PolyProcessing
SOLUTIONS, SIMPLIFIED.

NSF/ANSI 61 Certification Decoded

How to ensure your chemical storage tank system meets NSF/ANSI 61 certification

NSF®

Certified to NSF/ANSI 61

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NSF/ANSI 61: The Basics

Each component of a public water treatment system is subjected to meeting certain criteria. The most important standard may be NSF/ANSI 61 certification. However, there's confusion among customers as to what it is and what it covers.

Let's look at NSF/ANSI 61 and detail how to ensure chemical storage tanks meet the proper requirements.

NSF/ANSI 61

NSF/ANSI 61 is a set of nationally-recognized standards. Developed by the American National Standards Institute (ANSI) and the National Sanitation Foundation (NSF), this standard refers to water treatment requirements. Potable water equipment or products that support its production fall under this standard's jurisdiction.

Everything from ambient temperature water at various pH levels to more dangerous chemicals can be tested. In all cases the liquid is tested before and after exposure to a given piece of equipment to determine whether anything has been leached out or extracted from the equipment.

How to Tell if Your Chemical System Meets NSF-61

There are various levels of certification that a system can achieve. This is because NSF-61 certification can apply to so many different concentrations of chemicals. This variance can make understanding a specific certification challenging.

This means some manufacturers incorrectly explain certification levels for their products. Some customers may end up buying the wrong product for their application. In fact, some products listed as NSF-61 certified may only apply to potable water and not chemical storage or vice versa. In the next few pages we will clarify the difference between the two certifications (chemical and potable water) as well as discuss the systems approach that Poly Processing Company takes with NSF-61 certification.

Many manufacturers are testing pH 5, pH 8, and pH 10 exposure waters at ambient temperature, which is for potable water storage only. What they fail to account for is potential leaching of materials in chemical storage tanks. We recommend visiting the NSF website to ensure a product meets the standards based on the chemical application and that the certification is for the specific chemical and not for potable water storage. You'll verify components listed by manufacturer along with the certified chemical components. Along with the name of the chemical is the percentage concentration. A less-than symbol means that a tank is certified to store up to that level of concentration.

A full system certification includes even small parts. Smaller parts like gaskets and fittings must also pass certification to consider the full system certified. It's important that all materials meet this standard for potable water and chemical storage.

PPC Offers a Smart Solution

Among manufacturers, Poly Processing Company is the only one with a complete chemical storage tank system that is NSF/ANSI-61 certified. Currently, we have NSF 61 Certification for 35 of the most popular water treatment chemicals on our XLPE tank systems. Additionally, our certifications cover XLPE tanks with OR-1000 (an engineered antioxidant barrier) system.

NSF/ANSI 61: Potable Water vs. Chemical Certification

Poly Processing is committed to ensuring that our polyethylene chemical storage systems are NSF/ANSI 61 certified. Some customers may be confused about whether their tanks or tank systems are certified to NSF/ANSI 61 and which certification is valid for their tank.

Let's take a look at the difference between NSF/ANSI 61 Certification for chemical storage vs and potable water storage.

Tanks Are Tested and Certified for Potable Water

Some manufacturers will imply that their storage tank systems are NSF certified for both chemicals and potable water. If those tanks aren't tested and listed for potable water storage as well as chemical storage, then that is not the case.

In order to certify our tanks for potable water, Poly Processing sends our vertical storage tanks to NSF for testing. During this testing, the tanks are filled with pH 5, 8, and 10 exposure waters that are formulated to simulate a variety of potable water conditions

These tests evaluate whether potentially harmful levels of chemical compounds from the tank itself are leaching into the water that is being stored. NSF uses pH 5 and pH 10 exposure waters to test for metals extraction and pH 8 exposure water for testing organics.

Tanks Are Tested and Certified for Chemical Storage

In addition to the potable water testing, PPC's tanks are tested and certified under NSF/ANSI 61 for chemical storage end use. For these tests, NSF exposes the tanks to chemicals certified to NSF/ANSI 60.

The tanks undergo an exposure period dictated by the NSF/ANSI 61. Once the exposure time is completed, the chemical that was exposed to the tank material is analyzed for the presence of chemical compounds that may have leached from the tank itself. If there are no detectable leachants or the leachants are below pass-fail criteria, then the tank passes the test. This testing is performed on the most aggressive chemicals that would be stored in the tank. Testing to the "worst-case scenario" in this way gives NSF the ability to predict the performance of other chemicals when exposed to the tank.

