

PFAS Background

The Marine Corps is supporting the Department of Defense (DoD) effort to address per- and polyfluoroalkyl substances (PFAS), an emerging national issue. The Marine Corps is committed to providing safe drinking water at our installations, identifying and addressing sites of past PFAS use, and preventing future releases.

Per- and polyfluoroalkyl substances (PFAS) are a class of unregulated chemicals widely used in many industrial and consumer products because they increase resistance to heat, stains, water, and grease. They have been found in drinking water and groundwater supplies across the country. Evolving scientific knowledge has identified PFAS as “emerging chemicals of environmental concern” due to their widespread use, potential toxicity, and long life in the environment. PFAS sources include aqueous film forming foam (AFFF), used to rapidly extinguish dangerous fuel fires. Major users of AFFF include the military, commercial airports, the oil and gas industry, and local fire departments. Older formulations of AFFF generally had higher PFAS levels, but are being phased out of production and use.

A Lifetime Health Advisory (HA) is a recommended health-protective maximum concentration level based upon a lifetime exposure to a chemical or substance. In May 2016, the Environmental Protection Agency established an HA for two PFAS chemicals, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) of 70 parts per trillion (ppt) in drinking water, individually or combined.

PFAS Point of Contact and References

Marine Corps Installations National Capital Region-Marine Corps Base Quantico (MCINCR-MCBQ) has used and stored military specification AFFF in order to extinguish aircraft and fuel-based fires. MCINCR-MCBQ has had its drinking water tested to EPA recommended human health and safety levels with no detectable traces of PFOA and/or PFAS. Also, all C8-AFFF has been removed from the base.

Installation POC is the Natural Resources and Environmental Affairs Office at (703) 432-0521.

Additional Information

- **Installation** <https://www.quantico.marines.mil/Offices-Staff/G-F-Installation-and-Environment/Natural-Resources-Environmental-Affairs/>
- **USMC** <https://www.mccom.marines.mil>
- **EPA** <https://www.epa.gov/pfas>
<https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>
- **Toxicity** <https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=237>
- **DoD** <https://www.defense.gov/Explore/Spotlight/pfas/>
- **DON** <https://www.secnav.navy.mil/eie/Pages/PFC-PFAS.aspx>

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Per- and Polyfluoroalkyl Substances (PFAS) at Marine Corps Installations

APRIL 2020



PFAS Exposure

Numerous household items contain PFAS. Low levels of PFAS can be detected in most environmental media, including water, food and inside people's homes. Ingestion (food and water) is the highest source of exposure. Scientists are still studying the potential health effects of PFAS, but studies have shown that PFAS can affect people in different ways. All individuals should talk to their healthcare provider if they have any concerns about PFAS exposure and possible health effects.

Marine Corps PFAS Efforts to Reduce PFAS Exposure

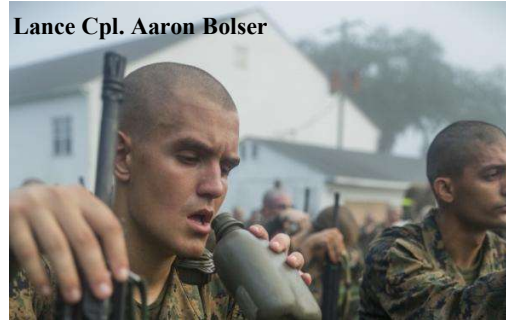
- Provide safe drinking water.
- Address potential past releases.
- Prevent future releases.

Safe Drinking Water

Our installation drinking water is safe.

- The Marine Corps has tested all drinking water systems on its installations throughout the world. All drinking water systems are currently below the 70 ppt HA.
- For those living off-base, contact your local water provider to ensure testing has been accomplished. All public drinking water distribution systems exceeding 10,000 people should be reporting PFOA and PFOS content in their annual drinking water consumer confidence reports.

MARCH 2020



Addressing Potential Past Releases

The Marine Corps is proactively identifying and addressing potential historic AFFF release sites.

Although PFAS are not currently listed hazardous substance, they are considered "emerging chemicals of environmental concern." The Installation Restoration (IR) (Cleanup) Program at DoD installations addresses past releases of hazardous substances as required by federal law. The Marine Corps, through the Naval Facilities Engineering Command, is identifying and addressing potential sites where AFFF has been used in the past and communicating these activities to neighboring communities.



Photo by LCpl Janessa Pon

Preventing Future Releases

The Marine Corps is minimizing future AFFF releases.

- **AFFF Use and Control.** Marine Corps policy is to use AFFF for emergency responses only. After AFFF is used, it is required to be contained, recovered, and disposed safely.
- **AFFF Replacement.** In September 2017, the military specification (MILSPEC) for AFFF was updated to include a maximum concentration of PFOS and PFOA of 800 parts per billion each, the current level of detection of the chemicals in AFFF product. The Marine Corps is in the process of replacing older containerized and installed AFFF in vehicles, equipment, and hangars with newer AFFF that has lower PFAS levels that meet the current MILSPEC. Waste AFFF will be disposed of through incineration or other protective methods. For detailed information on current AFFF management, see MCBUL 11000 dated 21Feb2020.
- **AFFF Alternatives.** The DoD is evaluating fluorine-free alternatives for AFFF to determine if foams that do not contain PFAS can meet the MILSPEC performance requirements to extinguish large aviation fuel fires within specified timeframes and can be used in existing firefighting systems. Testing results are expected in 2021.

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