



TEMPORARY CHANGE IN DISINFECTANT

FREQUENTLY ASKED QUESTIONS

FAST FACTS

71
COMMUNITIES SERVED

SERVICE AREA:
2,220
SQUARE MILES IN

2.2 MILLION
POPULATION SERVED



**WATER
SERVICES**



**WASTEWATER
SERVICES**



**SOLID WASTE
SERVICES**

**North Texas Municipal
Water District**

501 East Brown St.
Wylie, TX 75098

972.442.5405

www.ntmwd.com

WATER TREATMENT PROCESS

What is NTMWD's routine water treatment process?

Drinking water treatment involves the removal of larger particles through sedimentation and filtration, and disinfection to inactivate or kill pathogenic organisms. Disinfection of water at NTMWD is typically a two-step process. The first step is to inactivate or kill microorganisms, such as bacteria, parasites and viruses, during treatment. The second step makes sure water remains disinfected and safe for drinking as it travels long distances through pipes all the way to the tap. Most of the year, NTMWD disinfects its water using a combination of ozone and chlorine (first step) and then chloramine, which is the combination of ammonia and chlorine (second step).

Why do you use chlorine/chloramine to disinfect water?

Chlorine is the most widely used water disinfectant in the world. Only chlorine-based disinfectants (including chloramine) are approved by the U.S. Environmental Protection Agency (EPA) for the second step of water disinfection. EPA requires water treatment facilities to maintain a minimum total chlorine level of 0.5 milligrams per liter (mg/L)—or 0.5 parts per million (ppm)—during normal operations and a maximum running average of 4 mg/L (or 4 ppm). These levels are safe for use or consumption.

The use of chloramines (formed by combining chlorine with ammonia) provide the required disinfection residual throughout the distribution system for most of the year because chloramines are less reactive with organic material so they produce substantially fewer disinfection by-products (DBPs). Voluntary monthly testing performed by NTMWD indicate that our water contains low amounts of DBPs, even during the temporary change in disinfection. Over time, systems using chloramines can begin to form a biofilm (layer of non-pathogenic microorganisms) which can degrade the quality of the water. By removing the ammonia from the disinfection process and using only free chlorine for a few weeks, this biofilm is able to be removed and superior water quality is maintained. NTMWD chooses to perform this maintenance the same time every year as a preventive measure, not as a reactive one.

WATER TREATMENT PROCESS (continued)

Do you use chloramine because it is the least expensive treatment?

No, we use it because in conjunction with ozone and chlorine, it is the most effective disinfectant for our large regional water system. It provides long-lasting disinfection benefits with minimal disinfection by-products. In many cases the use of chloramines is more expensive because it requires the purchase and storage of more chemicals (ammonia). It also requires additional equipment, technology and operations.

Where does the bacteria go?

Chlorine reacts with and kills bacteria in the system, making them harmless to humans. However, the presence of some organic matter can remain in distribution systems. This is common to all public water distribution systems. It's not that different from bacteria on uncooked food. Once bacteria on the food is killed by high temperatures, it's harmless.

Do other water providers use the same treatment processes as NTMWD?

The EPA requires all water providers to disinfect water to protect public health. NTMWD uses proven, common and highly effective methods to treat the lake water that is the source of its water. According to the Water Research Foundation, approximately 45 percent of the U.S. population is served by public water supplies disinfected with chloramine, the process NTMWD uses during normal operations.

How does your treatment rank with others?

NTMWD has been recognized for the superior performance of its treatment facilities in doing more than what is required to meet state and federal drinking water standards by the Texas Optimization Program (TOP) run by the Texas Commission on Environmental Quality (TCEQ). The TCEQ continues to rate NTMWD a "superior water system." More information on the TOP program can be found on the TCEQ [website](#).

Why can't you just do a better job of removing dirt from the water?

Lake water naturally contains sediment, organic matter and bacteria. The water goes through a proven, multi-step process to remove sediment and organic material, and eliminate bacteria and viruses. The process includes ozone, chlorine, settling, filtering, and then adding ammonia to create chloramine. Ozone is one of the most powerful means to treat and disinfect water.

TEMPORARY CHANGE IN DISINFECTANT

Why is the temporary change in disinfectant necessary?

