



**Updated: October 17, 2016**

## **Background**

The U.S. Environmental Protection Agency (EPA) identifies the contaminants to regulate in our drinking water, and they set regulatory limits for amounts of certain contaminants. Aqua uses the EPA's maximum contaminant levels to ensure water quality.

There are some contaminants for which the EPA develops health advisories that do not have set regulatory limits. The health advisories provide technical information on health effects. PFOA and PFOS are included in those contaminants that have no regulatory limit but are associated with a health advisory. These chemicals are among a family of manmade chemicals that have been used for decades as an ingredient to make products that resist heat, oil, stains, grease and water, and in products for firefighting at airfields. They are extremely resistant to breaking down in the environment.

In 2009, EPA published provisional health advisories for PFOA and PFOS. At the time they were established, these advisories were as follows: PFOS: 200 parts per trillion and PFOA: 400 parts per trillion. In May 2016, EPA replaced the 2009 provisional advisories with new, lifetime health advisories that combined the two chemicals and set a 70 parts per trillion health advisory level for both.

## **What has happened recently?**

Over the past 3 months, Aqua Pennsylvania has begun to receive laboratory results for PFOA and PFOS. Our most recent testing for these chemicals used a more sensitive method, under the EPA's Unregulated Contaminant Monitoring Rule (UCMR) program. Samples were collected from Aqua Pennsylvania water sources in eastern Montgomery County because of the recent developments with the groundwater contamination from PFOA and PFOS originating from nearby military bases.

The results showed low levels of PFOA and PFOS in sources that had previously tested as "non-detect" using the 2009 provisional advisory. This does not necessarily imply that levels are increasing, since testing sensitivities were more rigorous due to laboratory method improvements.

Aqua's recent testing, using the more sensitive testing method, has been focused on our water supply sources used to supply Horsham Township and adjacent areas of eastern Montgomery County. PFOA and PFOS were detected at levels **below the EPA's health advisory limit of 70 parts per trillion** at the source locations.

In response to concerns over potential health impacts from PFOA and PFOS, Aqua is providing recent results of PFOA and PFOS testing in our service area, in the table below. This includes laboratory results from a well in Bristol Township that had a PFOA concentration of 26 parts per trillion in 2013 and 20 parts per trillion in 2014. These levels were well below the EPA's 2009 provisional health advisory for these chemicals. As we do annually, we communicated these results to customers in our Consumer Confidence Reports.

\*Please see next page for sampling results.

Location	Sample Date	PFC Tested	Concentration, parts per trillion	Combined PFOS + PFOA concentration, parts per trillion
<b>Abington Township - Well</b>	<b>5/5/2016</b>	PFOA	<b>3.5</b>	9.8
		PFOS	<b>6.3</b>	
	<b>9/14/16</b>	PFOA	<b>4.4</b>	10.1
		PFOS	<b>5.7</b>	
<b>Babbs Well Raw</b>	<b>8/10/2016</b>	PFOA	<b>ND</b>	ND
		PFOS	<b>ND</b>	
	<b>9/15/16</b>	PFOA	<b>ND</b>	ND
		PFOS	<b>ND</b>	
<b>Bristol Township Well #8</b>	<b>2/5/2016</b>	PFOA	<b>18</b>	27.1
		PFOS	<b>9.1</b>	
	<b>7/27/2016</b>	PFOA	<b>15</b>	28
		PFOS	<b>13</b>	
<b>Bubbling Springs Well</b>	<b>8/9/2016</b>	PFOA	<b>ND</b>	ND
		PFOS	<b>ND</b>	
<b>Cabot Well</b>	<b>8/10/2016</b>	PFOA	<b>4.6</b>	8.7
		PFOS	<b>4.1</b>	
	<b>9/15/16</b>	PFOA	<b>6.6</b>	10.2
		PFOS	<b>3.6</b>	
<b>Centerpoint Well</b>	<b>9/6/2016</b>	PFOA	<b>ND</b>	ND
		PFOS	<b>ND</b>	
<b>Chalfont Well #11</b>	<b>7/2/2016</b>	PFOA	<b>9.4</b>	24.4
		PFOS	<b>15</b>	
	<b>8/16/2016</b>	PFOA	<b>10</b>	26
		PFOS	<b>16</b>	
	<b>8/29/2016</b>	PFOA	<b>11</b>	26
		PFOS	<b>15</b>	
	<b>9/13/16</b>	PFOA	<b>9</b>	21
		PFOS	<b>12</b>	
<b>Chalfont Well #14</b>	<b>7/2/2016</b>	PFOA	<b>4.4</b>	9.6
		PFOS	<b>5.2</b>	
	<b>8/16/2016</b>	PFOA	<b>5.5</b>	12.4
		PFOS	<b>6.9</b>	
	<b>8/29/2016</b>	PFOA	<b>6.9</b>	14.3
		PFOS	<b>7.4</b>	
	<b>9/13/16</b>	PFOA	<b>5.5</b>	10.9
	PFOS	<b>5.4</b>		
<b>Chalfont Well #8</b>	<b>7/2/2016</b>	PFOA	<b>9</b>	68

