



Understanding the Health Risk of PFAS in Drinking Water

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Per- and polyfluoroalkyl substances (PFAS)
are a family of man-made chemicals.

Most people have some
PFAS in their blood.

PFAS have been used in many products since the 1940s.



We can be exposed to PFAS from:



We can be exposed to PFAS from:



PFAS can cause health effects in people.

High levels of PFAS may



Increase
cholesterol

High levels of PFAS may



Increase
cholesterol



Reduce
antibody
response

High levels of PFAS may



Increase
cholesterol



Reduce
antibody
response



Decrease
fertility in
women

PFAS may also increase the risk of

Thyroid disease

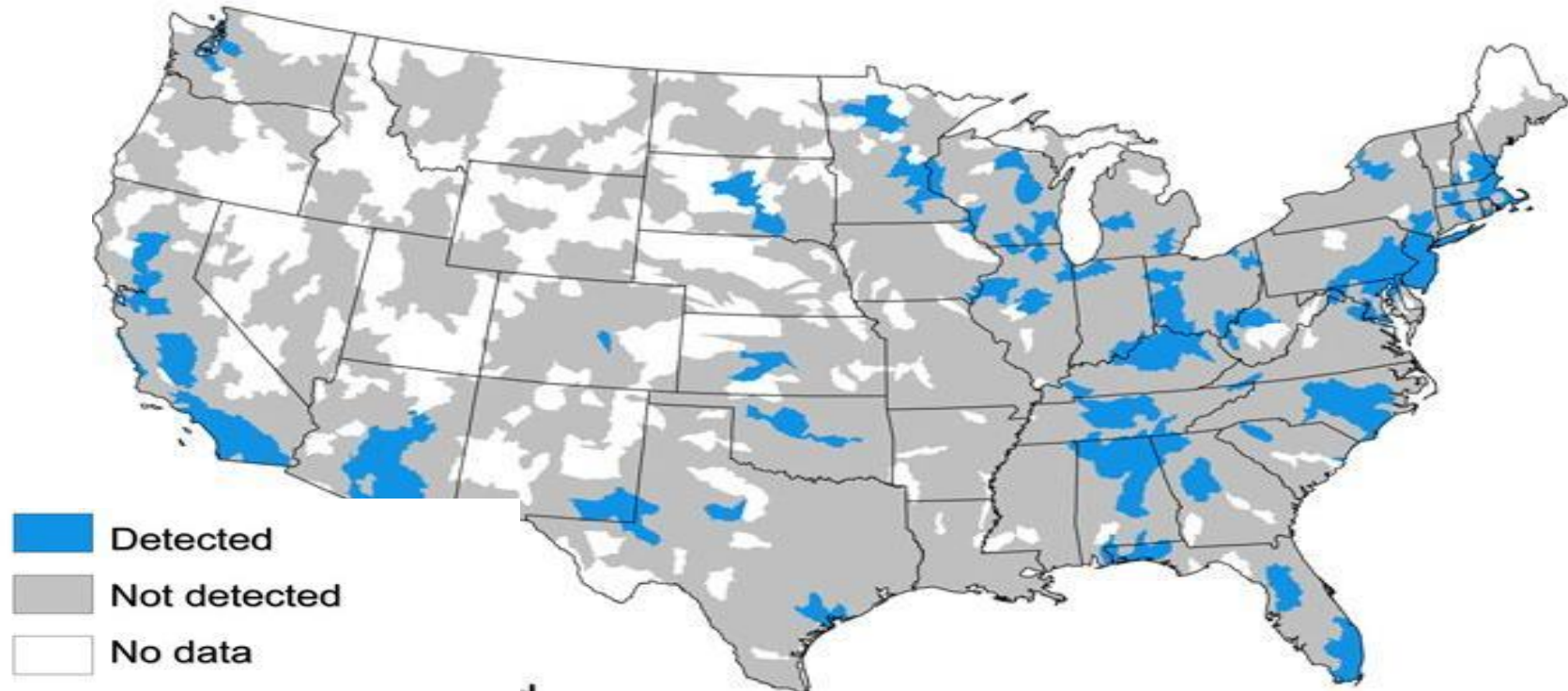
Osteoarthritis

Ulcerative colitis

Testicular cancer

Kidney cancer

Groundwater can be a source of PFAS exposure.





