

FAQ: 1,4-dioxane

Q: Is my water safe to drink?

A. Yes. The City has switched wells and is obtaining its water from deeper wells that are free of 1,4-dioxane and other contaminants. The water meets the lowest existing health advisory level.

Q: Is it safe to shower or bathe with the water?

A. Yes. The water is safe for all uses.

Q: Can I use City water to prepare infant formula for my child?

A: Yes. The water is safe for all uses.

Q: What is 1,4-dioxane?

A. 1,4-dioxane (dioxane for short) is an industrial chemical used to stabilize chlorinated solvents. It also can be found in some consumer products, including shampoos. It should not be confused with dioxin.

Q: What has the City done to address the dioxane detected in the water?

A: First, the City has switched wells. It is using deeper wells that have been tested and confirmed to be free of dioxane and other harmful contaminants. This means that the water meets the health advisory standard of 1 part per billion for dioxane established by the Minnesota Department of Health (MDH). The City's response to dioxane has the full support of MDH, the Minnesota Pollution Control Agency, and the United States Environmental Protection Agency (USEPA).

Second, New Brighton is working with its consultants, the health and environmental agencies, and the Army, to develop a long-term solution. While that may take some time, the City will continue to use the dioxane-free deep wells.

Q: When did the City switch to using the deeper, dioxane-free wells for its water supply?

A: April 15, 2015. On April 10, 2015, the MDH sent a "Notice of Health Risk Advisory" to the City. The notice stated that "MDH has concluded that the City of New Brighton should implement response actions" to address the presence of dioxane, and strongly recommended that the City meet the MDH's advisory level of 1 part per billion for dioxane in drinking water. The City was able to implement the switch-over on April 15, and is meeting MDH's advisory level of 1 ppb.

Q: Could the City have switched to using the deeper, dioxane free wells earlier?

A: No. The City took action as soon as it was informed of the MDH's recommended action. Before a switch to deeper wells could occur, it was necessary to test those wells to confirm that they are free of dioxane.

Q: Before the switch was made to the deeper, dioxane-free wells, was there any dioxane in the water?

A: Yes. Water samples were taken by the MDH on March 19, 2015. The laboratory that analyzed the samples later reported that dioxane was present at 4.7 ppb. The City's confirmatory testing, using a different testing method, reported dioxane at 5.4 ppb.

Q: How long had dioxane been in the water?

A: Likely for years. The dioxane is related to operations at the Twin Cities Army Ammunition Plant (TCAAP). Dioxane is an additive to solvents used at TCAAP when it was in operation.

Q: Why is dioxane only being discovered now?

A: Scientific knowledge and understanding of dioxane have increased in recent years, and the methods available to test for contaminants, like dioxane, at extremely low concentrations have improved. Also, the need to look for dioxane has become clearer as health risks associated with dioxane have become clearer.

With more recent scientific advances, the USEPA, MDH, and cities like New Brighton have been implementing testing programs to seek out substances that may be present in drinking water at extremely low concentrations, even though they are not subject to regulatory limits on the amount permitted in water. Dioxane is an example. The dioxane in New Brighton's water was discovered during a testing program for unregulated contaminants.

The City has been and remains proactive in going beyond the current regulations and taking advantage of technological advances to assure safe drinking water.

Q: What is the health risk posed by dioxane?

A: According to the fact sheet from the MDH, low level exposure to dioxane over a person's lifetime could increase the risk of cancer. Please refer to the facts sheets prepared by MDH and USEPA, links to which are on the City webpage.

Q: How significant is the health risk posed by dioxane?

A: At the concentrations found in New Brighton, the health risk is very low.

The MDH has set its 1 ppb advisory level to provide for a risk of less than one possible additional case of cancer for every 100,000 people who consume the water over a lifetime. The MDH's analysis is based on an assumption that each person consumes two liters (a little more than a half-gallon) of water containing 1 ppb of dioxane each day for their lifetime (approximately 70 years). Because the concentrations found in New Brighton are slightly above the advisory level, the risk would be slightly greater, perhaps a few potential additional occurrences in a population of 100,000 over a lifetime of consumption of two liters per day.

Q: Why is Minnesota's advisory level of 1 part per billion so low? What have other states done?

A: Minnesota's approach for establishing its health advisory levels is much more conservative than approaches being used in some other jurisdictions, including the USEPA. Minnesota's approach differs in that it makes adjustments for considering the most susceptible members of the population. It is considered to be a very conservative approach. The standards in other states vary widely.

Q: Is there a federal drinking water limit for dioxane?

A: No. Under the Safe Drinking Water Act, the USEPA is responsible for setting enforceable limits on the amount of particular substances permitted in drinking water. The USEPA is currently gathering data to assess the prevalence of dioxane in water supplies nationally.

Q: Why didn't the City's water treatment plant remove dioxane from the water?

A: The City's water treatment plant was designed to remove TCAAP contaminants that were known at the time it was built through use of granular activated carbon (GAC). GAC has an extensive pore structure that captures typical TCAAP contaminants. As the scientific knowledge about dioxane has grown, it has been discovered that the pore structure of GAC is unable to capture dioxane because of its unique properties. Other technologies are being developed for use in removing dioxane from drinking water, such as a technology currently being used in Tucson, Arizona, to remove dioxane from that city's water.

Q: Since the dioxane originated from TCAAP, is the Army responsible for paying the costs of treating water from contaminated wells?

A: Yes. The City's settlement agreement with the Army requires the Army to pay all costs necessary to remove *all* TCAAP contaminants from the water, even newly-identified contaminants like dioxane.

Q: Has the Army publically acknowledged its responsibility?

A: Yes. The Army is working cooperatively with the City to reach a permanent solution.

Q: Has dioxane been found elsewhere in Minnesota?

A: Yes, but at even lower concentrations than found in New Brighton's water.

Q: How have other cities dealt with dioxane?

A: Dioxane was detected in the water in Tucson, Arizona, at much higher levels – 298 parts per billion as opposed to the approximately 5 parts per billion found in New Brighton. The source of the dioxane in Tucson was a former Air Force base. Tucson's long-term solution was to design and construct a treatment facility to remove dioxane, paid for by the Air Force.