NAVAL SUPPORT ACTIVITY BAHRAIN (NSA I) 2025 DRINKING WATER CONSUMER CONFIDENCE REPORT

Is NSA I water safe to drink?

Naval Support Activity I (NSA I) Bahrain's drinking water system provides water that is safe and fit for human consumption (FFHC), NSA I water is safe for drinking, cooking, bathing, showering, dishwashing, and maintaining oral hygiene, as determined by the Installation Commanding Officer's Record of Decision and as routinely confirmed by laboratory sampling results (received monthly, quarterly, and semi-annually). We are proud to support the Navy's commitment to provide safe and reliable drinking water to service members and their families. This annual Consumer Confidence Report includes general and mandatory information to educate everyone about installation water source, treatment processes, standard requirements, and other details to help assure you that installation water is safe to drink.

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

Where does NSA I water come from, and how is it treated?

NSA I Bahrain purchases treated water from the Kingdom of Bahrain Electricity & Water Authority (EWA). The city water comes from the ocean and is treated at the Al Hidd Water Plant, a multi-stage flash distillation plant. Water received from the City of Manama Al Hidd Plant is further treated using Reverse Osmosis (RO) and approved process chemicals prior to purification. Water disinfection is achieved through chlorination. Finished water is stored in secured and controlled access tanks at the facility for direct distribution throughout the NSA I water distribution network.

Why are there contaminants in drinking water?

Drinking water, including bottled water, may contain small amounts of contaminants. NSA I's drinking water source is distilled; however, distillation is not 100% effective in removing all contaminants because: 1) Droplets of un-vaporized liquid can be carried with the steam prior to distillation, and 2) Some contaminants have boiling points similar to that of water and will be vaporized and condensed with the distilled water. To ensure tap water is safe to drink, regulations limit the amount of certain contaminants in water provided by public water systems.

Consequently, some contaminants may be present in drinking water, such as:

- **Microbial contaminants**, such as viruses and bacteria, that may come from wildlife, sewage treatment plants, septic systems, and livestock.
- **Disinfection by-products,** such as chlorine and chloramine used to remove pathogens from the water.

- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **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
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

The presence of contaminants does not necessarily indicate that water poses a health risk. To ensure that tap water is safe to drink, regulations limit the amount of certain contaminants in water provided by public water systems. Regular sampling is conducted to detect the level of contaminants in the water system. If the results exceed regulatory limits, you will be notified via Email and a Public Notification. You can learn more about contaminants and any potential health effects by visiting the EPA's Drinking Water Standards website:
http://permanent.access.gpo.gov/lps21800/www.epa.gov/safewater/standards.html

Source water assessment

In September 2025, the Water Quality Oversight Council conducted a comprehensive sanitary survey of the NSA I drinking water system. This survey, conducted every three years, provides an evaluation of the adequacy of the drinking water source, facilities, equipment, operation, and maintenance for producing and distributing safe drinking water. Public Works Department (PWD) Bahrain is constantly improving the drinking water system based on the recommendations contained in the report.

Special precautions

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as individuals undergoing chemotherapy, organ transplant recipients, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These individuals 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 website: https://www.epa.gov/sdwa

Additional Information for Iron

Iron is regulated as a secondary contaminant by USEPA, because it may cause discolored water or aesthetic effects in drinking water, such as unpleasant odor or taste. Exceeding a secondary standard may cause people to stop using the water even though the water is actually safe to drink. Secondary standards are set to provide public water systems guidance on removing these chemicals to levels that are below what most people will find noticeable. Activities taken to reduce the iron concentration in NSA I drinking water include flushing the distribution system to remove settled particulates and removing iron fittings. Information on iron in drinking water and the steps you can take to minimize exposure is available from the USEPA Safe Drinking Water website: https://www.epa.gov/sdwa

Additional Information for Lead

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. PWD Bahrain is responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components in the water system. NSA I shares the responsibility for protecting the installation from the lead in the distribution plumbing system. Consumers can take steps to reduce lead risk. Before drinking tap water, flush the pipes for several minutes by running the tap, taking a shower, doing laundry or a load of dishes. Consumers can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. Information on lead in drinking water and steps consumers can take to minimize exposure are available from the EPA Safe Drinking Water website: http://www.epa.gov/safewater/lead

Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

Lead service line inventory was completed in APR 2024. Table 1 below shows the results of lead samples taken in 2025. You can obtain a copy of the lead service line inventory or individual tap results by contacting the Point of Contact at the end of this report.

Table 1

Contaminant	EPA's Action Level	EPA's MCLG (Goal)	Your water	Range of Results	Number of samples above AL	Typical Source
Lead	15ppb	0ppb	N/D	<5	None	Lead service lines, corrosion of household plumbing including fittings and fixtures, erosion of natural deposits
Copper	1.3ppm	1.3ppm	0.105ppm	(0.005-0.110)	None	Corrosion of household plumbing systems; erosion of natural deposits

Water Quality Data Table – NSA I

Table 2 below lists the drinking water contaminants and relevant sampling data collected during the 2025 calendar year (unless otherwise noted). The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. All contaminants detected in NSA I drinking water are below the MCLs allowed by FGS, DoD, and EPA applicable requirements.