Each spring for about one month, NTMWD temporarily changes the disinfectant used in the second step of water treatment. This is necessary to help maintain the system and high water quality year-round, and NTMWD follows the [TCEQ regulatory guidance document](#) to conduct this routine maintenance. During this time, ammonia is temporarily suspended and only chlorine is used to maintain water disinfection from the time it leaves the treatment plant as it travels long distances to the tap. Chlorine levels in the water are consistent with year-round operations. However, the discontinuation of ammonia can make the presence of chlorine more noticeable. Cities may help with this process by flushing the blend of chloramine- and chlorine-disinfected water out of fire hydrants during this time. The EPA estimates up to 40 percent of water providers who use chloramine conduct this process.

Does NTMWD add more chlorine during this period?

No, test results verified by the TCEQ show chlorine levels during the temporary change in disinfectant process are consistent with normal year-round operations.

Does this process indicate a problem with the system?

No, it's a preventive measure that helps prevent bacteria from growing in pipes. According to the TCEQ, many utilities in areas with warmer climates throughout the state and country that use chloramines for their distribution conduct the same temporary process. NTMWD has performed this routine process for over 15 years and maintained high water quality each year.

TEMPORARY CHANGE IN DISINFECTANT (continued)

Does NTMWD plan to discontinue this process? What could be done instead?

NTMWD does not plan to discontinue this safe and accepted practice. Discontinuing this process would require different and more costly operational practices in the distribution systems, such as increased fire hydrant flushing, which would reduce available water supply and could impact our ability to meet water demand and provide adequate flows for firefighting in the summer months. To remove this process, we would need additional water supplies above and beyond those being planned.

Why is this done in the spring?

It's important to complete this routine change before summer because hotter temperatures can increase the potential for bacterial growth in pipes and DBP formation. Moving the blend of chloramine- and chlorine-disinfected water through the system faster by flushing it through fire hydrants can help reduce chlorine odor and taste. Conducting this flushing of pipes in the spring also helps conserve valuable water by reducing the amount of flushing needed during the warm summer months when water demands increase due to irrigation.

How are you working with your Member Cities and Customers?

NTMWD continues to work with the cities and communities served to encourage:

- Increased flushing of local systems through fire hydrants to move the blend of chloramine- and chlorine-disinfected water more quickly through pipes and help reduce taste and odor issues during the disinfectant change period.
- Reducing or minimizing storage of water in the system at the onset of the change process.
- Developing system operations guidelines with best practices, technical resources and information to support local system operations in our cities.

Why doesn't Dallas perform a temporary change in disinfectant?

It is our understanding that the Dallas Water Utilities is able to maintain its system through a comprehensive flushing program. However, based on NTMWD's expansive system serving 71 communities across North Texas, maintenance solely through flushing is not a viable or cost-effective option for our unique regional system.

TESTING

How often do you test the water and how are results shared?

NTMWD has a state-certified laboratory that analyzes over 140,000 water quality samples a year — which equates to hundreds of samples daily — to ensure drinking water meets or surpasses safe water requirements. The District laboratory tests water in our system and provides testing services for Member Cities and Customers. Additionally, the TCEQ conducts independent tests in the NTMWD and city systems to ensure compliance with state and federal regulations.

Where can I see the test results?

Monthly and annual water quality reports can be found at NTMWD.com. NTMWD also posts chlorine levels and results from monthly testing for DBPs.

How often is water tested for chlorine?

NTMWD frequently tests for the concentration of chlorine through online analyzers at our treatment plant and at multiple points in the transmission system. We also test once a week at delivery points at which the cities we serve collect the water to pipe to their customers. All of this testing occurs year-round and is reported to the TCEQ. The cities we serve also sample and monitor the water that is distributed to their customers.

Is there any independent testing?

TCEQ conducts routine water sampling in the NTMWD and city systems through an independent laboratory to confirm water quality compliance with state and federal standards. The cities we serve also collect their own water samples, which are analyzed in NTMWD's state-certified laboratory and reported to TCEQ.

TESTING (CONTINUED)

What are the levels of chlorine during the temporary change in disinfectant?

The EPA requires water treatment facilities to maintain a minimum free chlorine level of 0.2 milligrams per liter (mg/L) — or 0.2 parts per million (ppm) — during the routine change in disinfectant, and levels must not exceed a maximum running average of 4 mg/l (or 4 ppm). NTMWD system's chlorine levels during the disinfection change period are consistent with the rest of the year. After the treated water leaves the plant, the chlorine begins to dissipate as it travels long distances to the tap. **TCEQ confirms that the District meets or surpasses all safe water requirements.**

Why are my swimming pool chlorine levels similar to the levels in my drinking water?

