Ohio Department of Health

Bureau of Environmental Health and Radiation Protection

"Protect and improve the health of all Ohioans by preventing disease, promoting good health and assuring access to quality care."

C-8 Quick Facts

Questions and Answers

Q. I have seen C-8's ammonium salt, ammonium perfluorooctanoic acid (APFO) addressed in the literature. Are PFOA/C-8 and APFO the same thing?

A. Actually, APFO = C-8 and PFOA = C-8 acid. The term "C-8" is often used interchangeably between the two compounds. APFO is used in the manufacturing process for polytetrafluoroethylene, including some Teflon® brand products. APFO readily disassociates into PFOA in the human body and environment. To simplify, we use C-8 throughout our documents.

Q. What is known and not known about the toxicology of the chemical perfluorooctanoic acid (C-8)?

A. Currently there are significant uncertainties regarding the toxicology and human health
effects of C-8. Several concurrent activities are underway, as described in the 2006 C-8 Physician Reference document, to help address some of these uncertainties and data gaps.*

Q. Are there any human health conditions related to C-8 levels in the blood?

A. Federal and state public health officials do not know what human health conditions, if any, are related to C-8 blood levels and perhaps will not know for some time. There are major unresolved human health concerns including potential carcinogenicity of C-8 and the association of the chemical with developmental issues.

Q. Are there any recommended changes in patient care due to the presence of C-8 in their blood?

A. In the interim, there are no recommended changes in patient care due to the presence of C-8 in their blood.

Q. Are there any preventative care measures I can recommend for my patients?

A. A particular precautionary risk mitigation measure would be to avoid consuming a C-8 contaminated public water supply or private well water in known areas of contamination.

Q. How should I manage a patient with a "high" C-8 blood level in the long-term?

A. Because there are no human health data currently available that link specific C-8 levels
in blood with human health problems and/or the likelihood of the development of disease in the future, no specific patient management protocols for those with high C-8 blood level results are recommended at this time.

Q. Are there specific diagnostic tests I should order annually/semiannually to be more alert to certain medical issues that might arise?

A. No specific diagnostic tests are recommended at this time for patients with C-8 exposures. DuPont's studies, which are ongoing, have found elevated levels of total cholesterol and triglycerides among workers

exposed to high levels of C-8, but no indication that C-8 was the cause of these increased serum cholesterol and triglycerides.

Q. Do exposures to C-8 cause cancer?

A. We do not know if exposures to C-8 cause cancer in humans. The majority of the U.S. EPA Science Advisory Board recommended that C-8 be designated as "likely to be carcinogenic in humans." This is based on the EPA classification of carcinogenic chemicals that are carcinogenic in more than one species, sex, strain, or exposure route, with or without evidence of carcinogenicity in humans. The Board recommended that the Agency conduct risk assessments on all of the C-8-related tumor types found in mice and rats.

Q. Should caregivers use water contaminated with C-8 to prepare infant formula or food?

A. The Agency for Toxic Substances and Disease Registry (ATSDR) is currently writing a public health consultation document to address the above contaminated water and infant formula/food question in further detail. Until the ATSDR's public health consultation is finalized, the Ohio Department of Health proposes a preventative approach, suggesting caregivers try to reduce their infant's exposure to C-8 contaminated water when preparing infant formula and food. To reduce exposure, both infant formula and food should be made with an alternative water source such as bottled water or the public-supplied water once treatment systems are installed and operating. Note: Public water supplies are fluorinated, if bottled water is used for making baby formula, caregivers should consult their pediatrician about supplemental dietary fluoride.

Q. Should mothers that live in the areas of C-8 groundwater contamination breastfeed their infants?

A. Preliminary research indicates that PFCs (perfluorochemicals) may not be as prevalent in human milk as they are in serum. More than two decades of research have established that breast milk is perfectly suited to nourish infants and protect them from illness. In the presence of the uncertainty about the PFCs and breastmilk, and the very well established benefits of breastfeeding, the Ohio Department of Health recommends that potentially C-8 exposed mothers continue to breastfeed their children. ATSDR is currently writing a public health consultation that considers the above breast milk and nursing question.

Q. How should I advise patients who express concern about using Teflon® and other non-stick cookware?

A. Teflon® and other trademarked products are not C-8. C-8 is used during the application of non-stick coatings to cookware and other non-stick, non-stain coated products. At the present time, EPA does not believe there is any reason for consumers to stop using any consumer or industrial related products that contain C-8.

Q. Where can I get more information about C8 and health effects?

A. ODH: For Ohio-specific public health questions, contact:
Ohio Department of Health
Bureau of Environmental Health and Radiation Protection
Radiological Health and Safety Section
246 N. High Street
Columbus, Ohio 43215
Phone: (614) 644-2727

A. U.S. EPA: For information about U.S. EPA activities concerning PFOA, visit http://www.epa.gov/oppt/pfoa/

A. ATSDR: Agency for Toxic Substances and Disease Registry

This fact sheet was developed in cooperation with the Agency for Toxic Substances and Disease Registry

2013 UPDATE: The C-8 Quick Facts Questions & Answers document was created in 2012 for physicians and other healthcare providers. Since the creation of this document, several activities have taken place as a result of the C8 Health Project class action lawsuit settlement. For more information on the new developments, visit: http://www.odh.ohio.gov/odhprograms/eh/hlth_as/FactSheets.aspx and click on the C8 Fact Sheet and C8 Science Panel Probable Links documents.

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