Chemicals Approved for Use with PPC's Tanks

It's important to note that each tank manufacturer must specify the chemicals each model is certified to store. Here's a look at the various chemicals with which Poly Processing's tanks have been evaluated under NSF/ANSI 61:

Acetic Acid ≤ 80%
Aluminum Chlorohydrate 100%
Aluminum Sulfate ≤ 50%
Calcium Carbonate 100%
Calcium Chloride ≤ 30%
Chlorine Dioxide ≤ 38%
Citric Acid 100%
Copper Sulfate ≤ 25%
Deionized Water 100%
Ferric Chloride ≤ 50%
Ferric Sulfate ≤ 60%
Ferrous Cloride ≤ 50%
Ferrous Sulfate ≤ 30%
Hydrochloric Acid ≤ 37%
Hydrofluoric Acid ≤ 52%
Hydrofluosilicic Acid ≤ 30%
Hydrogen Peroxide ≤ 10%
Liquid Ammonium Sulfate ≤ 45%
Magnesium Chloride ≤ 35%
Peracetic Acid ≤ 10%
Phosphoric Acid ≤ 75%
Poly Aluminum Chloride 100%
Polyorthophosphate 100%
Potable Water
Potassium Hydroxide ≤ 50%
Potassium Permanganate ≤ 4%
Sodium Aluminate 100%
Sodium Bisulfite ≤ 40%
Sodium Carbonate ≤ 85%
Sodium Chloride ≤ 26%
Sodium Chlorite ≤ 34%
Sodium Hydroxide ≤ 50%
Sodium Hypochlorite 0.8%
Sodium Hypochlorite ≤ 15%
Sodium Permanganate ≤ 40%
Sodium Silicate 100%
Sulfuric Acid ≤ 98%
Zinc Orthophosphate 100%

Poly Processing is committed to providing a NSF/ANSI 61 certified tank system.

State Drinking Water Agencies and How NSF/ANSI 61 Might Affect You

Regardless of your geographic location, Poly Processing is committed to ensuring that our polyethylene storage tank systems are NSF/ANSI 61 certified. So no matter where you are, we can meet your state's regulations.

Thus far, we've discussed NSF/ANSI 61 and what it means to be certified for both tanks and storage systems, and the difference between potable water certification and chemical certification.

Now let's look at the way NSF certification differs by state and how that impacts tanks and drinking water.

