

Methyl tertiary butyl ether (MTBE)

Human Health Risk	L
Ecological Risk	
Socioeconomic Risk	M - L

Methyl tertiary butyl ether, or MTBE, is a fuel additive that reduces the generation of carbon monoxide and ozone-forming compounds when burned in automobiles. The chemical is water-soluble, and when spilled migrates readily through soil and into ground water supplies. Inhalation of high concentrations of MTBE can cause nervous system depression, and animal studies have shown long term exposure can result in kidney toxicity.

What's at risk?

MTBE can be inhaled during automobile refueling and ingested via contaminated drinking water. Therefore, the entire population is generally exposed, with some increased risks for those relying on well water that could potentially be contaminated with MTBE and for service station attendants.

What are the human health impacts in New Jersey?

Personal exposures, such as during refueling at service stations, can exceed the Reference Dose (i.e., the "safe dose"), but ambient concentrations are several hundred-fold lower. There are anecdotal reports of individuals suffering from acute symptoms, including headache, eye irritation, and dizziness. There are several wells contaminated with MTBE in New Jersey, but only one public water supply has exceeded the Maximum Contaminant Level (MCL). Contamination of private wells occasionally results in MTBE levels that exceed the MCL as set by the state.

What are the socioeconomic impacts in New Jersey?

No individual socioeconomic factor poses a large risk in New Jersey although psychological and aesthetic risks may be noticeable. MTBE does add a taste and odor to drinking water at concentrations less than those yielding a health concern.

What's being done?

The use of MTBE is being phased out to reduce its negative environmental impacts, particularly well contamination.