

## SODIUM HYDROXIDE.

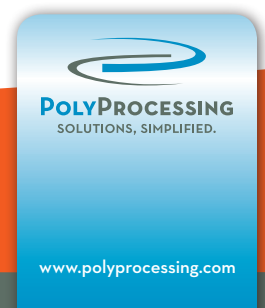
Defying a chemical that “finds” leaks.



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.





**NaOH**  
SODIUMHYDROXIDE

## 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

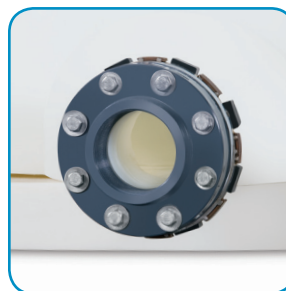


- **IMFO®** system completely eliminates the need for a mechanical fitting, which means reduced maintenance. (Recommended where secondary containment is already available)
- **SAFE-Tank®** design greatly reduces the risk of leaking for this highly corrosive chemical. (Recommended where secondary containment is not available)
- **High-density crosslinked polyethylene (XLPE)** construction ensures strength to match this aggressive substance.

## Recommended System Components



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



**Fittings:**  
IMFO® eliminates the need for confined space entry.



**Plumbing:**  
Requires flexible connections 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 our website or talk to your Poly Processing representative to find out more.



**CAUTION!** Heating pad and insulation are highly recommended to prevent crystallization of the chemical.

## TECHNICAL OVERVIEW: Sodium Hydroxide Storage Tanks.

### TANK

#### 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

### SECONDARY CONTAINMENT

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

#### Non-SAFE-Tank® alternatives:

- PPC secondary containment basin
- Other secondary containment suitable for sodium hydroxide, of adequate size for use

### 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  $\geq 1.5''$
  - » Axial Extension  $\geq 0.625''$
  - » Lateral Deflection  $\geq 0.750''$
  - » Angular Deflection  $\geq 14^\circ$
  - » Torsional Rotation  $\geq 4^\circ$

### VENTING

Please refer to the venting chart on [www.polyprocessing.com/pdf/technical/Venting.pdf](http://www.polyprocessing.com/pdf/technical/Venting.pdf)

### 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 or drop below 50°F to prevent damage to the chemical. Contact Customer Support if chemical is to exceed 100°F.

### OPTIONS

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

#### CALIFORNIA

8055 S. Ash St.  
French Camp, CA 95231  
Tel: 877.325.3142

#### LOUISIANA

P. O. Box 4150  
2201 Old Sterlington Rd.  
Monroe, LA 71203  
Tel: 866.590.6845

#### VIRGINIA

161 McGhee Rd.  
Winchester, VA 22603  
Tel: 866.590.6845

[sales@polyprocessing.com](mailto:sales@polyprocessing.com)