The chlorine level regulations are needed to maintain disinfection in water used for drinking, bathing, swimming, etc. According to the TCEQ, "A normal level for drinking water disinfection can range from 1 part per million to 4 parts per million which is similar to chlorine levels found in swimming pools." However, pool test kits are not a reliable method to test drinking water. According to the Centers for Disease Control (CDC), pool kits take inaccurate readings over time; do not provide reliable, quantitative results; and lack calibration and standardization. You can learn more from [CDC.gov](https://www.cdc.gov).

TOTAL CHLORINE RESIDUALS (mg/L) AT NTMWD TREATED WATER DELIVERY SITES

| Sample Locations | 01/01/2022 - 02/28/2022 | | | Durning Maintenance Period 03/01/2022 - 03/30/2022 (data collected & averaged once per week) | | | 01/01/2023 - 02/28/2023 | | | Durning Maintenance Period 03/01/2023 - 03/29/2023 (data collected & averaged once per week) | | |
|------------------|-------------------------|---------|---------|--|---------|---------|-------------------------|---------|---------|--|---------|---------|
| | Average | Maximum | Minimum | Average | Maximum | Minimum | Average | Maximum | Minimum | Average | Maximum | Minimum |
| Plano #3 | 3.31 | 3.67 | 2.94 | 3.26 | 3.49 | 3.03 | 3.40 | 3.75 | 3.15 | 3.43 | 3.65 | 3.20 |
| Famersville | 3.13 | 3.32 | 2.93 | 2.42 | 2.87 | 1.59 | 3.00 | 3.30 | 2.61 | 2.74 | 2.85 | 2.62 |
| Forney | 2.77 | 3.46 | 2.26 | 2.43 | 3.17 | 2.10 | 3.31 | 3.74 | 2.87 | 2.59 | 2.93 | 2.08 |
| Garland #2 | 3.00 | 3.41 | 1.94 | 3.34 | 3.45 | 3.24 | 3.21 | 3.69 | 2.59 | 3.23 | 3.41 | 3.01 |
| Garland #4 | 3.16 | 3.64 | 1.91 | 3.29 | 3.46 | 3.14 | 3.36 | 3.86 | 2.94 | 3.45 | 3.70 | 3.30 |
| McKinney | 3.34 | 3.54 | 2.88 | 3.18 | 3.35 | 3.06 | 3.43 | 3.92 | 3.06 | 2.94 | 3.58 | 2.50 |
| Plano #2 | 3.18 | 3.98 | 2.22 | 3.46 | 3.80 | 3.19 | 3.45 | 3.92 | 3.06 | 3.26 | 3.45 | 3.16 |
| Princeton | 3.03 | 3.28 | 2.76 | 2.97 | 3.23 | 2.51 | 3.02 | 3.40 | 2.60 | 2.48 | 2.57 | 2.38 |
| Rockwall | 3.40 | 3.72 | 3.21 | 3.45 | 3.98 | 3.03 | 3.33 | 3.63 | 3.16 | 3.01 | 3.27 | 2.78 |
| Royse City | 3.42 | 3.56 | 3.37 | 3.22 | 3.56 | 2.94 | 3.13 | 3.44 | 2.73 | 2.86 | 3.26 | 2.27 |
| Shiloh | 3.48 | 3.83 | 3.13 | 3.49 | 3.61 | 3.41 | 3.46 | 3.75 | 3.25 | 3.61 | 3.97 | 3.19 |
| Sunnyvale | 2.87 | 3.18 | 2.35 | 2.93 | 3.32 | 2.69 | 3.27 | 3.44 | 3.11 | 3.10 | 3.30 | 3.01 |

*NOTE: TCEQ/EPA requires water treatment facilities to maintain a minimum chlorine level of 0.2 milligrams per liter (mg/L) or parts per million (ppm), a minimum of 0.5 mg/L or ppm during chloramine operations and a maximum running average of 4 mg/L or ppm. These levels are deemed safe for consumption.

1 mg/L = 1 ppm (parts per million)







How often is testing done on disinfection by-products (DBPs)?

The EPA regulates Trihalomethanes (THMs) and Haloacetic acids (HAA5), also known as DBPs, at levels that current research considers safe. The TCEQ tests quarterly in the cities we serve for the regulated DBPs to confirm compliance with EPA's regulations. NTMWD voluntarily increased testing to monthly for DBPs in late 2018. This testing is above and beyond what is required, and is available on the NTMWD website. Results show that NTMWD meets or surpasses the standards required for drinking water safety.