Two-thirds of
Wisconsin
residents use
groundwater.



Wisconsin develops groundwater standards to protect public health.

Enforcement Standard



Preventive Action Limit



Public health enforcement standards can be based on:



Federal
number



EPA health-based
value



State drinking
water standard

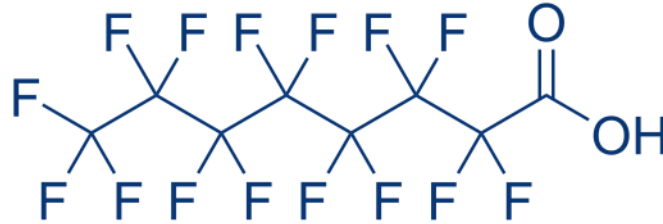


Technical
information

In March 2018, DNR requested that DHS develop groundwater standards for PFOA and PFOS.

PFOA and PFOS are the most commonly detected PFAS in blood.

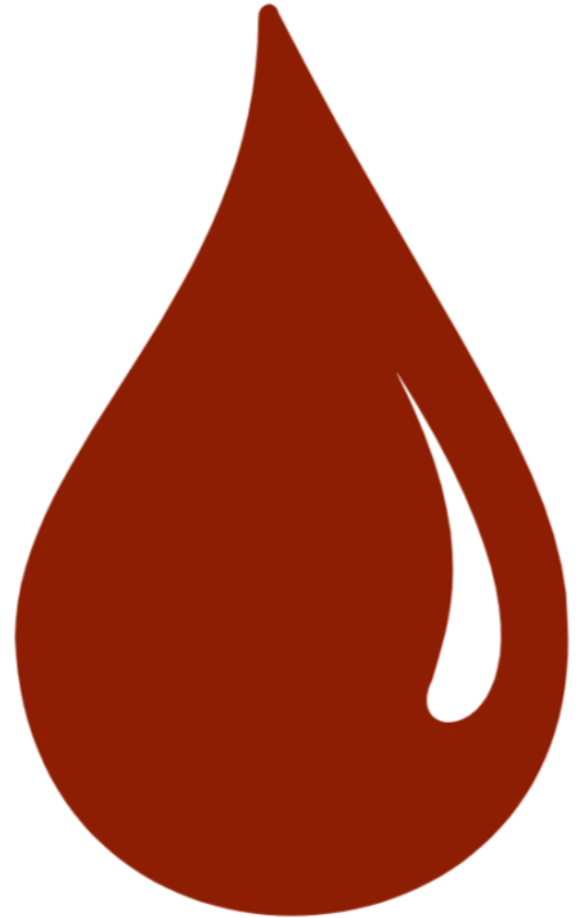
Perfluorooctanoic acid (PFOA)