		PFOS	59	
	7/20/2016	PFOA	6.3	19.3
		PFOS	13	
	8/16/2016	PFOA	7.7	52.7
		PFOS	45	
	8/29/2016	PFOA	9.9	41.9
		PFOS	32	
	9/13/16	PFOA	8.2	40.2
		PFOS	32	
Chalfont Well #12	8/26/2016	PFOA	5.9	13
		PFOS	7.1	
Flourtown Well	8/9/2016	PFOA	3.3	8.4
		PFOS	5.1	
	9/12/16	PFOA	3.3	7.3
		PFOS	4	
Hatboro Well #6	7/2/2016	PFOA	10	19.5
		PFOS	9.5	
	8/16/2016	PFOA	10	18.5
		PFOS	8.5	
	8/30/2016	PFOA	9.3	19.3
		PFOS	10	
	9/16/16	PFOA	13	25
		PFOS	12	
Hatboro Well #8	7/2/2016	PFOA	11	28
		PFOS	17	
	8/16/2016	PFOA	11	23
		PFOS	12	
	8/30/2016	PFOA	9.1	23.1
		PFOS	14	
	9/6/16	PFOA	11	25
		PFOS	14	
Hatboro Well #9	7/2/2016	PFOA	17	49
		PFOS	32	
	7/20/2016	PFOA	16	46
		PFOS	30	
	8/16/2016	PFOA	19	50
		PFOS	31	
	8/30/2016	PFOA	15	45
		PFOS	31	
	9/16/16	PFOA	23	63
		PFOS	40	
Hatboro Well #15	7/2/2016	PFOA	12	25
		PFOS	13	