Table 2

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Units	Sample Date	Violation	Typical Source
Inorganic Components							
Sodium	N/A	N/A	6.3	mg/L	26-APR-2025	NO	Erosion of natural deposits; Leaching

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Units	Sample Date	Violation	Typical Source
Inorganic Components							
Calcium	N/A	N/A	2.8	mg/L	25-JAN-2025	NO	Erosion of natural deposits; Leaching
Phosphate	N/A	N/A	0.68	mg/L	25-OCT-2025	NO	Agriculture runoff and municipal and wastewater discharge
Sulfates	N/A	250	0.13	mg/L	25-OCT-2025	NO	Natural geological formation and human made activities
Conductivity	N/A	N/A	45	mS/cm	25-OCT-2025	NO	Dissolved minerals and salts
Total Alkalinity as CaCO3	N/A	N/A	18	mg/L	25-OCT-2025	NO	Natural weathering and dissolution of carbonate minerals
Total Dissolved Solids	N/A	500	24	mg/L	25-OCT-2025	NO	Natural geological processes and human activities
Total Hardness as CaCO3	N/A	N/A	7	mg/L	25-JAN-2025	NO	Dissolved calcium and magnesium ions
Turbidity	N/A	0.5	0.2	NTU	25-OCT-2025	NO	Soil runoff
Chlorides	N/A	250	2.5	mg/L	28-JUL-2025	NO	Runoff/ leaching from natural deposits
Residual Chlorine (Cl2)	4	4	1.05	mg/L	25-JAN-2025	NO	Water additive use to control microbes
Zinc	N/A	5	0.26	mg/L	28-JUL-2025	NO	Erosion of natural deposits; Leaching
Sulfate	250	N/A	0.2	mg/L	25-APR-2025	NO	Runoff/ leaching from natural deposits
pH@ 25°C	7.8	6.5-8.5	7.8	-	28-JUL-2025	NO	Runoff/ leaching from natural deposits
Benzene	zero	0.005	0.0005	mg/L	25-OCT-2025	NO	Discharge from factories; leaching from gas storage tanks and landfills
Toluene	0.00005	1.0	0.0007	mg/L	25-OCT-2025	NO	Discharge from petroleum factories; discharge from chemical factories
Cis-1,3-dichloropropene	0.00005	N/A	0.0007	mg/L	25-OCT-2025	NO	Discharge from petroleum factories; discharge from chemical factories

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Units	Sample Date	Violation	Typical Source
Inorganic Components							
Ethylbenzene	0.7	N/A	0.21	mg/L	28-JUL-2025	NO	Discharge from petroleum factories; discharge from chemical factories
Note: All other Inorganic Compounds, Organic Compounds, Pesticides, PCBs, Radionuclides and Total Coliforms were not detected.							

Table 3

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Level Detected (Average)	Range of Detections	Violation	Typical Source
Disinfectant Residual and Disinfectant By-Products						
Chlorine (ppm)	4.0	4.0	0.96	0.9-1.05	NO	Drinking water disinfectant added for treatment
Total Trihalomethanes (TTHM; ppb)	N/A	80	18	10-26	NO	By-products of drinking water disinfectant
Halo acetic Acids (HAAs; ppb)	N/A	60	29.5	19-40	NO	By-products of drinking water disinfectant

Table 4

Unit Descriptions	
Term	**Definition**
mg/L	ppm: parts per million, or milligrams per liter (mg/L)
N/A	Not Applicable
N/D	Not detected (e.g., below PQL) PQL= Practical Quantitation Limit of the best method
ppb	Parts per billion
CFU	Colony Forming Unit
NTU	Nephelometric Turbidity Unit

Table 5

Important Drinking Water Definitions	
Term	**Definition**
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
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
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
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
MRDL	Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbial contaminants
Action Level (AL)	The concentration of a harmful substance or contaminant that, if exceeded, triggers treatment or other requirements a water system must follow

Violation(s) or Exceedance(s)/ Missed Sampling Events

In 3rd and 4th quarter 2025, we failed to sample for Herbicide (2,4,5-TP Silvex), 2,4-D, Dalapon, Dinoseb and Picloram on time. These sampling events were missed in due to commercial shipment delays leading to holding time and temperature exceedances. There were no violations or MCL exceedances during 2025 for any test parameters at NSA I.

Points of Contact

For questions regarding this report or drinking water processes, please contact:

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A copy of this CCR and previous year reports are available at:
https://cnreurafcent.cnic.navy.mil/Operations-and-Management/Water-Quality-Information/