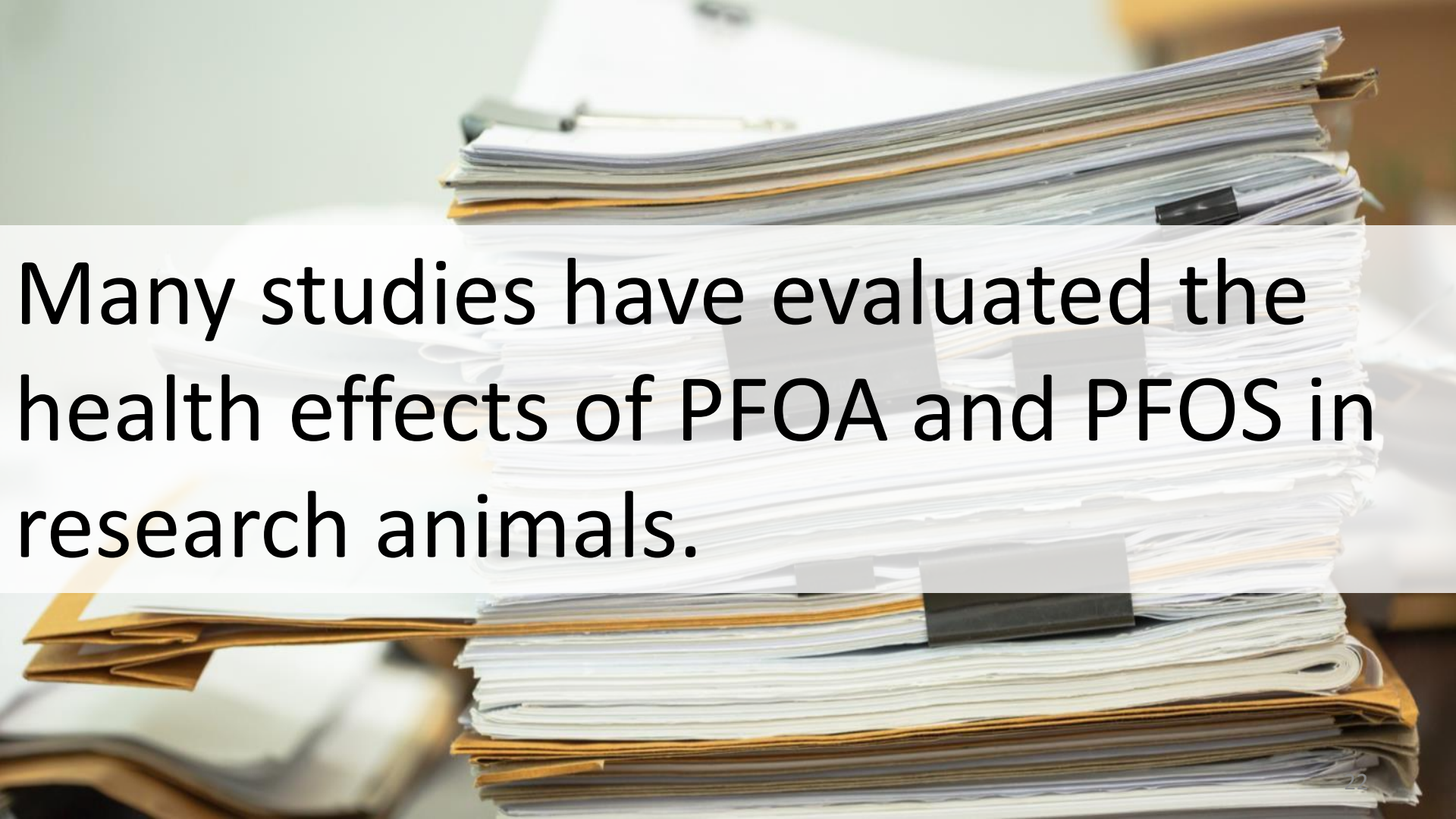


Perfluorooctane sulfonate (PFOS)



We do not know how much PFAS has to be in our blood to cause health effects.





Many studies have evaluated the health effects of PFOA and PFOS in research animals.

Babies are most sensitive to the effects of PFOA and PFOS.



In 2016, EPA established a combined health advisory of 70 ng/L for PFOA and PFOS.

PFOS and PFOA stays in people longer than animals.



4 days

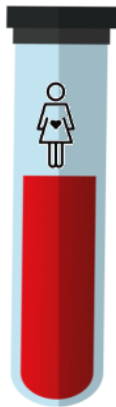
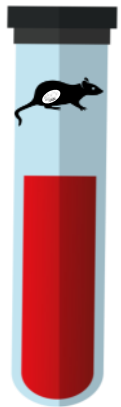
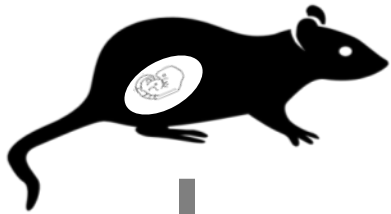


21 days



840 days

PFOA



EPA used a model that estimates exposure to pregnant women.

