

PRESSURE

Atmospheric pressure must be maintained in the tank at all times; vacuum must equal zero.

VENTING

See chart on page 63.

PLUMBING

Requires use of flexible connections with fittings on lower third of sidewall

HEAT MAINTENANCE CONTROLS

Two thermostats are furnished, one for control and one for redundancy; heating requirements vary depending on maintenance temperature, ambient temperature and wind conditions.

POLYURETHANE INSULATION WITH MASTIC COATING

- 2-inch nominal thickness
- R-value = 8.33/inch
- Density = 2 lbs./cubic foot
- Mastic coating is white acrylic vinyl.

TANK COLOR

- High-density crosslinked polyethylene (XLPE) – natural, black, white, gray.
- Linear polyethylene (HDPE) – natural, black.

NOTE: For additional colors, contact Customer Service.

TANK DOME LOAD RATING

DO NOT stand or work on tank domes. The surface is flexible and slippery. There is no weight or load rating for the dome.

GENERAL INFORMATION

- Nominal capacity = Calculated tank capacity to top of straight sidewall
- All vertical, IMFO® and SAFE-Tank® systems greater than 500 gallons are manufactured in accordance with ASTM D1998 standards.
- Gallonage markers are approximate; not for precise measuring or metering

LOGISTICS

Delivery and shipping information is provided on page 64.

CHEMICAL RESISTANCE GUIDE

CHEMICAL	RESIN TYPE	SPECIFIC GRAVITY RATING	FITTING MATERIAL	GASKET MATERIAL	BOLT MATERIAL
Acetic Acid ≤ 80%	XLPE	1.9	PP	EPDM	316SS
Aluminum Sulfate	XLPE	1.65	PVC/CPVC	EPDM	316SS
Calcium Carbonate	XLPE	1.9	PVC/CPVC	EPDM	316SS
Calcium Chloride	XLPE	1.65	PVC/CPVC	EPDM	Titanium
Citric Acid	XLPE	1.65	PVC/CPVC	EPDM	316SS
Deionized Water	XLPE	1.65	PVC/CPVC	EPDM	316SS
Ethylene Glycol	XLPE	1.35	PVC/CPVC	EPDM	316SS
Ferric Chloride	XLPE	1.65	PVC/CPVC	EPDM	Titanium
Ferric Sulfate	XLPE	1.65	PVC/CPVC	EPDM	Titanium
Ferrous Chloride	XLPE	1.9	PVC/CPVC	EPDM	Titanium
Ferrous Sulfate	XLPE	1.65	PVC/CPVC	EPDM	Titanium
Hydrochloric Acid ≤ 37%	XLPE with OR-1000™	1.9	PVC/CPVC	EPDM	C-276
Hydrofluoric Acid	XLPE	1.9	PP	Viton®	C-276
Hydrofluosilicic Acid	XLPE	1.9	PVC/CPVC	EPDM	C-276
Hydrogen Peroxide	XLPE	1.9	PVC/CPVC	Viton®	316SS
Magnesium Chloride 30%	XLPE	1.65	PVC/CPVC	EPDM	Titanium
Phosphoric Acid > 50%	XLPE	1.9	PVC/CPVC	Viton®	C-276
Phosphoric Acid ≤ 50%	XLPE	1.9	PVC/CPVC	Viton®	316SS
Potable Water	HDPE	1.35	PVC/CPVC	EPDM	316SS
Potassium Hydroxide	XLPE	1.9	PVC/CPVC	EPDM	C-276
Sodium Bisulfite	XLPE	1.65	PVC/CPVC	EPDM	316SS
Sodium Carbonate	XLPE	1.35	PVC/CPVC	EPDM	Titanium
Sodium Chlorite	XLPE	1.9	PVC/CPVC	Viton® GF	316SS
Sodium Hydroxide 50%	XLPE	1.65	PVC/CPVC	EPDM	316SS
Sodium Hypochlorite 9%–15%	XLPE with OR-1000™	1.9	PVC/CPVC	EPDM/Viton®	Titanium
Sulfuric Acid ≥ 93%	XLPE with OR-1000™	2.2	PVC/CPVC	Viton®	316SS
Sulfuric Acid 80%–92%	XLPE with OR-1000™	2.2	PVC/CPVC	Viton®	C-276
Sulfuric Acid < 80%	XLPE	1.9	PVC/CPVC	Viton®	C-276

» For more resistance information, including details on other chemicals, visit www.polyprocessing.com and access our Chemical Resistance Online Guide.

Temperature: Product temperature is limited to 100 degrees F. For temperatures from 100 to 150 degrees F, contact Customer Service.

MATERIAL DESCRIPTIONS

Fitting materials:

- PP (Polypropylene) – light, durable pipe or fitting material with outstanding chemical resistance
- PVC (Polyvinyl Chloride) – stronger, more rigid pipe or fitting material with excellent chemical resistance
- CPVC (Chlorinated Polyvinyl Chloride) – stronger, more rigid pipe or fitting material with higher temperature rating

Gasket materials:

- EPDM (ethylene propylene diene monomer) – good abrasion and tear resistance with excellent chemical resistance
- Viton® (fluorocarbon) – broader temperature and chemical resistance
- Viton® GF/GORE-TEX® – highest temperature resistance

Bolt materials:

- 316SS (stainless steel type 316) – common alloy used in many storage applications
- Titanium – strong as steel, but half the weight
- C-276 (Alloy C-276) – broader chemical resistance for more difficult storage applications

