

## PFAS IN NEW MEXICO

Industrial types and levels of PFAS have been found in New Mexico's groundwater in communities located near Cannon and Holloman Air Force bases, and the Santa Fe National Guard Aviation Support Facility.<sup>12</sup>

Subsequently, milk at dairies located near NM Department of Defense (DoD) sites were found to have PFAS levels above the maximum contaminant levels (MCL) and milk that tested above the limit was pulled from shelves.

In February of 2019, the Environmental Protection Agency (EPA) announced a PFAS Action Plan which included re-evaluating National PFAS MCL levels.

Regulatory action has been made by the NMED, conjointly with the NM Office of the Attorney General, against the DoD. Additionally, NMED, in partnership with the US Geological Survey, and the NM Department of Health, engage in PFAS testing across the state.<sup>13</sup>

According to the EPA: "There may still be some foam containing PFOS held or in use... around the country, including at airports, bulk fuel terminals and other locations which handle large quantities of liquid hydrocarbon fuels."<sup>4</sup>

## HEALTH EFFECTS

- Lowered chance of pregnancy
- Interference with hormone levels (hormone disruption)
- Increased cholesterol levels
- Increased risk of cancer
- Immune effects<sup>11</sup>

According to the Agency for Toxic Substances and Disease Registry (ATSDR), PFAS "are present at low levels in some food products [organic and otherwise] and in the environment (air, water, soil, etc.) so you probably cannot prevent PFAS exposure altogether."<sup>4</sup>

## RESOURCES & REFERENCES

### ELECTRONIC

**Agency for Toxic Substances and Disease Registry (ATSDR)**  
•<sup>5</sup> [atsdr.cdc.gov/](https://atsdr.cdc.gov/)

**American Chemical Society (ACS)**  
•<sup>10</sup> [pubs.acs.org/doi/full/10.1021/acs.estlett.6b00260](https://pubs.acs.org/doi/full/10.1021/acs.estlett.6b00260)

**Center for Disease Control (CDC)**  
• [cdc.gov](https://cdc.gov)

**Environmental Protection Agency (EPA)**  
•<sup>4</sup> [epa.gov](https://epa.gov)

**Environmental Working Group (EWG)**  
• [ewg.org/pfasfound](https://ewg.org/pfasfound)

**Interstate Technology Regulatory Council (ITRC)**  
•<sup>1</sup> [pfas-1.itrcweb.org/fact-sheets/](https://pfas-1.itrcweb.org/fact-sheets/)

**New Mexico Environment Department (NMED)**  
•<sup>11, 12, 13</sup> [env.nm.gov](https://env.nm.gov)

**Per- and polyfluoroalkyl substances in source and treated drinking waters of the United States**  
•<sup>2</sup> [doi.org/10.1016/j.scitotenv.2018.10.245](https://doi.org/10.1016/j.scitotenv.2018.10.245)

**Perfluorochemicals: Potential sources of and migration from food packaging**  
•<sup>9</sup> [doi.org/10.1080/02652030500183474](https://doi.org/10.1080/02652030500183474)

**Polyfluoroalkyl Chemicals in the U.S. Population**  
•<sup>3</sup> [doi.org/10.1289/ehp.10598](https://doi.org/10.1289/ehp.10598)

**Toxic Free Future**  
•<sup>8</sup> [toxicfreefuture.org/new-study-finds-pfas-chemicals-in-takeout-food-packaging/](https://toxicfreefuture.org/new-study-finds-pfas-chemicals-in-takeout-food-packaging/)

**United States Fire Administration (USFA)**  
•<sup>6</sup> [usfa.fema.gov](https://usfa.fema.gov)

**United States Forest Service (USFS)**  
•<sup>7</sup> [fs.usda.gov/rm/fire/wfcs/wildland-fire-chemicals.php](https://fs.usda.gov/rm/fire/wfcs/wildland-fire-chemicals.php)

**World Health Organization (WHO)**  
• [who.int](https://who.int)

### PHYSICAL

**New Mexico Department of Health (NMDOH)**  
Harold L. Runnels Bldg.  
1190 St. Francis Dr.  
Santa Fe, NM

**New Mexico Environment Department (NMED)**  
Harold L. Runnels Bldg.  
1190 St. Francis Dr.  
Santa Fe, NM

# S A F E

## The Forever Chemicals

## Facts & Resources

AMIGOS  
BRAVOS

*Because Water Matters*

[amigosbravos.org](https://amigosbravos.org)  
575.758.3874

Amigos Bravos is a statewide water conservation organization guided by social justice principles and dedicated to preserving and restoring the ecological and cultural integrity of New Mexico's waters and the communities that depend on it. While rooted in science and the law, our work is inspired by the values and traditional knowledge of New Mexico's diverse Hispanic and Native American land-based populations, with whom we collaborate.

