

ATTACHMENT IV
ADDITIONAL SUPPORTING DOCUMENTS AND INFORMATION

The following additional supporting documents and information are available for public comment during the supplemental public comment period in the CaRFG3 rulemaking. During the comment period, they are available for public inspection during normal business hours at the Air Resources Board's Public Information Office at 2020 "L" Street, Sacramento, CA 95814, (916) 322-2990.

A. Materials on the Health and Environmental Assessment of the Use of Ethanol and CaRFG3

1. State of California, California Environmental Protection Agency, California Environmental Policy Council, *Resolution on Environmental Impacts from Changes in Gasoline Due to the California Phase 3 Reformulated Gasoline Regulations*, January 18, 2000.
2. State of California, California Environmental Protection Agency, California Environmental Policy Council, *Transcript from Meeting on Environmental Impacts from Changes in Gasoline Due to the California Phase 3 Reformulated Gasoline Regulations*, January 18, 2000.
3. California Air Resources Board, Health and Environmental Assessment of the Use of Ethanol as a Fuel Oxygenate, *Report to the California Environmental Policy Council in Response to Executive Order D-5-99, Volume 1, Executive Summary*, December 1999.
4. California Air Resources Board, Health and Environmental Assessment of the Use of Ethanol as a Fuel Oxygenate, *Report to the California Environmental Policy Council in Response to Executive Order D-5-99, Volume 2, Background Information on the Use of Ethanol as a Fuel Oxygenate*, December 1999.
5. State of California, Air Resources Board, Air Quality Impacts of the Use of Ethanol in California Reformulated Gasoline, *Final Report to the California Environmental Policy Council with Appendices A-D*, December, 1999.
6. State of California, Air Resources Board and Office of Environmental Health Hazard Assessment, Health and Environmental Assessment of the Use of Ethanol as a Fuel Oxygenate, *Volume 4 with Chapters 1-11, Potential Ground and Surface Water Impacts*, December, 1999.
7. State of California, Office of Environmental Health Hazard Assessment, *Health and Environmental Assessment of the Use of Ethanol as a Fuel Oxygenate, Volume 5: Potential Health Risks of Ethanol in Gasoline*, December, 1999.

B. Materials on the University of California Scientific Studies on MTBE Pursuant to SB 521

8. University of California, *Report to the Governor and Legislature of the State of California as Sponsored by SB 521, Volume I - Summary and Recommendations*, November, 1998.
9. University of California, *Report to the Governor and Legislature of the State of California as Sponsored by SB 521, Volume II - An Evaluation of the Scientific Peer Reviewed Research and Literature on the Human Health Effects of MTBE, its Metabolites, Combustion Products and Substitute Compounds*, John R. Froines, Ph.D., Principal Investigator, November, 1998.
10. University of California, *Report to the Governor and Legislature of the State of California as Sponsored by SB 521, Volume III - Air Quality and Ecological Effects*, Catherine Koshland, Ph.D., et al, November, 1998.
11. University of California, *Report to the Governor and Legislature of the State of California as Sponsored by SB 521, Volume IV - Impacts of MTBE on California Groundwater*, Graham E. Fogg, et al, November, 1998.
12. University of California, *Report to the Governor and Legislature of the State of California as Sponsored by SB 521, Volume V - Exposure of Humans to MTBE from Drinking Water*, Michael L. Johnson, John Muir Institute of the Environment, University of California, Davis, November, 1998.

C. Other Materials on MTBE

13. Buxton, Herbert, et al., *Interdisciplinary Investigation of Subsurface Contaminant Transport and Fate at Point-Source releases of Gasoline-Containing MTBE*, Paper presented at the Petroleum Hydrocarbon on Conference, November 11-14, 1997, Houston, Texas.
14. State of California, California Environmental Protection Agency, *Review of Senate Office of Research MTBE Paper*, February 16, 1998.
15. California Senate Office of Research, *Does California Need MTBE?* February, 1998.
16. Health Effects Institute, *The Potential Health Effects of Oxygenates Added to Gasoline*, February, 1996.
17. Landmeyer, James, et al., *Fate of MTBE Relative to Benzene in a Gasoline-Contaminated, Aquifer (1993-1998)*, Groundwater Monitoring & Remediation, April 17, 1998.
18. LFR Levine-Fricke & Santa Clara Valley Water District, *Summary Report: Santa Clara Valley Water District, Groundwater Vulnerability Pilot Study, Investigation of MTBE Occurrence Associated with Operating UST Systems*, July 22, 1999.

