

## What you need to know about PFAS

News that Art Schaap of Clovis, New Mexico is selling his dairy because his wells have been contaminated by a group of chemicals routinely used in Air Force training spread like wildfire throughout the dairy community. The chemicals of issue are called Per- and polyfluoroalkyl substances (PFAS). Here's what we think you need to know about them.

### WHAT ARE PFAS?

Per- and polyfluoroalkyl substances (PFAS), also called PFCs, are a group of synthetic chemicals that have been used around the world since the 1940s.

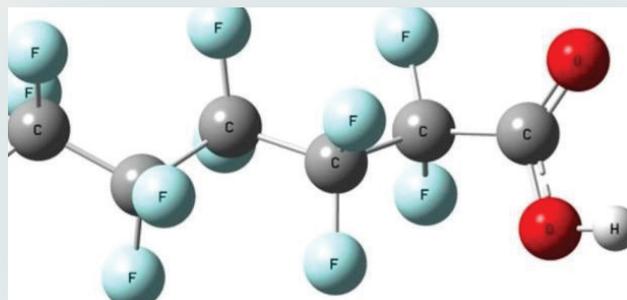


There are many different types of PFAS, such as perfluorocarboxylic acids (e.g., PFOA, sometimes called C8, and PFNA) and perfluorosulfonates (e.g., PFOS and PFHxS). PFAS may be used to keep food from sticking to cookware, to make fabrics and carpets stain-resistant or waterproof, and

to make some food packaging resistant to grease absorption. They are also used in some firefighting materials.

### ARE THEY DANGEROUS?

While they have been in use for decades, two of the chemicals PFOS and PFOA were recently listed as a contaminant of emerging concern by the EPA. Studies are inconclusive and inconsistent, but there is evidence that exposure to PFAS can potentially lead to adverse health outcomes in humans, according to the Centers for Disease Control. If humans or animals ingest PFAS (by eating or



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drinking food or water, or bathing in hot water that contains PFAS), the PFAS are absorbed and can accumulate in the body. PFAS stay in the human body for long periods of time. As a result, as people get exposed to PFAS from different sources over time, the level of PFAS in their bodies may increase to the point where they suffer from adverse health effects, according to the EPA.

Studies indicate that PFOA and PFOS can contribute to reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animal studies. The most consistent findings from human epidemiology studies are increased cholesterol levels among exposed populations.

### CAN PFAS BE FOUND IN MILK?

Yes. If a cow consumes high levels of PFAS in water, there is the possibility for residue to be found in the milk. This is why Schaap is no longer able to sell the milk per state regulation. However, an Italian study published in the Journal of Dairy Science found the biological process of producing milk reduces the quantities of PFAS. So, for example, the amount of PFAS found in the water a cow consumes is much higher than the level of PFAS found in her milk.

### HOW MUCH IS TOO MUCH?

The EPA has published a Lifetime Health Advisory (LTHA) recommending that the concentration of PFOA and PFOS in drinking water, either individually or combined, should not be greater than 70 parts per trillion. The seven wells of Schaap's tested positive for PFOA and PFOS at 20-300 times that level.