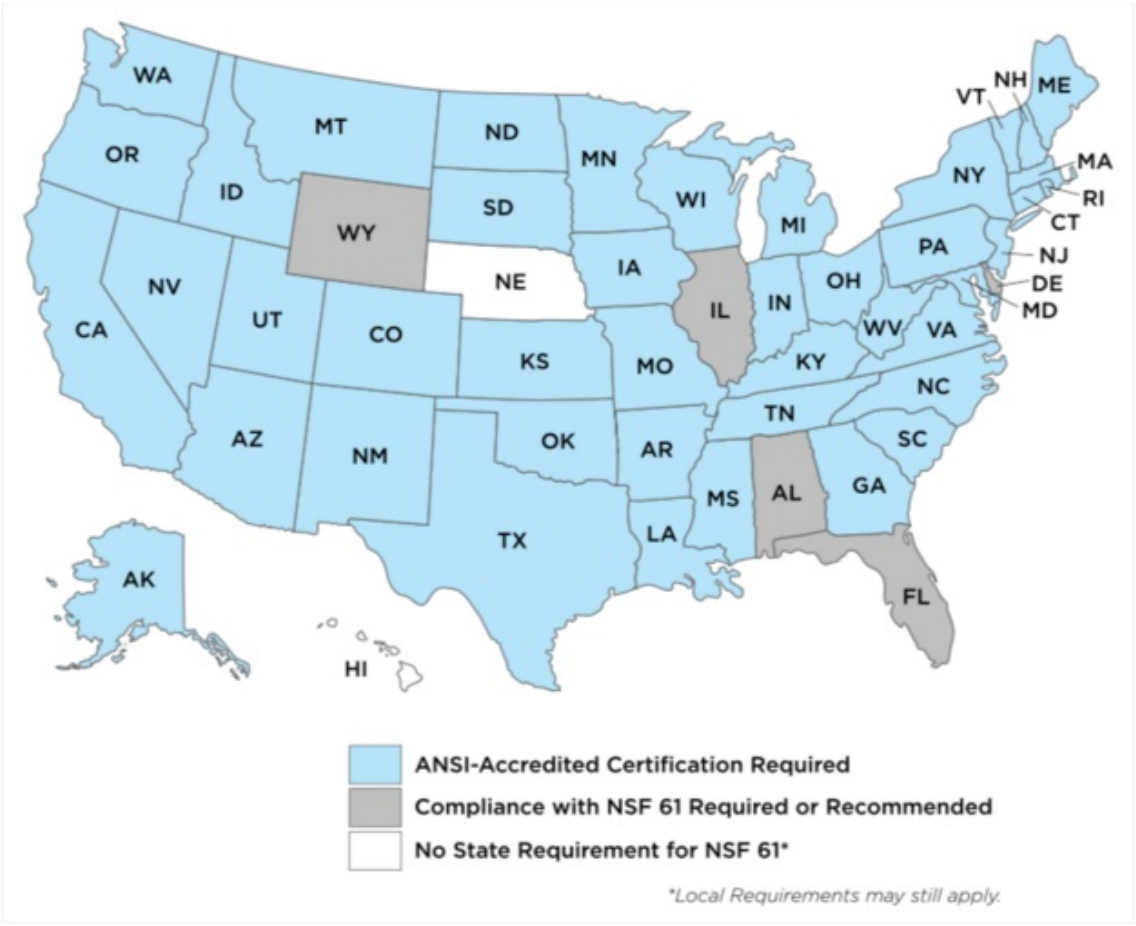
Regulating Drinking Water Systems

The components that make up drinking water systems fall into two categories of regulation. Centralized water treatment plants and water distribution systems up through the water meter are typically regulated by state drinking water agencies. Water distribution systems downstream of the water meter or inside a building are typically regulated by state or local plumbing codes.

While all major model plumbing codes require the use of NSF/ANSI 61 certified products, the specific requirements for those product types can be found in state or local plumbing codes.

NSF Certification Among the States

Each state has its own law with regards to NSF/ANSI-61 regulations. For example, Title 22 drinking water standards in California have been in adoption since March of 2008. Thus, all products and components utilized in conjunction with drinking water must be compliant with Title 22 regulations. To date, 48 states have legislation, regulations, or policies requiring that drinking water system components comply with or be certified to NSF/ANSI 61. Below is a map which shows which states have adopted NSF 61 into their drinking water standards.



For a full list of states and their regulations and policies go to http://www.nsf.org/newsroom_pdf/ASDWA_Survey.pdf, or visit Appendix A

Because Poly Processing tank systems are NSF/ANSI 61 certified, we are able to meet your needs regardless of where you are located.

Appendix A

NSF/ANSI 61 Certifications by State

State	Adopted Legislation or Regulations	State Citation	ANSI-Accredited Certifier Required	Effective Date of Regulation and Latest Update	
				Standard 60	Standard 61
Alabama	Yes	335-7-6.12/8.04	Yes-NSF60	November 9, 1992	November 9, 1992
Alaska	Yes	18 AAC 80.030	Yes	May 18, 1994	May 18, 1994
Arizona	Yes[1]	AAC R18-4-213	Yes	January 1, 1993	January 1, 1993
Arkansas	Yes	PWS Reg. VII F	Yes (policy)	October 1, 1994	October 1, 1994
California	Yes[2]	CCR Title 22: 64590/64591	Yes[2]	January 1, 1994	March 9, 2008
Colorado	Policy		Yes (policy)		
Connecticut	Policy	Guidelines IV.D.5	Yes		
Delaware[6]	Yes	PWS Reg. 2.11.1.1	No[3]	August 11, 1999	August 11, 1999
Florida	Yes	62-555.320(3) +.322© FAC	No	January 1, 1993	January 1, 1993 January 1, 1994[4]
Georgia	Yes	Rules 391-3-5	Yes	July, 1992	July, 1992
Hawaii	Yes[5]	HAR 11-20-38	Yes	September 7, 1999	
Idaho	Yes	58.01.08.501.01 58.01.08.510.02	Yes	October 1, 1993	October 1, 1993
Illinois[6]	Policy[6]				
Indiana[6]	Yes	327IAC 8-1 2	Yes	May 1, 1999	May 1, 1999
Iowa[6]	Yes	41.4 (3) b; 43.3 (8)	Yes	October 1, 2000	August 11, 1999
Kansas	Policy[7]		Yes (policy)		
Kentucky	Policy		Yes (policy)		
Louisiana	Yes	Title 51 Sections 303.F, 335.C 415.C.1	Yes		April 2013
Maine	Yes	10-144-231 Sec 3 F.7, 8	Yes	July 1, 2008	July 1, 2008

