



U.S. NAVAL AIR STATION (NAS) SIGONELLA – MARINAI HOUSING 2023 DRINKING WATER CONSUMER CONFIDENCE REPORT



Is our water safe to drink?

Yes. Naval Air Station (NAS) Sigonella's drinking water systems provide water deemed safe and certified "Fit for Human Consumption" (FFHC; that is, potable) as determined by the Installation Commanding Officer's Record of Decision dated 2 Nov 2017 and as routinely confirmed by laboratory sampling results (received monthly, quarterly, and yearly). NAS Sigonella is proud to support the Navy's commitment to provide safe and reliable drinking water to our service members and their families. In fact, NAS Sigonella's four water systems were among the first overseas drinking water facilities to receive Conditional Certificates to Operate from Commander, Navy Installations Command (CNIC). This annual Consumer Confidence Report (CCR) for calendar year 2023 includes general and mandatory information to educate everyone about our water source(s), treatment processes, standard requirements, and other details to help assure you that our water is safe to drink.

Our drinking water fully complies with the Department of Defense's (DoD) Italy Final Governing Standards (FGS), which are derived from the Overseas Environmental Baseline Guidance Document, U.S. Environmental Protection Agency (EPA) and Italian drinking water standards. When Italian and U.S. standards differ, the most protective requirement is adopted into the FGS. A detailed list of constituents found in our drinking water is included in this report, along with a comparison to the maximum levels considered safe for the general public by these standards.

NAS Sigonella's Commanding Officer and Naval Facilities Engineering Command (NAVFAC) Europe Africa Central (EURAFCENT) Headquarters recognize the importance of safeguarding the health and well-being of our Sigonella Citizens.

Where does our water come from and how is it treated?

The Marinai Family Housing Area purchases treated water from Pizzarotti & C., S.p.A. This water comes from three groundwater wells at a depth of 30 meters, which are located outside of the installation property. The water is treated at the Marinai Water Treatment Plant using multi-media filters, an advanced reverse osmosis (RO) membrane filtration system, and disinfection prior to distribution. Regardless of the differences in the source or the treatment process, all drinking water provided to the NAS Sigonella community must meet the same performance standards.

Why are there contaminants in drinking water?

Drinking water, including bottled water, may reasonably be expected to contain small amounts of some contaminants. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring contaminants, and can pick up substances resulting from the presence of animals or from human activity.

As a result, some contaminants may be present in source drinking water such as:

- **Microbial contaminants**, such as viruses and bacteria, that may come from wildlife, sewage treatment plants, septic systems, and agricultural livestock operations;
- **Pesticides and herbicides**, which may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses;

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- **Inorganic contaminants** such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming;
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

Drinking water from any source may also include **disinfection by-products**, formed when disinfectants used in water treatment plants react with bromide and/or natural organic matter (i.e., decaying vegetation) present in the source water. Different disinfectants produce different types or amounts of disinfection byproducts. Disinfection byproducts for which regulations have been established include trihalomethanes, haloacetic acids, bromate, and chlorite.

The presence of contaminants does not necessarily indicate that water poses a health risk. In order to ensure that tap water is safe to drink, regulations limit the amount of certain contaminants in water provided by public water systems. Sampling is conducted routinely, and its goal is to detect the level of any contaminants in the water system. If the results are above regulatory limits, a notification sent by an All Hands e-mail, by a Facebook post, and a post to the NAS Sigonella Environmental Services website <https://cnreurfcent.cniv.navy.mil/Installations/NAS-Sigonella/Operations-and-Management/Environmental-Support/> will go to all personnel.

The U.S. Environmental Protection Agency (EPA) established a three-tier public notification plan for drinking water summarized in Table 1. NAS Sigonella follows this outline to ensure notifications occur in a timely manner when necessary.