LIMITED WARRANTY

POLY PROCESSING COMPANY PRODUCT	WARRANTY PERIOD
CROSSLINKED POLYETHYLENE TANKS for all suitable applications except those listed below	5 yrs.
IMFO® tanks storing SODIUM HYPOCHLORITE 9–15 wt% XLPE w/ OR-1000™, 1.9 spg rating	5 yrs.
NON-IMFO® tanks storing SODIUM HYPOCHLORITE 9–15 wt% 1,000 gallons and larger: XLPE w/ OR-1000™, 1.9 spg rating Less than 1,000 gallons: XLPE 1.9 spg rating	3 yrs.
Tanks storing SULFURIC ACID ≥ 80% concentration SAFE-Tank® to 8,700 gallons: XLPE w/ OR-1000™, 2.2 spg rating Vertical tanks 1,000–6,600 gallons: XLPE w/ OR-1000™, 2.2 spg rating Vertical tanks less than 1,000 gallons: XLPE 1.9 spg rating	3 yrs.
Tanks storing HYDROCHLORIC ACID ≤ 37% concentration XLPE w/ OR-1000™, 1.9 spg rating	5 yrs.
Tanks storing HYDROCHLORIC ACID ≤ 37% concentration XLPE 1.9 spg rating	3 yrs.
LINEAR POLYETHYLENE TANKS for all suitable applications except Sodium Hypochlorite 9–15%; Sulfuric Acid and Hydrochloric Acid of any concentration	3 yrs.

Poly Processing Company's warranty consists of repair or replacement of defective product. Owner and/or user may be requested to provide a cleaned section of the product in question for evaluation. Product disposal or alternate use is the owner's and/or user's responsibility. Warranty begins at date of shipment from PPC plant. Parts and ancillary items are warranted for ninety (90) days.

Poly Processing Company's liability is limited to either repair or replacement of its product. By accepting delivery of the product, owner and/or user waives any claim against PPC for incidental or consequential damages as they relate to lost profits or sales or to injury of persons or property, including secondary containment. Owner and/or user accepts full responsibility for providing secondary containment appropriate and adequate for the stored material.

This warranty will be nullified if:

1. Product has been used in manner other than its originally declared purpose or if PPC tank recommendations have not been followed.
2. Product has not been installed, used and maintained in accordance with a) all federal, state and local laws and regulations; b) generally accepted best practices within the applicable industry; and c) guidelines set forth in the PPC Installation Manual and/or in PPC Technical Overviews.
3. Product has been altered or repaired by unauthorized personnel.
4. Notification of the defect has not been made in writing within the warranty period.
5. Invoice for product has not been paid.
6. Product has been subjected to misuse, negligence, fire, accident, act of war or act of God.

The limited warranty described herein is Poly Processing Company's sole warranty and the complete, final and exclusive statement of the terms of the warranty. Owner and/or user may not rely on any oral statement or representations. This warranty is neither assignable nor transferable.

TANK SPECIFICATIONS



OUR TANK OFFERINGS



SAFE-Tank® SYSTEMS

A “tank-within-a-tank” that creates secondary containment with a minimal footprint. Available with or without OR-1000™ surfacing



VERTICAL TANKS WITH IMFO®

Tanks with drainage at the true base, allowing for minimal sludge buildup and easier maintenance



VERTICAL TANKS

Standard-sized chemical storage tanks in crosslinked polyethylene for superior strength. Available with OR-1000™ antioxidant surface



CONE-BOTTOM TANKS

Generally used in a process environment, where the tank has to be 100% drained, and to address concerns about vortexing

OUR TANK OFFERINGS



OPEN-TOP TANKS

Process-oriented tanks that are typically used for blending or for containment. Open-top tanks often incorporate the use of mixer bridges.



SECONDARY CONTAINMENT BASINS

Used for the nesting of traditional vertical or vertical IMFO® tanks to meet secondary containment requirements



HORIZONTAL TANKS

Primarily used in the agricultural industry for application processes

VISIT WWW.POLYPROCESSING.COM
FOR EASY, INTUITIVE ORDERING!



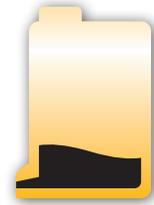
SAFE-TANK® SYSTEM

T ₁	SAFE-Tank® SYSTEMS – STORAGE & CONTAINMENT									
	F.O.B.			Stock Number	Nominal Capacity	Approx. O.D.	Approx. Overall Height	Lid Size	Ladder Height	
	LA	VA	CA							
		4		1	2008700					
		4		1	2110150					
L	•				Assembly	8,700	11'-11"	14'-6"	24"	15'
		4		1	2006650					
		4		1	2107450					
L	•				Assembly	6,650	10'-3"	14'-3"	24"	14'
		4			2005400					
		4			2106300					
L	•				Assembly	5,400	11'-11"	9'-9"	24"	10'
			7	1	2004400					
			7	1	2104950					
L	•				Assembly	4,400	10'-3"	10'-3"	24"	10'
		4			2003150					
		4			2103550					
L	•				Assembly	3,150	10'-2"	7'-7"	24"	7'
		4			2002500					
		4			2103100					
L	•				Assembly	2,500	8'-0"	9'-11"	17"	10'
			7		2001550					
			7		2101950					
	•				Assembly	1,550	8'-0"	6'-11"	17"	7'
			7	1	2001000					
			7	1	2101200					
	•				Assembly	1,000	6'-5"	6'-7"	17"	6'
		4			2000540					
		4			2100655					
	•				Assembly	540	6'-5"	4'-0"	17"	
			7	1	2000405					
			7	1	2100445					
					Assembly	405	4'-0"	5'-9"	7"	
		4	7	1	2000160					
		4	7	1	2100220					
					Assembly	160	3'-0"	4'-11"	7"	
		4	7	1	2000105					
		4	7	1	2100150					
					Assembly	105	3'-0"	3'-6"	7"	
		4			2000055					
		4			2100085					
					Assembly	55	3'-0"	2'-5"	7"	