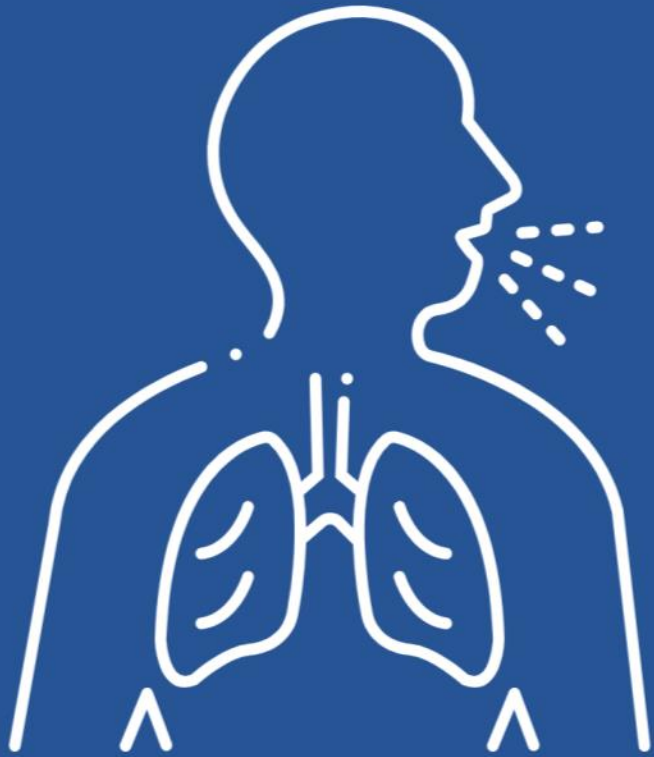
We continue to learn
about the health effects
of PFAS.



PFOA and PFOS
can cross the
placenta during
pregnancy.

PFOA and PFOS
can pass through
breastmilk.





PFOS may increase the risk for asthma, food allergies, and certain infectious diseases.

In June 2019, DHS recommended a groundwater standard of 20 ng/L for PFOA and PFOS.

DHS' recommended standard for PFOA and PFOS are based on:



Federal
number



EPA health-based
value



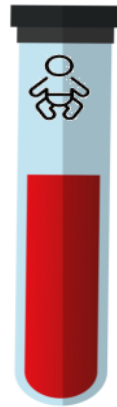
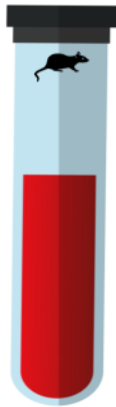
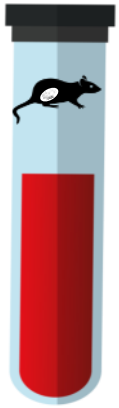
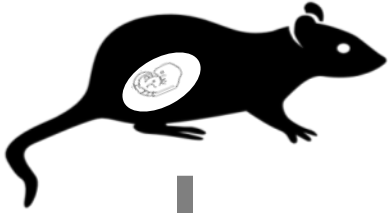
State drinking
water standard



Technical
information



PFOA



We recommend using a model that estimates exposure in infants.

We recommend a combined standard for PFOA and PFOS.

Both chemicals cause the same critical effect.

Both have a long half-life in people.

Both affect activate the same biological pathways.



We are working on standards for up to 20 more PFAS.

Most people have some PFAS in their blood.

PFAS can cause health effects in people.

DHS recommends a standard of 20 ng/L for PFOA and PFOS.

DHS is working on standards for more PFAS.

Thanks!

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