	<b>8/16/2016</b>	PFOA	<b>12</b>	25
		PFOS	<b>13</b>	
	<b>8/30/2016</b>	PFOA	<b>10</b>	23
		PFOS	<b>13</b>	
	<b>9/16/16</b>	PFOA	<b>15</b>	31
		PFOS	<b>16</b>	
<b>Hatboro Well #21</b>	<b>7/2/2016</b>	PFOA	<b>10</b>	19.1
		PFOS	<b>9.1</b>	
	<b>8/16/2016</b>	PFOA	<b>10</b>	16.7
		PFOS	<b>6.7</b>	
	<b>8/30/2016</b>	PFOA	<b>9.1</b>	17.7
		PFOS	<b>8.6</b>	
	<b>9/16/16</b>	PFOA	<b>14</b>	26
		PFOS	<b>12</b>	
<b>Interconnect to Horsham from Aqua</b>	<b>4/13/2016</b>	PFOA	<b>4.4</b>	11.9
		PFOS	<b>7.5</b>	
	<b>4/25/2016</b>	PFOA	<b>4.8</b>	13.8
		PFOS	<b>9</b>	
	<b>5/3/2016</b>	PFOA	<b>4.6</b>	12.4
		PFOS	<b>7.8</b>	
	<b>7/20/2016</b>	PFOA	<b>6.5</b>	13.3
		PFOS	<b>6.8</b>	
	<b>8/16/2016</b>	PFOA	<b>6.4</b>	18.4
		PFOS	<b>12</b>	
	<b>9/14/16</b>	PFOA	<b>6.9</b>	17.9
		PFOS	<b>11</b>	
<b>Intake to Neshaminy Creek Plant</b>	<b>5/5/2016</b>	PFOA	<b>6.6</b>	20.6
		PFOS	<b>14</b>	
	<b>7/13/2016</b>	PFOA	<b>11</b>	32
		PFOS	<b>21</b>	
	<b>8/9/2016</b>	PFOA	<b>12</b>	40
		PFOS	<b>28</b>	
	<b>8/25/2016</b>	PFOA	<b>12</b>	43
		PFOS	<b>31</b>	
	<b>8/25/2016</b>	PFOA	<b>12</b>	42
		PFOS	<b>30</b>	
	<b>9/23/16</b>	PFOA	<b>16</b>	45
		PFOS	<b>29</b>	
	<b>9/23/16</b>	PFOA	<b>15</b>	41
		PFOS	<b>26</b>	
<b>Neshaminy Creek Plant Process</b>	<b>7/13/2016</b>	PFOA	<b>11</b>	43

		PFOS	<b>32</b>	
<b>North Hills Well</b>	<b>8/9/2016</b>	PFOA	<b>3.9</b>	43.9
		PFOS	<b>40</b>	
	<b>8/31/2016</b>	PFOA	<b>3.4</b>	31.4
		PFOS	<b>28</b>	
	<b>9/12/16</b>	PFOA	<b>4.2</b>	33.2
		PFOS	<b>29</b>	
<b>Oreland Well</b>	<b>8/9/2016</b>	PFOA	<b>3.5</b>	7.5
		PFOS	<b>4</b>	
	<b>9/12/16</b>	PFOA	<b>3.1</b>	6.4
		PFOS	<b>3.3</b>	
<b>Peddlers View Well</b>	<b>7/2/2016</b>	PFOA	<b>ND</b>	ND
		PFOS	<b>ND</b>	
<b>Interconnect to Aqua - Lower Southampton Township</b>	<b>5/5/2016</b>	PFOA	<b>ND</b>	ND
		PFOS	<b>ND</b>	
<b>Tredyffrin Well</b>	<b>8/10/2016</b>	PFOA	<b>ND</b>	ND
		PFOS	<b>ND</b>	
	<b>9/15/16</b>	PFOA	<b>4.2</b>	7
		PFOS	<b>2.8</b>	
<b>Upper Dublin Township - Well</b>	<b>4/25/2016</b>	PFOA	<b>8.8</b>	18.4
		PFOS	<b>9.6</b>	
	<b>9/14/16</b>	PFOA	<b>18</b>	33
		PFOS	<b>15</b>	
<b>Upper Merion Well</b>	<b>8/9/2016</b>	PFOA	<b>2.9</b>	5.8
		PFOS	<b>2.9</b>	

**Note:** The analysis detection limit called the Method Reporting Limit for all samples was 2.5 parts per trillion

The water Aqua provides to customers in this area is a blend of multiple sources of treated groundwater and surface water. As a result of the recent results, we are further focusing our testing program to be sure that PFOS and PFOA remain below the HAL. In June and July, Aqua began sampling additional sources in Eastern Montgomery County, including wells in Hatboro and Chalfont, and in the Peddler's Village area of Bucks County to further determine if PFOA and/or PFOS are present. Well #8 in Chalfont was taken offline the same day results were provided (<http://www.chalfontborough.com/pfc-aqua-pa-water-update/>) though they were below the HAL. If levels above the HAL are detected, our customers, EPA, and the Pennsylvania Department of Environmental Protection will be immediately notified of the results and of our planned remedial actions. Moving forward, Aqua will routinely update its findings for PFOA and PFOS and share them via our website to keep customers informed. **In the interim, please be assured that your water is safe to drink.**