Table 1. The 3 Tiers of Public Notification*

	Required Distribution Time	Notification Delivery Method
Tier 1: Immediate Notice	Any time a situation occurs where there is the potential for human health to be immediately impacted, water suppliers have 24 hours to notify people who may drink the water of the situation.	Should a Tier 1 notification be necessary, NAS Sigonella will notify you via an All Hands E-mail message and Facebook.
Tier 2: Notice as Soon as Possible	Any time a water system provides water with levels of a contaminant that exceed EPA or state standards or that hasn't been treated properly, but that doesn't pose an immediate risk to human health, the water system must notify its customers as soon as possible, but within 30 days of the violation.	NAS Sigonella will notify you of a Tier 2 concern through an All Hands E-mail message, publication in <i>The Signature</i> , and by post on Facebook.
Tier 3: Annual Notice	When water systems violate a drinking water standard that does not have a direct impact on human health (For Example, failing to take a required sample on time) the water supplier has up to a year to provide a notice of this situation to its customers.	Tier 3 notifications are published annually in this document, the Consumer Confidence Report.

*Definitions from EPA website. See <http://water.epa.gov/lawsregs/rulesregs/sdwa/publicnotification/basicinformation.cfm>.

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You can learn more about contaminants and any potential health effects by calling the EPA’s Safe Drinking Water Hotline: +1-800-426-4791 or by visiting the EPA’s Drinking Water Standards web site: <https://www.epa.gov/dwreginfo/drinking-water-regulations>.

Source Water Assessment

In May 2023, NAVFAC and the Navy and Marine Corps Force Health Protection Command (NMCPHC) conducted a comprehensive sanitary survey of the Marinai Housing Area drinking water system. This survey provided an evaluation of the adequacy of the drinking water source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water. NAVFAC is continually improving the drinking water system based on the recommendations in the report.

Some People Must Use Special Precautions

Some individuals may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These consumers should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA’s Safe Drinking Water Hotline: +1-800-426-4791 or by visiting www.epa.gov/safewater/sdwa.

Additional Information for Lead

Corrosion of household plumbing systems and erosion of natural deposits are the typical sources for lead and copper in drinking water. To meet the EPA and Italy FGS action level for lead and copper, 90 percent of the buildings tested must have lead levels below 15 micrograms per liter ($\mu\text{g/L}$) and copper levels below 1.3 milligrams per liter (mg/L). This measurement is referred to as the 90th percentile. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. NAVFAC Sigonella Public Works is responsible for providing high-quality drinking water and has direct control over the materials used in plumbing components on the facility. This ensures that no lead service lines or components used in the drinking water system. As a general safety practice, whenever - and wherever - you plan to use tap water for drinking or cooking, you can minimize the potential for lead exposure by flushing the tap for 30 seconds to 2 minutes prior to use. Information on lead in drinking water and steps you can take to minimize exposure is available from the USEPA Safe Drinking Water website: www.epa.gov/safewater/lead.

Additional Information for PFAS

What are per- and polyfluoroalkyl substances and where do they come from?

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of man-made chemicals. PFAS have been used in a variety of industries and consumer products around the globe, including in the U.S., since the 1940s. PFAS have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. They are also contained in some foams (aqueous film-forming foam or AFFF) currently used for fighting petroleum fires at airfields and in industrial fire suppression processes. PFAS chemicals are persistent in the environment and some are persistent in the human body – meaning they do not break down and they can accumulate over time.

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Is there a regulation for PFAS in drinking water?

On April 10, 2024, the US EPA established Maximum Contaminant Levels (MCL) for a subset of PFAS chemicals.

Compound	Final MCLG	Final MCL
PFOA	Zero	4.0 ppt
PFOS	Zero	4.0 ppt
PFHxS	10 ppt	10 ppt
PFNA	10 ppt	10 ppt
HFPO-DA (commonly known as GenX Chemicals)	10 ppt	10 ppt
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS	1 (unitless) Hazard Index	1 (unitless) Hazard Index

ppt is parts per trillion

EPA requires implementation of sampling in accordance with the new MCLs within three years of the publication date and implementation of any required treatment within five years.

