



## Health Effects Institute

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### **NEW HEI STUDIES CONFIRM BLUE RIBBON PANEL FINDINGS ON HEALTH EFFECTS OF OXYGENATES IN GASOLINE**

(Cambridge MA) New studies released today by the Health Effects Institute have strengthened evidence of the relatively low toxicity of methyl tertiary butyl ether (MTBE) and other oxygenates added to gasoline. The studies were conducted in New Mexico and New Jersey in the USA and Würzburg in Germany, under the oversight and intensive review of HEI scientific committees. They investigated how oxygenates are metabolized by humans and animals, and examined whether the route of exposure, or coexposure with gasoline, could affect the way the body takes up and disposes of the substances.

These findings come at a time when the US Congress is considering legislation that would implement recent recommendations of the Blue Ribbon Panel on Oxygenates in Gasoline. That Panel found that although MTBE is not likely to pose a significant public health threat, this compound does cause serious odor and taste problems when it enters water supplies and its use should be substantially reduced. The new findings from the Health Effects Institute reinforce the Panel's findings on health effects by suggesting that effects of MTBE exposure are likely to be no more, and may be less, than the effects found in previous studies.

The study in Germany, conducted by Dr Wolfgang Dekant and colleagues at the University of Würzburg, was one of the first in the world to compare how MTBE is taken up when ingested or inhaled. In human volunteers, ingested oxygenates were processed by the body in much the same way as inhaled oxygenates. This finding offers reassurance that the large body of data suggesting relatively low toxicity of inhaled MTBE can also be applied to assessing the risks of ingesting MTBE in drinking water.

The study in New Mexico, conducted by Dr Janet Benson and colleagues at the Lovelace Respiratory Research Institute in Albuquerque, was one of the first animal studies to investigate uptake and disposition of oxygenates with and without coexposure to other components of gasoline, a condition more closely resembling real world exposures. In most instances, coexposure

with gasoline reduced the amount of MTBE taken up in the body of the exposed laboratory rats. In some instances, the presence of the gasoline appeared to accelerate the speed with which the body could clear itself of the MTBE. If these findings are confirmed by other studies, MTBE would be considered less likely to have adverse effects than previously thought.

The studies were published today at the HEI website [www.healtheffects.org](http://www.healtheffects.org) as part of the HEI research report 102, *Metabolism of Ether Oxygenates Added to Gasoline*. Also published in the volume is a study by Dr Jun-Yan Hong and colleagues at the University of Medicine and Dentistry of New Jersey that investigated the relative contribution of certain liver enzymes to the metabolism of ethers. More information on the studies can be obtained from Dr. Annemoon van Erp at HEI (617 876 6700 x346, or email: [avanerp@healtheffects.org](mailto:avanerp@healtheffects.org)).

The Health Effects Institute is an independent, nonprofit, research institute funded jointly and equally by the US EPA and industry to provide high-quality, relevant, and impartial science on the health effects of air pollution. The oxygenate studies reported today are one part of a multifaceted HEI research program, which includes research on exposure to and health effects of particulate matter, air toxics, diesel exhaust, and other air pollutants.

#### Other Sources on Oxygenates in Fuel

*The Potential Health Effects of Oxygenates in Gasoline: A Review of the Current Literature*, Health Effects Institute, Cambridge, Massachusetts, April 1996.

*Achieving Clean Air and Clean Water: The Report of the Blue Ribbon Panel on Oxygenates in Gasoline*, U.S. Environmental Protection Agency, Washington, D.C., September 1999.

Available at: <http://www.epa.gov/OMSWWW/consumer/fuels/oxypanel/blueribb.htm>

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