• = Molded-in lifting lugs

L = Molded-in ladder attachment lugs

VERTICAL TANKS WITH IMFO®



VERTICAL TANKS WITH IMFO®											
T ₂	F.O.B.			Stock Number	Nominal Capacity	Approx. O.D.	Approx. Overall Height	Lid Size	IMFO® Size	Ladder Height	
	LA	VA	CA								
	.			1	1113650	13,650	13'-9"	16'-10"	24"	4"	13'
	.			1	1112150	12,150	12'-0"	16'-8"	24"	4"	17'
	.	4			1112150	12,150	12'-0"	17'-1"	24"	4"D	17'
	.			1	1110300	10,300	12'-0"	14'-4"	24"	4"	14'
L	.	4			1110150	10,150	11'-11"	14'-5"	24"	4"	14'
L	.	4			1108500	8,500	10'-0"	16'-9"	24"	4"	17'
L	.	4			1108100	8,100	11'-11"	11'-10"	24"	4"	12'
L	.			1	1108050	8,050	10'-0"	15'-6"	24"	4"	15'
L	.	4			1107300	7,300	10'-2"	14'-2"	24"	4"	14'
L	.			1	1106600	6,600	10'-0"	13'-7"	24"	4"	13'
L	.	4	7		1106150	6,150	10'-2"	12'-5"	24"	4"	12'
L	.	4			1106100	6,100	8'-6"	16'-4"	24"	4"D	16'
	.			1	1106100	6,100	10'-0"	12'-7"	24"	4"	12'
	.	4			1105050	5,050	7'-10"	16'-0"	24"	4"D	16'
	.			1	1104600	4,600	10'-2"	9'-7"	24"	4"	9'
L	.	4			1104300	4,300	11'-11"	7'-1"	24"	4"	7'
L	.		7		1104150	4,150	8'-6"	12'-6"	24"	3"	12'
	.			1	1104050	4,050	8'-2"	12'-10"	24"	3"	12'
L	.	4			1103900	3,900	7'-10"	12'-6"	24"	4"D	12'
L	.	4	7		1103000	3,000	7'-1"	12'-0"	24"	3"	12'
L	V		7		1102550	2,550	7'-1"	10'-4"	24"	3"	10'
L	V	4	7		1102000	2,000	7'-1"	8'-6"	24"	3"	8'
				1	1101600	1,600	6'-1"	9'-1"	17"	3"	9'
		4	7		1101400	1,400	5'-4"	9'-11"	17"	3"	
				1	1101250	1,250	5'-0"	9'-10"	17"	3"	
			7		1101150	1,150	5'-4"	8'-3"	17"	3"	
			7		1100905	905	5'-4"	6'-7"	17"	2"	
		4			1100545	545	4'-0"	6'-11"	17"	2"	
F			7		1100475	475	4'-0"	6'-4"	17"	3"	
F			7		1100325	325	4'-0"	4'-8"	17"	3"	
F			7		1100230	230	3'-2"	4'-11"	17"	3"	

SLOPED BOTTOM VERTICAL TANK WITH IMFO®											
T ₃	F.O.B.			Stock Number	Nominal Capacity	Approx. O.D.	Approx. Overall Height	Lid Size	IMFO® Size	Ladder Height	
	LA	VA	CA								
	.			1	1211800	11,800	12'-0"	16'-6"	24"	4"	15'
L	.	4			1206350	6,350	10'-2"	12'-7"	24"	4"	13'
L	.			1	1206250	6,250	10'-0"	13'-1"	24"	4"	12'
L	.		7		1204100	4,100	8'-6"	12'-11"	24"	3"	13'

PADS FOR TANKS WITH IMFO®						
F.O.B.			Stock Number	Diameter	Height	
LA	VA	CA				
		7		8000004	4'-0"	4"
			1	8000005	5'-0"	6"
			7	8000054	5'-4"	4"
			1	8000006	6'-0"	6"
			7	8000071	7'-1"	4"
4			1	8000008	8'-2"	4"
4				8000086	8'-6"	4"
			1	8000010	10'-0"	4"
4			7	8000102	10'-2"	4"
4			1	8000012	12'-0"	4"
			1	8000014	14'-0"	4"
4				8100086	8'-6" Slope	12" x 6"
			1	8100010	10'-0" Slope	12" x 6"
4				8100102	10'-2" Slope	16" x 6"
			1	8100012	12'-0" Slope	10" x 4"

- = Molded-in lifting lugs
- L = Molded-in ladder attachment lugs
- V = Molded-in lifting lugs - Virginia only
- D = Double IMFO® available
- F = Flat backing ring required



VERTICAL TANKS

T ₅	VERTICAL TANKS										
	F.O.B.			Stock Number	Nominal Capacity	Approx. O.D.	Approx. Overall Height	Lid Size	Ladder Height		
	LA	VA	CA								
	•			1	1013650	13,650	13'-9"	16'-10"	24"	13'	
L	•	4			1012250	12,250	11'-11"	17'-1"	24"	17'	
	•			1	1012150	12,150	12'-0"	16'-8"	24"	16'	
L	•	4			1010300	10,300	11'-11"	14'-6"	24"	14'	
L	•			1	1010300	10,300	11'-11"	14'-6"	24"	14'	
	•			1	1009100	9,100	12'-0"	12'-11"	24"	12'	
L	•	4			1008500	8,500	10'-0"	16'-9"	24"	16'	
L	•			1	1008050	8,050	10'-0"	15'-8"	24"	15'	
L	•	4		1	1007300	7,300	10'-2"	14'-2"	24"	14'	
L	•	4	7		1006150	6,150	10'-2"	12'-4"	24"	12'	
L	•	4			1006100	6,100	8'-6"	16'-4"	24"	16'	
	•			1	1006100	6,100	10'-0"	12'-8"	24"	12'	
L	•	4	7		1005300	5,300	9'-2"	12'-10"	24"	13'	
	•			1	1005100	5,100	10'-2"	10'-7"	24"	10'	
L	•	4			1005050	5,050	7'-10"	16'-0"	24"	16'	
				1	1004925	4,925	9'-0"	11'-11"	24"	11'	
	•			1	1004900	4,900	12'-0"	8'-1"	24"	6'	
L	•	4			1004250	4,250	11'-11"	7'-0"	24"	7'	
L	•		7		1004150	4,150	8'-6"	12'-6"	24"	12'	
L	•	4	7		1003900	3,900	7'-10"	12'-9"	24"	12'	
L	•		7		1003850	3,850	10'-2"	8'-6"	24"	8'	
	•			1	1003650	3,650	10'-2"	8'-5"	24"	6'	
L	•	4	7		1003000	3,000	7'-1"	11'-8"	24"	12'	
L		4	7		1002650	2,650	8'-0"	8'-9"	24"	8'	
L	V	4	7		1002550	2,550	7'-1"	10'-4"	24"	10'	
				1	1002500	2,500	8'-0"	8'-2"	24"	8'	
L		4	7		1002250	2,250	8'-0"	7'-9"	24"	7'	
				1	1002000	2,000	7'-5"	7'-5"	17"	7'	
L	V	4	7		1002000	2,000	7'-1"	8'-6"	24"	8'	
			7		1001950	1,950	5'-4"	13'-5"	17"		
				1	1001700	1,700	6'-1"	9'-7"	17"	9'	
				1	1001550	1,550	5'-1"	11'-9"	17"		