These limits did not apply for the 2023 calendar year because they had not been published. However, the DoD proactively promulgated policies to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every two years. The DoD policy states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than the 2016 EPA health advisory (HA) level of 70 ppt, water systems must take immediate action to reduce exposure to PFOS or PFAS. For levels less than 70 ppt but above the 4 ppt level (draft at the time of policy publication), DoD committed to planning for implementation of the levels once EPA’s published MCLs take effect.

Has NAS Sigonella tested its water for PFAS in 2023?

Yes. In NOVEMBER 2023 samples were collected from the Marinai Water Treatment Plant.

We are pleased to report that drinking water testing results were below the Method Reporting Limit (MRL) for all 29 PFAS compounds covered by the sampling method, including PFOA and PFOS. This means that PFAS were not detected in your water system. In accordance with DoD policy, the water system will be resampled every two years for your continued protection.

Water Quality Data Table

Table 2 identifies drinking water contaminants and relevant sampling data collected during the 2023 calendar year or the last year the sampling was conducted. NAS Sigonella samples for many more chemicals than are found in this table; only those contaminants detected in the water are presented in the table. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Tables 3 and 4 include common definitions and unit descriptions used in drinking water analysis.

Table 2. Results of Latest Required Drinking Water System Testing

Contaminants (Units)	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range Low-High	Sample Date	Violation	Typical Source
Inorganic Components							
Arsenic (mg/L)	0	0.01	0.00027	0.00003 - 0.00027	2023	NO	Erosion of natural deposits

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Contaminants (Units)	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range Low-High	Sample Date	Violation	Typical Source
Antimony (mg/L)	0.005	0.005	0.00049	0.00005-0.00049	2023	NO	Discharge from petroleum refineries; fire retardants; ceramics; electronics
Barium (mg/L)	2	2	0.023	0.023	2023	NO	Discharge of drilling wastes; erosion of natural deposits
Beryllium (mg/L)	0.004	0.004	0.00001	0.00001	2023	NO	Discharge from metal refineries, coal-burning electrical, and aerospace
Boron (mg/L)	N/A	1	0.56	0.45-0.56	2023	NO	Erosion of natural deposits
Chloride (mg/L)	N/A	250	157	97.5-157	2023	NO	Erosion of natural deposits
Chromium (mg/L)	0.0	0.05	0.0009	0.0009	2023	NO	Erosion of natural deposits
Conductivity (µS/cm)	N/A	2,500	739	401-739	2023	NO	Naturally present in the environment
Copper (mg/L)	1.3	1	0.0045	<0.0002-0.0045	2023	NO	Corrosion of household plumbing systems; Erosion of natural deposits
Dry Residues (mg/L)	N/A	1500	436	362-436	2023	NO	Erosion of natural deposits
Iron	N/A	0.200	0.054	<0.001-0.054	2023	NO	Erosion of natural deposits
Lead (mg/L)	0	0.015	0.0007	0.0001-0.0007	2023	NO	Corrosion of household plumbing systems; erosion of natural deposits
Manganese (mg/L)	N/A	0.05	0.0006	<0.0005-0.0006	2023	NO	Erosion of natural deposits
Nickel (mg/L)	N/A	0.02	0.00054	0.00026-0.00054	2023	NO	Erosion of natural deposits
Nitrate (mg/L)	10	10	<2.3	<2.3	2023	NO	Runoff from fertilizer use; sewage; erosion of natural deposits
Nitrite (mg/L)	1	0.015	<0.01	<0.01	2023	NO	Runoff from fertilizer use; sewage; erosion of natural deposits
pH	N/A	6.5 - 9.5	7.0-8.4	7.0-8.4	2023	NO	Naturally present in the environment
Sodium (mg/L)	N/A	200	78.7	15.0-78.7	2023	NO	Erosion of natural deposits
Sulfate (mg/L)	N/A	250	94.1	87.9-94.1	2023	NO	Erosion of natural deposits
Total Hardness (as CaCO ₃ , mg/L)	N/A	150-500	235	125-235	2023	NO	Erosion of natural deposits
Total Organic Compounds	N/A	-	<1	<1	2023	NO	Urban storm water runoff, and septic systems
Vanadium	N/A	0.140	0.00012	0.00010-0.00012	2023	NO	Erosion of natural deposits