#### **Moving forward**

Aqua will routinely update its findings for PFOA and PFOS and share them [on our website](#) so customers can stay informed. In addition, Aqua is diligently collecting samples from a broader geographic area. Once this data is collected, Aqua will be in a better position to evaluate regional

impacts and possible next steps. **In the interim, please be assured that the water provided by Aqua tests well below the EPA's health advisory levels for PFOA/PFOS and is safe to drink.** For more information on PFOA and PFOS, please visit the [EPA's website](#). If you'd like more information, please call Aqua, at **877.987.2782**.

### **What are Perfluorochemicals (PFCs), PFOA and PFOS?**

Perfluorochemicals are a family of manmade chemicals that have been used for decades as an ingredient to make products that resist heat, oil, stains, grease and water, and are extremely resistant to breakdown in the environment.

Common uses of PFCs include: 1) nonstick cookware, stain-resistant carpets and fabrics, 2) coatings on some food packaging—especially microwave popcorn bags and fast food wrappers, 3) firefighting foam, and 4) many industrial applications.

PFOA and PFOS are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). PFOA and PFOS have been the most extensively produced and studied of these chemicals. They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains. They are also used for firefighting at air fields and in a number of industrial processes. For more information, visit the [EPA](#) and [Centers for Disease Control](#) websites using the links below.

### **Can I use any home devices to remove PFCs?**

According to the EPA, home drinking water treatment units are typically certified by independent third party organizations against American National Standards Institute (ANSI) standards to verify their contaminant removal claims. Some home filters remove impurities using activated carbon and reverse osmosis, which are the same technologies used by public water supply systems to remove PFOA and PFOS. However, there currently are no ANSI protocols for testing home treatment systems to verify that these devices effectively remove PFOA and PFOS or how frequently the filters should be changed to maintain removal efficiency. NSF International is currently developing such protocols.

Since no recommendation can be made by EPA at this time, customers can use the following links to find information about home systems, which they can discuss with their physicians:

#### PFC Point-of-Use filtration studies

-Anumol (2015). Point-of-Use Devices for Attenuation of Trace Organic Compounds in Water

<http://www.awwa.org/publications/journal-awwa/abstract/articleid/53620391.aspx>

- Minnesota Department of Health Evaluation of Point-of-Use Filtration for PFCs

<http://www.health.state.mn.us/divs/eh/wells/waterquality/poudevicefinalsummary.pdf>

#### PFC Home Filtration factsheets from NY and NH

[https://www.health.ny.gov/environmental/investigations/hoosick/docs/hoosick\\_pou\\_final.pdf](https://www.health.ny.gov/environmental/investigations/hoosick/docs/hoosick_pou_final.pdf)

<http://des.nh.gov/organization/commissioner/documents/pfoa-inhome-treatment-20160518.pdf>

### **How does EPA's Health Advisory for PFOS and PFOA Include Drinking Water?**

EPA's health advisory levels were calculated to offer a margin of protection against adverse health effects to the most sensitive populations: fetuses during pregnancy and breastfed infants. The health advisory levels are calculated based on the drinking water intake of lactating women, who drink more water than other people and can pass these chemicals along to nursing infants through breastmilk.

The levels were also based upon the exposure to the chemical for 70 years drinking 2 liters (8 glasses) of drinking water per day.

It also assumes 20 percent of the individual exposure to PFCs comes from drinking water and 80 percent comes from home and environmental (non-drinking water) exposures.

More information about the health advisory can be found at:

<https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>