- = Molded-in lifting lugs
- L = Molded-in ladder attachment lugs
- V = Molded-in lifting lugs - Virginia only

VERTICAL TANKS CONTINUED »»

VERTICAL TANKS (continued)



T₆

VERTICAL TANKS (continued)								
F.O.B.			Stock Number	Nominal Capacity	Approx. O.D.	Approx. Overall Height	Lid Size	Ladder Height
LA	VA	CA						
4			1001450	1,450	7'-2"	6'-2"	17"	
4	7		1001400	1,400	5'-4"	10'-0"	17"	
4	7		1001150	1,150	5'-4"	8'-2"	17"	8'
		1	1001090	1,090	5'-1"	8'-6"	17"	8'
	7		1001050	1,050	5'-1"	8'-6"	17"	7'
4			1001000	1,000	7'-2"	4'-8"	17"	
4	7		1000905	905	5'-4"	6'-9"	17"	6'
	7		1000805	805	4'-0"	9'-11"	17"	
4			1000755	755	5'-4"	5'-9"	24"	
		1	1000685	685	5'-1"	5'-4"	17"	
	7		1000615	615	4'-0"	7'-9"	17"	
		1	1000540	540	4'-0"	7'-0"	17"	
4	7		1000540	540	4'-0"	6'-9"	17"	
		1	1000475	475	4'-0"	6'-3"	17"	
	7		1000400	400	3'-9"	5'-3"	7"	
		1	1000325	325	4'-0"	4'-8"	17"	
		1	1000300	300	3'-6"	4'-11"	7"	
4			1000295	295	3'-10"	4'-5"	7"	
	7		1000281	281	2'-10"	7'-0"	7"	
		1	1000280	280	2'-10"	7'-0"	7"	
		1	1000230	230	3'-2"	4'-11"	17"	
4			1000205	205	2'-7"	6'-2"	7"	
4			1000155	155	2'-7"	4'-9"	7"	
		1	1000115	115	2'-6"	3'-11"	7"	
4			1000100	100	1'-11"	5'-7"	7"	
		1	1000055	55	1'-11"	3'-5"	7"	

CONE-BOTTOM TANKS

T₇

CONE-BOTTOM TANKS									
F.O.B.			Stock Number	Nominal Capacity	Slope Degrees	Approx. O.D.	Overall Height with Stand	Lid Size	Ladder Height
LA	VA	CA							
		1	4006850	6,850	60	10'-1"	20'-3"	24"	19'
4			4006500	6,500	45	9'-3"	19'-3"	24"	19'
		1	4105550	5,550	30	10'-0"	15'-4"	24"	15'
4			4005350	5,350	45	9'-3"	16'-11"	24"	16'
4		1	4002300	2,300	30	7'-11"	9'-9"	16"/24"	9'
		1	4001400	1,400	30	7'-11"	7'-2"	16"/24"	7'
		1	4001070	1,070	45	5'-1"	11'-2"	17"	10'
		1	4000735	735	48	5'-1"	8'-11"	17"	8'
		1	4000615	615	44	4'-0"	9'-9"	17"	9'
		1	4000335	335	44	4'-0"	6'-9"	17"	6'





OPEN-TOP TANKS

T8

OPEN-TOP / CONTAINMENT TANKS

F.O.B.			Stock Number	Nominal Capacity	Approx. O.D.	Approx. Overall Height	Flange Type	Cover Type
LA	VA	CA						
		1	1514650	14,650	14'-0"	13'-1"	Internal	
		1	1512300	12,300	12'-0"	15'-0"	Internal	
		1	1506900	6,900	12'-0"	8'-4"	Internal	
		1	1505000	5,000	12'-0"	6'-0"	Internal	
		1	1504000	4,000	10'-0"	6'-11"	Internal	
	7		1503650	3,650	8'-6"	9'-0"	Internal	
4			1503050	3,050	8'-0"	8'-5"	External	Domed Cover
		1	1502890	2,890	10'-0"	5'-0"	Internal	
4			1502650	2,650	8'-0"	7'-3"	External	Domed Cover
		1	1502400	2,400	7'-5"	7'-7"	Internal	
4			1502000	2,000	8'-0"	5'-7"	External	Domed Cover
	7		1501800	1,800	6'-1"	8'-6"	Internal	
		1	1501800	1,800	6'-1"	8'-7"	Internal	
	7		1501750	1,750	7'-9"	5'-1"	Internal	
	7		1501200	1,200	7'-8"	3'-8"	Internal	
		1	1501200	1,200	6'-1"	5'-7"	Internal	
	7		1501150	1,150	6'-1"	5'-7"	Internal	
	7		1500960	960	5'-4"	6'-0"	Internal	
		1	1500760	760	6'-1"	3'-7"	Internal	
	7		1500715	715	6'-1"	3'-9"	Internal	
		1	1500710	710	5'-1"	4'-9"	Internal	
	7		1500700	700	5'-1"	4'-9"	Internal	
		1	1500515	515	4'-0"	5'-7"	Internal	
4			1500470	470	3'-10"	5'-8"	External	Mod. Shoe Box
		1	1500370	370	4'-0"	4'-0"	Internal	
	7		1500360	360	4'-0"	4'-0"	Internal	
4			1500330	330	3'-10"	4'-0"	External	Mod. Shoe Box
4			1500160	160	2'-7"	4'-4"	External	Mod. Shoe Box
		1	1500160	160	3'-1"	3'-0"	Internal	
	7		1500155	155	3'-1"	3'-0"	Internal	