Developed for Amigos Bravos by M. Forte & E. Ferdinand | 2020



## WHAT ARE PFAS?

Per- and poly- fluoroalkyl substances, or PFAS, are a family comprised of thousands of organic, man-made chemicals.

PFAS are known as forever chemicals as they do not easily break down in the environment due to their strong carbon-fluorine bond.

Additionally, these chemicals may remain in the human body for years as PFAS cannot be metabolized, they may bio-accumulate (i.e. they accumulate and stay in the body) by easily binding to proteins, and can have negative impacts on health.<sup>1</sup>

Due to their chemical structure and physical properties such as oil and water-repelling capabilities, PFAS are manufactured extensively and used worldwide in industrial applications, and common household products and appliances.

PFAS have been found in:

- air | • drinking water | • humans
- soil | • irrigation water | • rivers and lakes
- land & water dwelling animals
- nearly all agricultural products—organic and otherwise—including plants and animals<sup>2</sup>

Due to the persistent and ubiquitous nature of PFAS, approximately 98% of the population in the United States carries and/or has been exposed to some type of PFAS.<sup>3</sup>

The EPA's PFAS health advisories (HAs) "indicate the level of drinking water contamination below which adverse health effects are not expected to occur ... [and] provide technical information that federal, state, and local officials can use to inform the development of monitoring plans, investments in treatment solutions, and future policies to protect the public from PFAS exposure."<sup>4</sup>

## EXPOSURE & PROTECTION

### HOW YOU CAN BE EXPOSED

- drinking contaminated water
- eating food that had been harvested by PFAS contaminated soil or water
- accidentally swallowing contaminated dust or soil
- using consumer products that contain PFAS<sup>5</sup>

### PFAS CAN BE FOUND IN...

- agricultural products (e.g. animals, fish, food, liquids, natural fibers, organic products, & plants)
- cleaning agents & fabric softeners
- clothing, carpets, & manufactured textiles
- compostable bowls, cups, & plates (certain brands)
- fabric protection chemicals
- adhesives
- hydraulic fluids
- paints & varnishes
- pesticides & herbicides
- ski & snowboard waxes
- medical products (e.g. bandages, plastic tubing)
- paper based coatings (e.g. microwave popcorn bags)
- personal care products (e.g. cosmetics, dental floss, hair conditioners, shampoo, sunscreen, toothpaste)
- waterproof & stain-resistant fabrics
- dyes & inks
- non-stick cookware
- paper & packaging
- polishes & waxes
- sporting equipment

### REDUCE EXPOSURE

- be aware of reported areas of contamination<sup>5</sup>
- read consumer and product labels and actively avoid those that include PFAS
- use an alternative or treated water source for any activity in which you might swallow water

### PFAS ARE NOT FOUND IN...

- some fire extinguishers for office or home use<sup>6</sup>
- long-term fire retardant: water Enhancing, or Class-A fire fighting foams used by the US Forest Service for wildland fires.<sup>7</sup>
- some disposable bowls, cups & plates made of (uncontaminated or uncoated): bamboo, bio-wax coated, clay, polylactic acid (PLA, made from corn)<sup>8</sup>

## MANUFACTURING HISTORY AND USE

PFAS chemicals have been produced and utilized in manufacturing since the mid-20th century for a variety of applications.

PFAS chemicals, like PTFE, were used in the 1950s to create non-stick coatings. PFOS, were used in the 1950s and 1960s in the creation of stain and water resistant products.<sup>1</sup>

In the 2000's, the U.S. reduced commercial production of PFOS, PFOA, PFNA, and other select chemicals from this group, however, fluorotelomers, which are categorized in the PFAS group, remains the predominant form of firefighting foam to fight liquid hydrocarbon military base fire sites<sup>6</sup>, and in grease resistant food packaging.<sup>9</sup>

The data and long term effects of PFAS on human or environmental health is still widely unknown as PFAS were not documented in environmental samples until the early 2000's.<sup>2</sup>

The EPA is required to make amendments to drinking water standards every five years.

## REGULATION FOR PFAS IS GROWING

This process includes developing a contaminant candidate list of unregulated chemicals that are known to and can occur in public water systems, as well as specifically including the MCL's of these chemicals.<sup>10</sup>

Several States are taking initiative and developing more stringent PFAS MCL standards as more information on impacts to health and the environment comes available.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund)

- contamination could be responded to depending on extent of release.

Safe Drinking Water Act (SDWA)

- allows EPA to set an MCL for certain chemicals found in drinking water.

Toxic Substances Control Act (TSCA)

- requires EPA to report, record, and test chemicals or chemical mixtures that may pose threats to human health.<sup>11</sup>