



Perchlorate

Perchlorate is a chemical used in fireworks, road flares, explosives, and rocket fuel. It also forms naturally in the environment in small amounts. Perchlorate can enter surface and ground waters. It lasts a long time in the environment and is easily absorbed by plants.

How People Are Exposed to Perchlorate

People can be exposed to perchlorate by drinking water, milk, and by eating certain plants with high water content (e.g., lettuce) if those plants have taken up water containing perchlorate. Workers who manufacture perchlorate-containing products can be exposed to greater amounts of perchlorate than the general population.

How Perchlorate Affects People's Health

Human health effects from perchlorate at low environmental exposures are unknown. Large amounts of perchlorate have been used medically to treat overactive thyroid in humans. Animal studies have shown that perchlorate can decrease the production of thyroid hormone, a hormone needed for normal development and body function.

Levels of Perchlorate in the U.S. Population

In the *Fourth National Report on Human Exposure to Environmental Chemicals (Fourth Report)*, CDC scientists measured perchlorate in the urine of at least 2,504 participants aged six years and older who took part in the National Health and Nutrition Examination Survey (NHANES) during 2003–2004. By measuring perchlorate in urine, scientists can estimate the amount of perchlorate that has entered people's bodies.

For the *Fourth Report*, CDC scientists found perchlorate in all participants. This finding indicates widespread exposure in the U.S. population.

Finding a measurable amount of perchlorate in urine does not mean that the level of perchlorate causes an adverse health effect. Biomonitoring studies of urinary perchlorate provide physicians and public health officials with reference values so that they can determine whether people have been exposed to higher levels of perchlorate than are found in the general population. Biomonitoring data can also help scientists plan and conduct research on exposure and health effects.

For More Information

- Agency for Toxic Substances and Disease Registry
Public Health Statement for Perchlorate
<http://www.atsdr.cdc.gov/toxprofiles/tp162-c1-b.pdf>
- Environmental Protection Agency
Perchlorate Questions and Answers
Questions and Answers on Perchlorate
<http://www.epa.gov/OGWDW/contaminants/unregulated/perchlorate.html#one>

November 2009

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