SECONDARY CONTAINMENT BASINS



T₉

SECONDARY CONTAINMENT – CYLINDRICAL – NESTABLE								
F.O.B.			Stock Number	Nominal Capacity	Approx. O.D. Top*	Approx. O.D. Bottom	Approx. Overall Height	Flange Width
LA	VA	CA						
4			1501500	1500	11'-9"	11'-6"	2'-0"	2"
	7		1500935	935	6'-7"	6'-3"	4'-0"	2"
	7		1500570	570	6'-6"	6'-4"	2'-7"	2"

T₁₀

SECONDARY CONTAINMENT – RECTANGULAR								
F.O.B.			Stock Number	Nominal Capacity	Approx. I.D. Length	Approx. I.D. Width	Approx. Overall Height	Flange Width
LA	VA	CA						
4			5101850	1,850	9'-11"	8'-11"	2'-11"	3"
4			5101500	1,500	6'-3"	5'-3"	7'-2"	4"
4			5101150	1,150	5'-9"	4'-9"	6'-2"	3"
		1	5101000	1,000	12'-7"	7'-7"	2'-4"	N/A
		1	5100730	730	8'-6"	4'-10"	3'-0"	N/A
4			5100700	700	8'-0"	6'-0"	2'-1"	3"
4			5100635	635	9'-2"	3'-1"	3'-2"	4"
		1	5100555	555	6'-6"	4'-10"	3'-0"	N/A
4	7		5100440	440**	5'-8"	4'-8"	2'-6"	2"
4			5100385	385	5'-6"	3'-7"	2'-10"	2"
	7		5100320	320	5'-6"	3'-5"	2'-8"	3"
4			5100225	225**	4'-10"	3'-2"	2'-1"	4"
		1	5300175	175	10'-5"	5'-0"	8"	3"
4		1	5300135	135	3'-5"	3'-5"	2'-2"	N/A
4			5100080	80	3'-1"	2'-1"	2'-1"	2"

* Diameter does not include flange.

** Support stand with grating is available.

NOTE: External support is required to maintain calculated volume on rectangular tanks.



HORIZONTAL TANKS

T₁₁

HORIZONTAL TANKS										
F.O.B.			Stock Number	Nominal Capacity	Approx. O.D.	Approx. Length	Lid Size	Saddle Stock #	4' Stand Stock #	6' Stand Stock #
LA	VA	CA								
		1	3002600	2,600	5'-10"	13'-8"	16"	6319		
4			3001950	1,950	5'-4"	13'-2"	19"	3464	3475	3486
		1	3001050	1,050	4'-0"	11'-11"	17"	6316		
4			3001000	1,000	5'-4"	7'-3"	10"/19"	3459	3472	3483
		1	3000610	610	3'-11"	7'-9"	7"	6678		
4			3000520	520	4'-0"	6'-4"	10"	3456	3470	3481
		1	3000400	400	3'-6"	6'-0"	17"	6312		
		1	3000170	170	2'-8"	4'-7"	12"	6306		

T₁₂

HORIZONTAL LEG TANKS								
F.O.B.			Stock Number	Nominal Capacity	Approx. O.D.	Approx. Length	Lid Size	Stock # for Metalwork
LA	VA	CA						
4			3502500	2,500	5'-5" x 6'-10"	13'-0"	22"	5307
		1	3402500	2,500	5'-10"	14'-11"	17"	6329
		1	3401750	1,750	5'-0"	12'-11"	17"	6328
4			3401600	1,600	4'-8"	13'-3"	22"	5303
		1	3401060	1,060	5'-4"	7'-3"	17"	6327
4			3401050	1,050	4'-0"	12'-9"	16"	5299
		1	3401030	1,030	4'-0"	11'-11"	17"	6326
4			3400700	700	4'-6"	6'-9"	16"	7614
4		1	3400515	515	4'-0"	6'-4"	12"	6325
4			3400410	410	3'-7"	5'-11"	12"	6324
4			3400330	330	3'-3"	6'-2"	12"	6323
4		1	3400220	220	3'-3"	4'-2"	12"	6322
4		1	3400135	135	2'-7"	3'-10"	12"	6321
4			3400065	65	1'-11"	3'-6"	7"	

FITTINGS AND ACCESSORIES

Poly Processing carries hundreds of fittings and accessories for chemical storage. The following pages give an overview of our more popular products. For a complete list of our inventory, with prices, please contact your Poly Processing representative. This representative can also help you determine which products are most suitable for the chemical you are storing.



FITTINGS



THE B.O.S.S.™ FITTING

This one-piece sure-seal fitting prevents leaks and adds value to your tank installation. Its one-piece design reduces the seal point to a single gasket, and its polyethylene construction ensures chemical compatibility. Its back ring design reduces stress on the fitting and makes it three times stronger than similar plastic fittings.

