IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Elevated Fluoride Levels Detected in [Luke Air Force Base]

Luke Air Force Base (LAFB) monitors on-base drinking water for contaminants to ensure safe drinking water for its customers. LAFB recently conducted a state-required water test of the water distribution system, which revealed an exceedance of Secondary Maximum Contaminant Level (SMCL) for fluoride. While not a violation of upper limits, the exceedance of recommended levels did require corrective action on our part.

The drinking water provided by LAFB is safe to drink. While not an emergency, we are required to notify our customers of the Fluoride exceedance. This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). Testing conducted recently at one of our locations indicated a result of 2.08 mg/L. This value exceeded the SMCL for Fluoride by 0.08 mg/L; the limit is 2.0 mg/L, set by the Environmental Protection Agency.

Dental fluorosis in its moderate or severe forms, may result in a brown staining and or pitting of the permanent teeth. This problem occurs only in developing teeth before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.

Drinking water containing more than 4 mg/L of fluoride (the US Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/L of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/L because of this cosmetic dental problem. Fluoride contamination is rarely due to human activity. Fluoride occurs naturally in some areas and is found in high concentrations in the aquifer in our source water.

What is being done:
We have adjusted the water system, and further sampling has shown Fluoride levels are below 2.0 mg/L. For information about how your water is delivered, please call Civil Engineering of Luke Air Force Base at 623-856-6135. For questions or more information regarding health effects, please call Bioenvironmental Engineering at 623-856-7521. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.

> *Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.*

This notice is being sent by Luke Air Force Base

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Luke Fluoride FAQ's Fact Sheet

1. Is my water safe?

Yes, your water is safe. Luke AFB (LAFB) is committed to ensuring safe drinking water is supplied to its people. We continue to test the water and report results as required to the Arizona Department of Environmental Quality (ADEQ) who are responsible for regulatory oversight to ensure that EPA standards are met.

2. What is the source of my drinking water?

LAFB drinking water is pumped from wells in the ground and then blended with water that is purchased from off-base. This gives us more flexibility to provide drinking water across the base while providing resiliency if something were to happen to our supply.

3. What is the requirement to notify the public when fluoride levels exceed thresholds?

Fluoride is a naturally occurring solute which is found in well water across the US. The EPA Secondary Maximum Contaminant Limit (SMCL) is 2.0 mg/L in drinking water. The requirement is to notify the public within 12 months of receiving sampling results that show fluoride levels have exceeded the SMCL. This public notice should be posted as long as the levels exceed the identified legal threshold and republished annually until the levels are less than the EPA's limit. We were notified of the elevated levels on 24 January 2023 and immediately notified the ADEQ. Luke AFB worked to publish this notice as soon as possible for transparency.

4. **Why wasn't the source shut down when the levels were found to exceed thresholds?**

The source is not required to be shut down since the levels are below the primary Maximum Contaminant Limit (MCL). As soon as the results were identified as being elevated, appropriate authorities (i.e. ADEQ) were notified and Luke AFB took action to decrease the fluoride level below the SMCL. Luke AFB submitted additional samples to an outside certified laboratory which showed the fluoride levels were below the SMCL. The SMCL is put in place to prevent cosmetic discoloration of the permanent teeth (dental fluorosis) in children under the age of 9. We continue to monitor the water frequently to ensure we stay below the fluoride SMCL.

5. How often does my water get tested and what common contaminants are included in this testing?

The frequency of testing of your water at LAFB occurs daily for parameters such as chlorine residual and pH. The frequency of other parameters such as total dissolved solids, trihalomethanes, fluoride, temperature and nitrates vary, but are normally checked daily. These tests occur to monitor the quality of the water and to inform the water distribution operator of minor adjustments to keep your water within required levels. State required samples, which are sent to a third-party lab, vary from once a month to once every 9 years depending on a variety regulatory standards/guideline for each contaminant and a history of results. LAFB tests for microbial contamination at locations around the installation a couple times per month. Disinfection byproducts and arsenic are tested quarterly. Volatile organic compounds, inorganic compounds and nitrates are tested on an annual basis. Synthetic organic compounds and lead

and copper are tested every 3 years. Radionuclides are tested every 6 years. Asbestos and Nitrites are tested every 9 years.

6. Who does water testing at Luke AFB? How do I find out more specifics about the Luke water testing process? I am concerned Luke AFB may be missing something else that is harmful!

The LAFB Civil Engineering Water and Fuel Systems Maintenance Flight conducts daily rounds of the drinking water distribution system and conducts testing to inform their operations. The LAFB Bioenvironmental Engineering Flight conducts water testing and submits these samples to outside certified testing laboratories. If you have general questions regarding fluoride water testing or other contaminants in the drinking water, please call 623-856-7521.

7. Where does fluoride come from and why is it in my water? Is this a result of some base activity?

Fluoride is a mineral that occurs naturally and is released from rocks into the soil, water, and air. Almost all water contains some fluoride, but usually not enough to prevent tooth decay. Fluoride can also be added to drinking water supplies as a public health measure for reducing cavities. Decisions about adding fluoride to drinking water are made at the state or local level. Luke AFB does not add fluoride to the water system, it occurs naturally in our groundwater.

8. How will I be notified if there are changes in my drinking water in the future?

We will continue to regularly monitor the drinking water and if there are any future elevations in fluoride levels or any other substance in your drinking water which puts you at risk you will be notified. In addition, once elevated levels are found/notified then a repeat notice of elevation shall be issued to the public every annually until the levels normalize.

9. How do I remove fluoride from drinking water?

Removal of fluoride from water is a difficult water treatment action. Most point-of-use treatment systems for homes that are installed on single faucets use activated carbon filtration, which will not remove the fluoride ion. Other treatment systems (such as reverse osmosis, ion exchange, or distillation systems to reduce fluoride levels) vary in their effectiveness to reduce fluoride. Check with the manufacturer of the individual product.