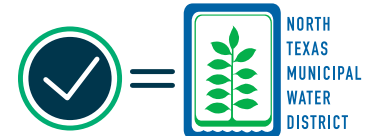
What if I want additional tests of my water?

QUESTIONS OR CONCERNS ABOUT YOUR WATER?

Homeowners who want more information about their water quality should consider these recommendations.

-  Review water quality information and Consumer Confidence Reports on your city or local water utility website and contact them with any questions (agency who sends your water bill).
 -  View NTMWD water quality information online at www.NTMWD.com, including monthly reports and the annual water quality report (aka, consumer confidence report). Over 130,000 tests conducted annually.
 -  Contact NTMWD to learn how the water is treated and distributed to your city (local provider) at: www.NTMWD.com, publicrelations.info@ntmwd.com or 972-442-5405
-  **If you wish to have additional testing performed:**
Use a state-certified laboratory to provide sampling instructions, containers, and ensure accurate results. You can find an accredited laboratory in Texas on the TCEQ website. Consumers should be cautious of, and do research on, any private companies offering free testing to sell products or services.
 -  **Pool test kits are not a reliable method to test drinking water.**
According to the Centers for Disease Control (CDC), pool kits take inaccurate readings over time; do not provide reliable, quantitative results; and lack calibration and standardization. You can learn more at CDC.gov.
 -  **Beware of claims from companies advocating at-home filtration for water safety.**
NTMWD's water is safe to drink without additional filtration. Some filters can help dissipate chlorine at the tap to reduce odor, taste and skin sensitivities. Look for filters labeled with NSF International (NSF/ANSI) approval. DrinkTap.org has some additional filter guidelines.

For more information on water quality testing visit NTMWD.com/safewater.



Check out these water resources, too:



TASTE | ODOR | SKIN

Could the chlorine cause rashes or other health problems?

For sensitive individuals, a Vitamin C tablet added to bath water can minimize the chlorine. You can also consider installing filters on faucets and showers. According to medical toxicologist Scott Phillips, MD, "There have been no scientific studies suggesting an association between psoriasis and chlorine. If you are experiencing a rash that you are concerned about, you should discuss the matter with your dermatologist." See more health related questions and answers in a fact sheet prepared by Dr. Phillips at NTMWD.com/safewater.

Does chloramine form dangerous toxins?

Since chloramines are not as reactive as chlorine with organic material in water, they produce substantially lower concentrations of disinfection by-products (DBPs) in distribution systems. Some disinfection by-products, such as the trihalomethanes (THMs), may have adverse health effects at prolonged high levels. The EPA closely regulates these disinfection by-products, and the results of monthly tests indicate that NTMWD water contains low amounts of DBPs that are well within the range that is considered safe by the EPA.

The Water Research Foundation, the nation's leading water research organization, recognizes that periodic chlorine maintenance is a preventive measure to reduce the potential for nitrification (process by which ammonia is changed into nitrates by bacteria), which can occur in water distribution systems during warmer months. NTMWD follows the [TCEQ regulatory guidance document](#) to conduct this routine maintenance.



SAFE WATER IS ESSENTIAL

Public health and community well-being rely on access to safe, treated drinking water. The treatment processes used by North Texas Municipal Water District are among the best and most highly effective available to protect public health, and ensure over two million North Texans in our Member Cities and Customers have safe, reliable water every day year-round. NTMWD works diligently behind the scenes through a dedicated team of essential workers who live and work in the same communities we serve to uphold the quality of life we all love.

PROTECTING WATER QUALITY

NTMWD's top priority is to keep drinking water safe. That's why we continuously monitor and conduct nearly 130,000 tests per year. The water treated and distributed by NTMWD continues to meet or surpass Safe Drinking Water Standards established by the U.S. Environmental Protection Agency (EPA) as well as regulations set by the Texas Commission on Environmental Quality (TCEQ).

SHARING RESULTS

NTMWD publishes monthly and annual water quality reports to provide an overview of water quality during the previous year. You can read the full reports at [NTMWD.com/Water-Quality-Reports](https://www.ntmwd.com/Water-Quality-Reports).

ADDITIONAL QUESTIONS?

For more information about your local drinking water quality, standards, and other questions, please call:

EPA Safe Drinking Water Hotline
800-426-4791

NTMWD Main Number
972-442-5405