Bolts: 316 stainless steel, titanium and C-276

Body: Polyethylene

Connections: socketed

Size: 1", 2" and 3"

Gaskets: EPDM, Viton® and Viton® GF

Options: flange adapter, siphon leg



BOLTED FLANGE FITTINGS

Available in PVC and CPVC. With these fittings, all aspects of fitting maintenance can be done externally, with no tank entry required. These can be installed on sidewall or dome. Bolt heads are encapsulated in polyethylene, providing chemical resistance.

Bolts: 316 stainless steel, titanium, C-276 and Alloy 400

Body: standard PVC and CPVC

Connections: socketed or threaded

Sizes: 1", 1½", 2", 3" and 4" threaded;
1", 1½", 2", 3", 4" and 6" socketed

Gaskets: EPDM, Viton® and Viton® GF

Options: flange adapter, siphon leg

FITTINGS



BOLTED SPOOL FITTINGS

The Bolted Spool Fitting is fabricated per the customer's requirements and is typically used for larger dome and sidewall connections. Use a Van Stone flange to connect piping. Bolted Spool Fittings 8 inches or greater are manufactured with gussets.

Bolts: 316 stainless steel, titanium, C-276 and Alloy 400

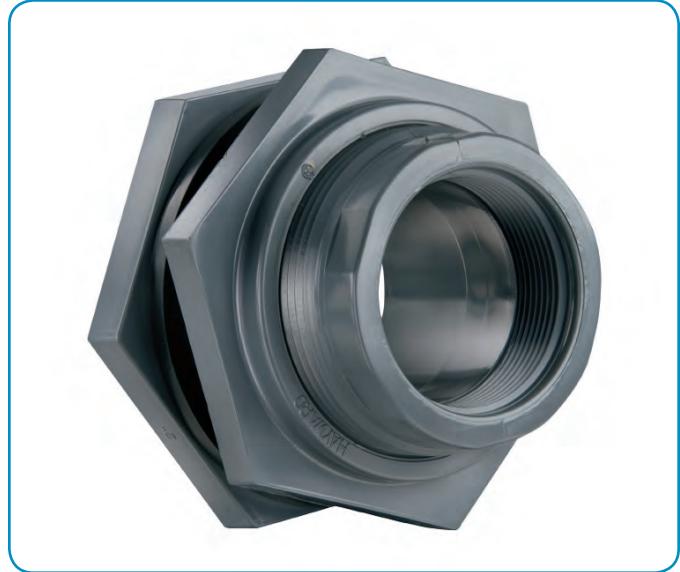
Body: standard PVC, CPVC and polypropylene

Connections: flanged

Size: 1" to 12"

Gaskets: EPDM, Viton® and Viton® GF

Options: siphon leg



BULKHEAD FITTINGS

An economical fitting best used on small tanks in mild applications. Can be installed on sidewall, overflow or dome. May be used as a overflow fitting with all chemicals, since it's non-wetted. Bulkhead Fittings must be installed from the inside of the tank, requiring tank entry for repairs and maintenance. They should not be used on tanks greater than 3,000 gallons or tanks greater than 6 feet in height.

Body: standard PVC, CPVC and polypropylene

Connections: socketed or threaded

Size: 1/2" to 6"

Gaskets: EPDM, Viton® and Viton® GF

Options: flange adapter, siphon leg

NOTE: Over time, this fitting "creeps," causing the nut to loosen. Regular monitoring for drips is critical.

FITTINGS



UNIVERSAL BALL DOME FLANGES

These flanges are “self-aligning,” which allows for vertical plumbing on the dome of the tank up to 22 degrees. The fitting can be repaired and maintained externally without tank entry. Available with Ryton® bolts, an economical alternative to titanium, C-276, and Alloy 400.

Bolts: 316 stainless steel, titanium, C-276, Alloy 400, Ryton®

Body: standard PVC or CPVC

Connections: threaded

Size: 1” to 4”

Gaskets: EPDM, Viton® and Viton® GF

Options: flange adapter



UNIVERSAL BALL DOME BULKHEADS

Our Universal Ball Dome Bulkheads are also “self-aligning,” which allows for vertical plumbing on the dome of the tank. An economical alternative to UBD flange-style bulkheads, since no additional bolts are required.

Body: standard PVC or CPVC

Connections: threaded

Size: 1” to 3”

Gaskets: EPDM, Viton® and Viton® GF

Options: flange adapter

NOTE: These fittings are for top-use only.

FITTINGS



MADE-VERTICAL FITTINGS

Made-Vertical Fittings are fabricated per the customer's requirements. They are typically used for larger domes that require a fitting to be above 4 inches and in those few cases where our domes are extremely steep. They may need to be supported independently of the tank. For optimal support, install it on a tank runway or as close to the edge as possible.

Bolts: 316 stainless steel, titanium, C-276, Alloy 400, Ryton®

Body: standard PVC or CPVC

Size: 6" to 10"

Gaskets: EPDM, Viton® and Viton® GF

Options: flange adapter socketed or threaded



FLANGE ADAPTERS

Includes a nipple and flange for connection to plumbing system

Body: standard PVC and CPVC

Connections: socketed or threaded

Sizes: 1", 1½", 2", 3" and 4" threaded;
1", 1½", 2", 3", 4", and 6" socketed

NOTE: This fitting is for top-use only.

PLUMBING



BUTTERFLY VALVES

Being slim and light weight yet robust, makes this the ideal shutoff valve for IMFO® drain.

Bolts: 316 stainless steel, titanium, C-276, Alloy 400

Body: standard PVC, CPVC and polypropylene

Size: 2" to 6"

Seals: EPDM, Viton® and Viton® GF

Options: flange adapter



BALL VALVES

Complete line of high-performance Ball Valves to meet varying needs

Body: standard PVC, CPVC and polypropylene

Connections: socketed, threaded or true union

Size: 1/2" to 6"

Seals: EPDM, Viton® and Teflon®

Options: flange adapter

NOTE: Can also be used on mechanical fittings by using a flange adapter.

