

Additional Information on MTBE

What is EPA doing in response to the Blue Ribbon Panel's Recommendations on drinking water protection?

- In the Unregulated Contaminant Monitoring Rule, signed August 1999, EPA is encouraging Public Water Supplies to monitor and report MTBE in public drinking water supplies prior to the 2001 implementation date.
- EPA is developing joint OSWER/OW national guidance to bring about improved protection from MTBE in source water and other vulnerable areas.
- EPA is promoting use of GIS to determine the location of drinking water sources and to identify UST sites within source protection zones.
- EPA is developing guidance with the Association of California Water Agencies, the National Boating Association, and other interested parties on best management practices for MTBE source management. This guidance would be targeted for boaters and underground storage tank managers.
- EPA is encouraging States, as they conduct source water assessments for all of the public water supplies within their state, to begin by assessing the susceptibility of water supplies to MTBE.

EPA is also seeking, through Congressional action, to eliminate the oxygenate mandate, allowing refiners more flexibility in producing gasoline without MTBE while still maintaining clean air benefits.

Why isn't EPA developing a primary drinking water standard?

- Under the Safe Drinking Water Act's standard-setting requirements, a number of criteria must be met before EPA can regulate a drinking water contaminant: the contaminant produces adverse human health effects, there is occurrence in public drinking water supplies at a level of concern, and the regulation must provide a meaningful opportunity for health risk reduction. These conditions have not yet been met.
- We don't have health effects information of the type needed to support a rulemaking. Although MTBE has been shown to produce cancer in laboratory animals, a number of expert panels determined there is no concrete evidence MTBE is a human carcinogen:
 - IARC (the International Agency for Research on Cancer, a part of the World Health Organization) has classified MTBE as an animal carcinogen although there is inadequate data to conclude MTBE is a human carcinogen.
 - National Institute on Environmental Health Sciences (NIEHS) believes MTBE is anticipated to be a human carcinogen.

- MTBE has been placed on the Contaminant Candidate List because it is of concern. However, it is not in the regulatory determinations category (regulatory decisions about these contaminants will be made by August 2000) because we currently do not have enough information about health effects and occurrence to support a national primary drinking water standard rulemaking

If EPA placed MTBE on its Drinking Water Priorities List (DWPL) in 1988 and again in 1991, why has it not regulated MTBE?

- Other contaminants of higher priority were on the lists. For example, Cryptosporidium and many disinfection byproducts (including chloroform) were on those lists. Those were the highest human health priority contaminants, as confirmed by the Administration and Congress in the SDWA Amendments of 1996. EPA regulated these highest priority contaminants in its December 1998 Interim Enhanced Surface Water Treatment Rule and Disinfectants and Disinfection Byproducts Rule.
- EPA made substantial progress in regulating a wide array of contaminants over the past decade including the 83 named contaminants it was required to regulate under the 1986 amendments. EPA was required to complete regulations for these contaminants before regulating contaminants from the DWPL. Rules published include:
 - Total Coliform Rule (6/89)
 - Surface Water Treatment Rule (6/89)
 - Lead and Copper Rule (6/91)
 - Phase II Rule and IIB Rules (1/91 and 7/91)
(Regulated 38 contaminants, including nitrate, which was on the 1988 DWPL)
 - Phase V rule (7/92)
(Regulated 18 synthetic organic chemicals and 5 inorganic chemicals)
- Contaminants were placed on the DWPL because EPA had reason to believe they may be a public health risk, and to conduct more research on these contaminants. EPA has been conducting research on MTBE, but has not had enough data about adverse health effects at levels typically seen in drinking water to make a regulatory decision.

Background

- Methyl tertiary-Butyl Ether (MTBE) is an automobile fuel additive, introduced in the late 1970s during lead phase-out as an octane enhancer. MTBE has been detected in ground water sources of drinking water in a number of states due to leaking underground storage tanks and leaking pipelines.
- MTBE has been detected in ground water and drinking water in a number of States due to leaking underground storage tanks and leaking pipelines. Occurrence of low levels of MTBE has also been detected in precipitation, storm water runoff, and some surface water reservoirs used for both drinking water and recreational boating.

- Addition of MTBE to gasoline results in more complete combustion, thereby reducing both carbon monoxide and ozone levels. It has been used in increasing quantity in the 1990s to meet the requirements of the federal RFG and Oxyfuels Programs required by the Clean Air Act Amendments of 1990. An estimated 18 billion pounds of MTBE were produced in 1995, essentially all for use in fuels.
- Attributes of MTBE, which make it a particular concern, are that it: 1) is extremely soluble in water, 2) moves rapidly through ground water and the soil compared to other petroleum constituents, 3) has a slow rate of biodegradation, 4) has a low odor and taste threshold and, 5) is a possible human carcinogen.
- Some States have adopted MCLs or have experienced problems include the following:
 - ▶ Maine - 35 ppb MCL adopted in 1998
 - ▶ New York - 50 ppb MCL adopted in 1988 (Governor announced that the new standard will be 10 ppb)
 - ▶ New Jersey: 70 ppb MCL adopted in 1996
 - ▶ North Carolina - 20-40 ppb MCL (proposed)
 - ▶ California - 5 ppb, enforceable secondary standard

 - ▶ Approximately 12 States have a guideline or action level in place; Oregon is currently considering developing an MCL
- EPA participated and contributed information to both the Blue Ribbon Panel (1999) and on the interagency panel convened by the White House Office of Science and Technology Policy to prepare the "Interagency Assessment of Oxygenated Fuels," published in June 1997.