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Contaminants (Units)	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range Low-High	Sample Date	Violation	Typical Source
Zinc	N/A	-	0.0183	0.0116-0.0183	2023	NO	Erosion of natural deposits
Disinfectant and Disinfection By-Product Components							
Chlorine (mg/L)	4	4	1.5	0.4 - 1.5	2023	NO	Water additive used to control microbes
Haloacetic Acids, HAA (mg/L)	0.060	0.060	<0.006	<0.006	2023	NO	Byproduct of drinking water disinfection
Trihalomethanes, TTHM (mg/L)	0.080	0.03	0.0077	0.0077	2023	NO	Byproduct of drinking water disinfection
Microbiological Components							
Total Coliforms		>1 positive	ND	N/A	2023	NO	Naturally present in the environment
Turbidity (NTU)	TT	N/A	<0.2	<0.2	2023	NO	Soil runoff
Contaminants (Units)	AL	Your Water 90th Percentile	Sample Date	Violation	Typical Source		
Lead and Copper Rule (taken at consumer taps)							
Lead (µg/L)	15	0.6	JUN 2023	NO	Corrosion of household plumbing; Erosion of natural deposits		
Lead (µg/L)	15	1.3	NOV 2023	NO	Corrosion of household plumbing; Erosion of natural deposits		
Copper (µg/L)	1300	14.6	JUN 2023	NO	Corrosion of household plumbing; Erosion of natural deposits		
Copper (µg/L)	1300	8.3	NOV 2023	NO	Corrosion of household plumbing; Erosion of natural deposits		

Table 3. Important Drinking Water Definitions

Term	Definition
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MRDL	Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
N/A	Not Applicable

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ND	Not Detected, also below the PQL
PQL	Practical Quantitation Limit, the lowest limit at which the contaminant can be detected reliably.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
Variances and Exemptions	EPA permission not to meet an MCL or a treatment technique under certain conditions.

Table 4. Unit Descriptions

<u>Term</u>	<u>Definition</u>
mg/L	milligrams per liter (mg/L) or parts per million
µg/L	micrograms per liter (µg/L) or parts per billion
ng/L	nanograms per liter (ng/L) or parts per trillion
NTU	Nephelometric Turbidity Units
pCi/L	picocuries per liter (a measure of radioactivity)
µS/cm	microsiemens per centimeter

Monitoring Discrepancies

This section includes Tier 3 notifications in accordance with EPA procedures. Tier 3 notifications do not have an impact on human health but are required by the EPA (See Table 1).

- Pesticide / PCBs: 1,2-dibromo-3-chloropropane (DBCP) and Ethylene dibromide (EDB; 1,2-dibromoethane) were not sampled in the first three quarters of 2023 quarterly monitoring due to challenges in finding local laboratories with Navy validation. Quarterly sampling resumed in the fourth quarter 2023 and will continue until approved for reduced monitoring.
- Annual Disinfection By-Products were measured at levels below the detection limits in November, Quarter 4 2023. However, the sample was not collected in the warmest months of the year as required by the FGS. Quarterly monitoring will continue in 2024 until approved for reduced monitoring.
- Semi-annual Lead and Copper Rule monitoring of Marinai Housing Area consumer taps was performed in JUN and NOV 2023. However, notice of results were not sent out within 30 days as specified by EPA to respective housing units sampled. 2023 sampling results are included along with 2024 sampling result notices, and a summary of 2023 Lead and Copper results is included in Table 2 above.

Points of Contact

If you have any questions regarding this report or about the drinking water processes, please contact the NAS Sigonella Installation Water Quality Board via the Installation Environmental Program Director by calling 095-86-2725.