PLUMBING



FLEXIBLE HOSE CONNECTIONS

Flexible Hose Connections isolate the tank from the stresses and forces associated with pumps and piping. This connection is manufactured from ultra high molecular weight hose, which offers tremendous chemical resistance; two King nipples (barbed); and mechanically attached stainless steel bands securing the hose to the nipple. These connections are also a great solution for transitioning through secondary containment.

Connections: threaded

Sizes: 1" to 4"



FLEXIJOBT® EXPANSION JOINT

These flexible PTFE connectors and tremor barriers are designed to compensate for misalignment, absorb expansion and contraction, and isolate the vibration and shock that could damage a tank. Their low spring rate protects stress-sensitive connections. Can be installed directly to the dome of the tank to overcome piping misalignment

- Made of pure 100% virgin PTFE resin
- Ethylene's exclusive Fluorforming™ process guarantees multiple convolution walls of consistently uniform thickness for any size.
- Features T-Band™ root and sidewall support and protection from over-compression
- LimitLinks™ stainless steel cables protect from over-expansion.

Bolts: 316 stainless steel, titanium, C-276, Alloy 400

Gaskets: EPDM, Viton® and Viton® GF

Performance specifications:

- » Axial Compression $\geq 0.67''$
- » Axial Extension $\geq 0.67''$
- » Lateral Deflection $\geq 0.51''$
- » Angular Deflection $\geq 14^\circ$
- » Torsional Rotation $\geq 4^\circ$

PLUMBING



PVC LIQUID LEVEL GAUGES

PVC Liquid Level Gauges are made from $\frac{3}{4}$ inches clear PVC tubing for a level indicator with up to three optional valves. Please note that one pipe support should be used for every 6 feet of sidewall height to maintain alignment.



REVERSE FLOAT LEVEL GAUGES

The Reverse Float Level Gauges offer a safe and reliable means of determining the chemical level in your tank and especially in the SAFE-Tank®. Available in PVC as standard.

Advantages:

- No sidewall tank penetrations or chemical exposure
- All joints are dry fit for easier part replacement.
- Internal float now weighted to chemical specific gravity
- Polypropylene rope used for indicator
- Calibration tape can be added for tank capacity.
- Standard or freestanding pipe supports available

NOTE: These gauges are NOT intended to be used for metering purposes.

PLUMBING



COMBINATION INTERNAL & EXTERNAL FILL/DISCHARGE DROP PIPES

Fill Line assemblies are available in PVC and CPVC with sizes ranging from 1 to 3 inches and include a true union for quick assembly. When choosing a fitting, be sure to consider if the fill will be placed on the flat of the dome; otherwise it will require a self-leveling fitting.

For dome fittings installed +/- 12 inches from the sidewall, standard pipe supports can be used. If the dome fitting is more than 12 inches from the sidewall or if the fitting size is greater than 4 inches, you must use a non-invasive internal pipe support (our "promo tank") to support the internal piping. Customer installation of the internal drop pipe assembly is required. Use a universal ball dome fitting for easier installation. Pipe supports should be used one for every 6 inches of sidewall height.

Optional fittings: ball valve, quick adapter and cap and 45° elbow as shown



FILL EXTERNAL DROP PIPES

Fill Line assemblies are available in PVC and CPVC with sizes ranging from 1 to 3 inches and include a true union connection for easy assembly. When choosing a fitting, be sure to consider if the fill will be placed on the flat of the dome; otherwise it will require a self-leveling fitting.

Optional fittings: ball valve, quick adapter and cap (as shown). 45° elbow also available

PLUMBING



FILL/DISCHARGE INTERNAL DROP PIPES

Fill Line assemblies are available in PVC and CPVC with sizes ranging from 1 to 3 inches and include a true union for quick assembly. For dome fittings installed +/- 12 inches from the sidewall, standard pipe supports can be used. If the dome fitting is more than 12 inches from the sidewall or if the fitting size is greater than 4 inches, you must use a non-invasive internal pipe support (our "promo tank") to support the internal piping. Customer installation of the internal drop pipe assembly is required. Use a universal ball dome fitting for easier installation. Pipe supports should be used one for every 6 feet of sidewall height.

MANWAYS/LIDS



BOLTED (8/16) MANWAY COVER

These are the most popular covers we provide. They are available in 24 inches. Please note that if you plan on visually inspecting the interior of the tank with some frequency, our SAFE-Surge™ manway cover may be a better alternative.



FUME-TIGHT MANWAY COVER

Available in two sizes, 17 and 24 inches, with bolts of stainless steel, Alloy C-276 and titanium. Gasket materials available include EPDM, Viton®, Viton® GF, XLPE or Buna. The 17-inch model is often used on 19-inch manways as well.

MANWAYS/LIDS



SAFE-Surge™ MANWAY COVER

Designed specifically for pneumatic-filled tanks. Releases at a 6-inch water column to prevent over-pressurization, ensuring that the tank maintains proper ACFM at all times - even in the event of air surges that cannot be handled by primary venting. Available in 19 and 24 inches. For detailed venting requirements, please refer to the chart on page 63.



THREADED LID

Available in two sizes, 7 and 17 inches, coarse threaded. Gasket materials available include EPDM, Viton®, Viton® GF, XLPE or Buna.

ACCESSORIES



LADDER ASSEMBLIES

Poly Processing's tank ladders are available in heights from 6 to 20 feet, depending on the tank application. To determine height, ladder height equals height to top of manway rounded to the nearest foot. If height of ladder exceeds the height of the manway, subtract 1 foot.

- Ladders are available in mild steel as well as FRP construction.
- All ladders meet OSHA requirements.
- Ladders are not offered on all tanks due to safety requirements. Approved systems are noted with the appropriate ladder height in the distributor price list.
- Cages range from 7 to 8 feet and extend 4 feet above the top rung of the ladder.

