



ISA AIR BASE, BAHRAIN 2025 DRINKING WATER CONSUMER CONFIDENCE REPORT



Is our water safe to drink?

Isa Air Base (IAB) Bahrain's drinking water system provides water that is safe and fit for human consumption (FFHC). IAB 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 assure consumers that installation water is safe to drink.

IAB manages the Navy overseas drinking water system with five locations: Logistics Support Area (LSA), Flight Line, Fuel Farm, and Patriot (PAT) Sites V and VI. The IAB Reverse Osmosis Water Purification Unit (ROWPU) product water is in conformance with all water quality Maximum Contaminant Level (MCLs), falls under a strict monitoring program through the Bahrain Environmental Program, and meets all requirements for designation as FFHC.

- a. Bottled water is designated as FFHC for all consumptive uses.
- b. ROWPU product water is designated as FFHC for all consumptive uses.
- c. Trucked water from the ROWPU serving outlying locations is designated as FFHC for all consumptive uses; however, until a means of sourcing ROWPU water directly to the consumer is attainable, bottled water shall be used for drinking purposes.
- d. ROWPU treated product water distributed within the LSA water distribution system is designated as FFHC for all consumptive uses. However, until a means of sourcing ROWPU product water directly to the consumer is attainable, bottled water shall be used for drinking purposes.

Personnel at NAVCENT DET IAB and outlying areas have been notified of the acceptable uses for each water source listed above.

IAB 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 IAB drinking water is included in this report, along with a comparison to the maximum levels considered safe for the general public by these standards.

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

IAB 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 Dur Power and Water Company, a multi-stage flash distillation plant. Water received from the Al Dur Power and Water Company is transferred through pipes from the Royal Bahraini Air Force facility. The received water is stored in two underground tanks and six above-ground raw water tanks, which is further treated at the IAB facility. Two Reverse Osmosis (RO) plants are operated on alternate days using single-stage RO and approved process chemicals prior to purification. Water disinfection is achieved through chlorination and UV radiation. Finished water is stored in eight

secured and controlled-access tanks at the facility for direct distribution to various outlets throughout the IAB water distribution network and is transferred by trucks to service outlying locations.

Why are there contaminants in drinking water?

Drinking water, including bottled water, may contain small amounts of contaminants. IAB'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 number 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 number 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 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: <https://www.epa.gov/sdwa/how-epa-regulates-drinking-water-contaminants#standards>

Source water assessment

In September 2025, the Water Quality Oversight Council conducted a comprehensive Sanitary Survey of the IAB 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 people, such as individuals with 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 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 IAB 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 IAB is responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components in your water system. You share the responsibility for protecting yourself and your team from the lead in your 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: <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>

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 Result	Number of samples above AL	Typical Source
Lead	10ppb	0ppb	N/D	<5	None	Corrosion of household plumbing
Copper	1.3ppm	1.3ppm	0.015ppm	(0.015-0.030)	None	Corrosion of household plumbing

Water Quality Data Table

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 IAB's 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	15	mg/L	28-JUL-2025	NO	Erosion of natural deposits; Leaching
Boron	N/A	N/A	1	mg/L	26-OCT-2025	NO	Erosion of natural deposits; Leaching
Calcium	N/A	N/A	37	mg/L	26-OCT-2025	NO	Erosion of natural deposits; Leaching
Magnesium	N/A	N/A	0.84	mg/L	26-OCT-2025	NO	Erosion of natural deposits; Leaching
Sulfate	N/A	250	0.26	mg/L	26-JAN-2025	NO	Runoff/leaching from natural deposits
Potassium	N/A	N/A	2.3	mg/L	26-OCT-2025	NO	Erosion of natural deposits; Leaching
Salinity	N/A	N/A	0.21	mg/L	26-OCT-2025	NO	Erosion of natural deposits; Leaching
Conductivity	N/A	N/A	148	mS/cm	26-JAN-2025	NO	Dissolved minerals and salts
Total Alkalinity as CaCO3	N/A	N/A	37	mg/L	26-JAN-2025	NO	Natural weathering and dissolution of carbonate minerals
Total Dissolved Solids	N/A	500	80	mg/L	26-JAN-2025	NO	Natural geological processes and human activities
Total Hardness as CaCO3	N/A	N/A	35	mg/L	26-JAN-2025	NO	Dissolved calcium and magnesium ions.
Turbidity	N/A	0.5	0.1	NTU	26-OCT-2025	NO	Soil runoff
Residual Chlorine (Cl2)	4	4	0.59	mg/L	26-OCT-2025	NO	Water additive use to control microbes
Zinc	N/A	5	0.1	mg/L	26-JAN-2025	NO	Erosion of natural deposits; Leaching
pH@ 25°C	N/A	6.5-8.5	7.8	-	26-OCT-2025	NO	Runoff/leaching from natural deposits
Chlorides	N/A	N/A	24	mg/L	26-JAN-2025	NO	Discharge from factories; leaching from gas storage tanks and landfills
Toluene	0.00005	1.0	0.0005	mg/L	26-OCT-2025	NO	Discharge from petroleum factories; discharge from chemical factories
Cis-1,3-dichloropropene	0.00005	N/A	0.0006	mg/L	26-OCT-2025	NO	Discharge from petroleum factories; discharge from chemical factories
O-Xylene	0.7	N/A	0.0001	mg/L	26-OCT-2025	NO	Discharge from petroleum factories; discharge from chemical factories

Note: All other Inorganic Compounds, Organic Compounds, Pesticides, PCBs, Total Trihalomethanes, Radionuclides, Lead, 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	0.55	(0.5-0.6)	NO	Drinking water disinfectant added for treatment
Total Trihalomethanes (TTHM; ppb)	N/A	80	28	14-40	NO	By-products of drinking water disinfectant
Halo acetic Acids (HAAs; ppb)	N/A	60	29	16-40	NO	By-products of drinking water disinfectant

Table 4

Unit Descriptions	
Term	Definition
mg/L	milligrams per liter, or ppm: parts per million
N/A	Not Applicable
NTU	Nephelometric Turbidity Unit
N/D	Not Detected (<i>e.g.</i> , below PQL) PQL= Practical Quantitation Limit of the best method

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 disinfectant is 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 Herbicide (2,4,5-TP Silvex), 2,4-D, Dalapon, Dinoseb and Picloram on time. These sampling events were missed 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 IAB.

Points of Contact

For questions regarding or drinking water processes, please contact:

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A copy of this CCR and previous year reports are available at:

<https://cnreurfcent.cnic.navy.mil/Operations-and-Management/Water-Quality-Information/>