



Terry Tamminett  
Agency Secretary

# Air Resources Board

Alan C. Lloyd, Ph.D.  
Chairman

1001 I Street • P.O. Box 2815  
Sacramento, California 95812 • [www.arb.ca.gov](http://www.arb.ca.gov)



Arnold Schwarzenegger  
Governor

May 26, 2004

Mr. Yuan Ying  
Division Chief, Senior Engineer  
Institute of Environmental Standards  
Chinese Research Academy of Environmental Science  
8 Dayangfang, Beiyuan Road, Anwai  
Beijing 100012, CHINA

Dear Mr. Ying:

Thank you for your recent letter regarding the potential health effects of methyl cyclopentadienyl manganese tricarbonyl (MMT), as well as the potential impacts on motor vehicles with advanced emission controls.

For many years the California Air Resources Board (ARB) has been concerned about the use of MMT as an additive, in both gasoline and diesel fuels. As stated in your letter, you are correct that MMT is banned from use as an additive in unleaded gasoline per California Code of Regulations (CCR), Title 13, Section 2254. This regulation pertains not only to MMT, but also to any manganese compound. CCR, Title 13, Section 2254 became effective in 1977 and was motivated by concerns that MMT would "poison" catalytic converters in a manner analogous to the use of lead as an octane improver in gasoline. The ARB continues to support this ban in order to prevent the potential degradation of catalytic converters, especially those deployed on late-model vehicles designed to meet the more stringent emissions standards.

Regarding the health effects of MMT and its combustion products, the ARB does not currently hold a specific position. However, under the ARB's toxics program, manganese (as well as its compounds) is listed as a Toxic Air Contaminant. As such, additional regulations may be pursued in the future should the use of manganese or manganese compounds be found to pose a significant increase in health risk.

The energy challenge before California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple steps you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>

California Environmental Protection Agency

Printed on Recycled Paper

Mr. Yuan Ying  
May 26, 2004  
Page 2

Thank you again for writing. Should you have any questions or comments, please contact Mr. Robert Cross, Chief, Mobile Source Control Division, at (626) 575-6607.

Sincerely,



Alan C. Lloyd, Ph.D.  
Chairman

cc: Mr. Robert H. Cross, Chief  
Mobile Source Control Division