Tanks with a center manway will have the additional cost of a platform to reach the ladder.



HEAT PADS AND INSULATION

Poly Processing's tank heating systems are specifically designed for temperature maintenance of polyethylene tanks. SilcoPad® tank heating systems maintain a desired product temperature, not to exceed 100 degrees F.

- Each heating system consists of tank heating pad(s) and a temperature controller. The quantity and type of SilcoPad® tank heating pads required is determined by the size of the tank, the desired temperature maintenance and environmental conditions.
- Tanks are available with standard heating systems with a Delta T of 30, 60 and 100 degrees F.
- Tanks are typically supplied with the heating panels and a controller installed by Poly Processing. The only field connection required is a power supply to the heating system.

Please contact our customer support staff if HT & I is required on a 14-foot-diameter tank.

ACCESSORIES



OPTIC LEAK DETECTION SWITCH

This switch is an excellent choice for leak detection in secondary containment tanks. The submersible sensor is mounted in the interstitial space of the tank. The internal 1A relay provides a reliable switch interface with indicators, PLCs, SCADAs and alarms.

- Fail-safe leak sensor inverts wet to alert user for maintenance.
- Rugged PP or PFA Teflon® probe and cable rated NEMA 6
- 1A relay selectable NO or NC via power supply wiring polarity
- Compatible with MicroPoint™ multi-channel indicator



ULTRASONIC LEVEL SWITCH

This CSA-approved switch is intrinsically safe for use in hazardous-area locations. The Ultrasonic Level Switch is broadly used in chemical liquids. Its 1A relay provides a reliable switch interface with remote devices such as a PLC, SCADA or alarm. This submersible sensor is universally mounted through the wall inside the tank.

- CSA-approved intrinsically safe for use in hazardous-area locations
- Rugged PP or PFA Teflon® probe and cable rated NEMA 6
- 1A relay selectable NO or NC via power supply wiring polarity
- Compatible with MicroPoint™ multi-channel indicator

RESTRAINTS



SEISMIC RESTRAINTS

Used to protect against seismic events, these clip systems are available for location- and site-specific information areas.

- PE wet stamps will be provided by request for a fee. Contact Poly Processing's customer support staff.
- If the tank will be placed on a concrete pad, it is critical to allow at least 8 inches of space between the tanks and the edge of the pad to accommodate the proper anchoring of the clips.

For all other design considerations, please contact our customer support team and ask to talk to our engineering department. For Monroe, LA, call 866.590.6845; for French Camp, CA, call 877.325.3142.



WIND RESTRAINTS

Poly Processing offers cable systems to help stabilize tank systems that are challenged by wind.

- Standard systems are designed for wind speeds of 130 mph.
- PE wet stamps will be provided by request for a fee.

For all other design considerations, please contact our customer support team and ask to talk to our engineering department. For Monroe, LA, call 866.590.6845; for French Camp, CA, call 877.325.3142.

VENTS



MUSHROOM VENT

For day tanks, an economical alternative to traditional U-vents or fittings. Made of polypropylene, in sizes 1 to 3 inches



U-VENT

Standard venting for outdoor tanks or for storing chemicals that create fumes. In PVC, in sizes 2 to 6 inches

VENTING REQUIREMENTS FOR POLYETHYLENE TANKS									
Mechanical Pump Fill	Pneumatic Fill								
IF ≤ 1,000 gallons	IF – Vent length ≤ 3'			IF – Vent length > 3' and ≤ 30'			IF – Scrubber application		
Vent size should equal size of largest fill or discharge fitting	AND – Vent screen mesh size ≥ 1/4" or no screen used			AND – 3 or less 90° elbows with no other restrictions or reduction in pipe size			Vent pipe size throughout scrubber system CANNOT be reduced!		
							Centerline of dispersion pipe not to be submersed > 6"		
IF > 1,000 gallons	Emergency Pressure Relief Cover Required			Emergency Pressure Relief Cover Required			Perforated dispersion pipe must be same diameter as vent or larger. Sum of perforations ≥ cross-sectional area of pipe		
Vent size should exceed the largest fill or discharge fitting by 1"	Tanker Discharge	Inlet/Fitting Size	Minimum Vent Size	Tanker Discharge	Inlet/Fitting Size	Minimum Vent Size	Tanker Discharge	Inlet/Fitting Size	Minimum Vent Size
	2"	2"	4"	2"	2"	6"	2"	2"	6"
	3"	2"	6"	3"	2"	6"	3"	2"	8"
	3"	3"	6"	3"	3"	8"	3"	3"	10"

» See our website for Detailed Venting Guidelines.



DELIVERY:

Getting it to you at the right time, in the right condition.

At Poly Processing, we do our best to keep you informed and on track. Once you place your order with us, you'll have full access to daily order tracking, and **we'll give you 24 to 48 hours' notice of tank delivery** as well. We'll gladly work with you to accommodate special needs, coordinating with issues such as crane delivery.

Your order will ship directly from one of our three strategically located plant sites: Louisiana, California or Virginia. We make all the arrangements for wide loads, escort-permitted loads, flatbeds, vans, less-than-truckloads, and common carriers and hot shots. We also ship via UPS and Fed Ex, when it makes sense to do so. We have the ability to handle overseas shipments, too.

All of our tanks are washed, cleaned, protective-wrapped and final inspected before shipment, and common carrier shipments are wrapped and palletized.

For extra security, fitting and thread protectors are added, and all loose parts are boxed and labeled.



SMARTER STORAGE MEANS A SAFER ENVIRONMENT

At Poly Processing, we know that chemical storage isn't just about business processes. It's about protecting our environment from harm. So our company constantly strives to create smarter, safer ways to contain, maintain and transfer chemicals. By bringing new and better ideas to the industry, we're safeguarding our planet. It is part of our commitment to continually seek better solutions to chemical storage challenges.

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