



Methyl *tert*-Butyl Ether (MTBE)

Methyl *tert*-butyl ether (MTBE) is a flammable liquid that has been used as an additive for unleaded gasoline since the 1980s. MTBE increases octane and oxygen levels in gasoline and reduces pollution emissions. Because of concerns for groundwater contamination and water quality, MTBE is now banned or limited in several states. MTBE is also used in small amounts as a laboratory solvent and for some medical applications.

How People Are Exposed to MTBE

MTBE is found in some water sources, mainly in urban areas with leaking underground gasoline storage tanks. MTBE also has been detected in the air near some fuel facilities, in the air of cities where MTBE is still used in gasoline, and in the air around gas stations when people are fueling their vehicles. People can be exposed to MTBE by breathing contaminated air and drinking contaminated water. Workers in industries that produce and transport MTBE or treat gasoline may have increased exposures.

How MTBE Affects People's Health

The human health effects from MTBE at low environmental doses are unknown. Animal studies involving high doses of MTBE have shown effects such as skin and eye irritation.

Levels of MTBE in the U.S. Population

In the *Fourth National Report on Human Exposure to Environmental Chemicals (Fourth Report)*, CDC scientists measured MTBE in blood of 1,307 participants aged 25–59 years who took part in the National Health and Nutrition Examination Survey (NHANES) during 2003–2004. By measuring MTBE in blood, scientists can estimate the amount of MTBE that has entered peoples' bodies.

CDC researchers found detectable levels of MTBE in most of the participants.

Finding a measurable amount of MTBE in blood does not mean that the level of MTBE causes an adverse health effect. Biomonitoring studies of blood MTBE can provide physicians and public health officials with reference values so that they can determine whether people have been exposed to higher levels of MTBE than the levels 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

ToxFAQs for MTBE

<http://www.atsdr.cdc.gov/tfacts91.html>

- Environmental Protection Agency
Frequently Asked Questions on MTBE
<http://www.epa.gov/mtbe/faq.htm>

- National Institutes of Health
ToxTown: MTBE
http://toxtown.nlm.nih.gov/text_version/chemicals.php?id=15

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