State	Adopted Legislation or Regulations	State Citation	ANSI-Accredited Certifier Required	Effective Date of Regulation and Latest Update	
				Standard 60	Standard 61
Maryland	Yes	COMAR 26.04.01.33	Yes[8]	December, 1992	December, 1992
Massachusetts[9]	Yes	310 CMR 22.04(8)	Yes	November, 1992	November, 1992
Michigan[6]	Yes	MI SDWA 325.1013 +325.12102	Yes	September 16, 1993	September 16, 1993
Minnesota[6]	Policy		Yes (policy)		
Mississippi	Policy		Yes (policy)		
Missouri[6]	Yes	10 CSR 60	Yes	April, 1992	April, 1992
Montana	Yes	ARM 17.38:101	Yes	September, 1992	September, 1992
Nebraska	No		No		
Nevada	Yes	NAC 445A.6663	Yes	February, 1997	February, 1997
New Hampshire	Yes	Env-Ws 305	Yes	June, 1997	June, 1997
New Jersey	Yes	NJAC 7:10-8	Yes	June, 1997	June, 1997
New Mexico*	Yes	WSR 20.7.10.400K	Yes	July, 1992 Revised 2007	July, 1992 Revised 2007
New York[6]	Policy		Yes (policy)	July, 1993	July, 1993
North Carolina	Yes	15A NCAC 18c .1537	Yes	July 1, 1994	July 1, 1994
North Dakota	Yes	NDAC 33-17-01-19.4	Yes	January 31, 1997	January 31, 1997
Ohio[6]	Yes	OAC 3745-83-01(d)	Yes	Revised April 21, 2001	Revised April 21, 2001
Oklahoma	Yes	OAC 252:626-11.1 + 19.1	Yes (policy)	Update effective June 1, 2003	Update effective June 1, 2003
Oregon	Yes	333-61-0087(05)&(06)	Yes (policy)	November 13, 1989	November 13, 1989
Pennsylvania[6]	Yes	25 PA Code 109.606	Yes	October 8, 1994	October 8, 1994
Rhode Island[6]	Yes	DWQ 4613 4.1A	Yes	January, 1993	January, 1993
South Carolina[6]	Yes	R.61-58.2 (B) 4& (E) 3	Yes	July 28, 1995	December 31, 1995
South Dakota	Policy		Yes (policy)		
Tennessee	Yes	1200-5-1-.17(36)	Yes	January, 1995	January, 1995
Texas	Yes	TAC 290 42(j); 43 (c) (8); 44 (a) (1,2); 44 (i) (2) (B/H)	Yes	January 1, 1993	January 1, 1993
Utah	Yes	R 309-105-10(1)(a)/10(2)(c)	Yes	July, 1989	July, 1989

State	Adopted Legislation or Regulations	State Citation	ANSI-Accredited Certifier Required	Effective Date of Regulation and Latest Update	
				Standard 60	Standard 61
Vermont	Yes	VWSR Ch. 21 App. A 5.2.2	Yes	September 24, 1992	September 24, 1992
Virginia	Yes	12 VAC 5-590-860 & 1110	Yes	November 15, 1995	November 15, 1995
Washington	Yes	WAC-246-290-220	Yes	April, 1999	April, 1999
West Virginia	Yes	64 CFR 77	Yes	July, 2000	July, 2000
Wisconsin[6]	Yes	NR811.07(4)(c), (f)	Yes	May, 1993	May, 1993
Wyoming	Policy[10]				

You can learn more about our NSF/ANSI 61 certification by contacting a chemical storage tank expert at Poly Processing.

We're happy to help you build a chemical storage tank system that meets your specific storage requirements.

Contact a chemical storage expert today to get started.

Send a message: http://www.polyprocessing.com/contact-us
Email: sales@polyprocessing.com
Phone: 866-765-9957 (866-PolyXLPE)

Or, request a tank quote to receive a price estimate on a tank package.

Online Quote Request: http://www.polyprocessing.com/contact-us/request-a-quote

About 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.

Poly Processing 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 Processing 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.

California
8055 S. Ash St.
French Camp, CA 95231

Louisiana
P.O. Box 4150
2201 Old Sterlington Rd.
Monroe, LA 71203

Virginia
161 McGhee Rd.
Winchester, VA 22603

Environmental Statement

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.

Poly Processing Company manufactures engineered high density crosslinked polyethylene chemical storage tanks. Because we choose to use an engineered, high quality crosslinked polyethylene, our tanks have a greater life expectancy than other tanks made of commodity resins. We continue to develop materials which are more robust in the harshest environments. This life expectancy can be 3 times longer than a tank manufactured from commodity linear resins which in turn:

- Reduces the amount of materials being landfilled by 66%
- Reduces natural gas consumption by up to 70%
- Reduces the diesel fuel used to ship the products to the end user by up to 66%as well as reducing the fuel used to transport the tank to the landfill

We are committed to a sustainable future and to improving the environment and the well being of our customers and their communities.