19. Mormille, Melanie et al., *Anaerobic Biodegradation of Gasoline Oxygenates: Extrapolation of Information to Multiple Sites and Redox Conditions*, Environmental Science and Technology, Vol. 28, No. 9, 1994.
20. Office of Science and Technology Policy, Executive Office of the President, *Fuel Oxygenates And Water Quality: Current Understanding of Sources, Occurrence in Natural Waters, Environmental Behavior, Fate, and Significance*, September, 1996.
21. Pankow, James, et al., *The Urban Atmosphere as a Non-Point Source for the Transport of MTBE and Other Volatile Organic Compounds (VOCs) to Shallow Groundwater*, Environmental Science and Technology, Vol. 31, No. 10, 1997.
22. Poulsen, Mette, et al., *Dissolution of Monoaromatic Hydrocarbons into Groundwater from Gasoline-Oxygenate Mixtures*, Environmental Science and Technology, Vol 26, No. 12, 1992.
23. Professor Graham Fogg, University of California, Davis, memorandum to SB 1764 Committee Members, *USGS News Releases on Gasoline Additive MTBE in Groundwater*, April 28, 1995.
24. State of California, San Francisco Regional Water Quality Control Board, *Recommended Interim Water Quality Objectives (or Aquatic Life Criteria) for Methyl Tertiary-Butyl Ether (MTBE)*, October 1, 1998.
25. Squillace, Paul, et al., *Review of the Environmental Behavior and Fate of Methyl tert-Butyl Ether*, Environmental Toxicology and Chemistry, Vol. 16, No. 9, September 1997.
26. Sulfito, Joseph, et al., *Review of the Environmental Behavior and Fate of Methyl tert-Butyl Ether*, Environmental Toxicology and Chemistry, Vol. 16, No. 9, September, 1997.
27. State of California, Office of Environmental Health Hazard Assessment, *Public Health Goal for Methyl Tertiary Butyl Ether (MTBE) in Drinking Water*, March 1999.
28. United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Methyl T-Butyl Ether: Draft for Public Comment*, February, 1995.
29. United States Environmental Protection Agency, *Drinking Water Advisory: Consumer Acceptability and Health Effects Analysis on Methyl Tertiary-Butyl Ether (MtBE)*, December 1997.
30. United States Environmental Protection Agency, *Reference Concentration for Chronic Inhalation Exposure*, September 1, 1993.
31. United States Geological Survey, *Denver's Urban Ground-Water Quality: Nutrients, Pesticides, and Volatile Organic Compounds*, March, 1995.
32. United States Geological Survey, *MTBE in Ground Water of the United States – Occurrence, Potential Sources, and Long-Range Transport*, 1999.

33. United States Geological Survey, *Occurrence and Concentrations of Volatile Organic Compounds In Shallow Ground Water in the Lower Susquehanna River Basin, Pennsylvania and Maryland*, June 1996.
34. United States Geological Survey, *Occurrence of the Gasoline Oxygenate MTBE and BTEX Compounds in Urban Stormwater in the United States*, 1991-1995, 1996.
35. United States Geological Survey, *Occurrence of Volatile Organic Compounds in Streams on Long Island, New York, and New Jersey*, June, 1997.
36. United States Geological Survey, *Occurrence of Volatile Organic Compounds in Ground Water In the White River Basin, Indiana, 1994-5*, June, 1996.
37. United States Geological Survey, *Preliminary Assessment of the Occurrence and Possible Sources of MTBE in Ground Water of the United States, 1993-94*, 1995.
38. United States Geological Survey, *Volatile Organic Compounds in Groundwater in the Connecticut, Housatonic, and Thames River Basins, 1993-1995*, April, 1997.
39. University of California, Lawrence Livermore National Laboratories, Environmental Protection Department - Environmental Restoration Division, *An Evaluation of MTBE Impacts to California Groundwater Resources*, June 11, 1998.
40. University of Wisconsin, Department of Engineering Professional Development, *Special Issue on MTBE*, Underground Tank Technology Update, Vol. 13, No. 4, July/August, 1999.
41. Westbrook, P., Shell Oil Co., *Compatibility and Permeability of Oxygenated Fuels to Materials in Underground Storage and Dispensing Equipment*, October, 1998.
42. United States Environmental Protection Agency, Robert S. Kerr Environmental Research Laboratory, *Complex Mixtures and Groundwater Quality*, M.L. Brusseau, May, 1993.

D. Materials on Permeation

43. Dupont Automotive, Personal Communication from Rick L. Bell, DuPont Automotive, to Steve Brisby, California Air Resources Board, November 17, 1999.
44. Ed Fead, Ravi Vengadam, Giuseppe Rossi, Albert Olejnik and John Thorn, *Speciation of Evaporative Emissions from Plastic Fuel Tanks*, SAE Technical Paper # 981376, May 1998
45. Mark Nulman, Albert Olejnik, Marsha Samus, Ed Fead and Giuseppe Rossi, *Fuel Permeation Performance of Polymeric Materials Analyzed by Gas Chromatography and Sorption Techniques*, SAE Technical Paper # 981360, May 1998 .

46. W. M. Stahl and R. D. Stevens, *Fuel-Alcohol Permeation Rates of Fluoroelastomers Fluoroplastics and Other Fuel Resistant Materials*, SAE Technical Paper # 920163, February 1992.

E. Miscellaneous Materials

47. MathPro, Inc. Subcontract No. LB60100 Submitted to the State of California, California Energy Commission, *Analysis of California Phase 3 RFG Standards - including 1998 CaRFG gasoline composition data*, December 7, 1999.
48. California Energy Commission, *Printout Showing Monthly Refinery Operating Utilization Rates, 1997-1999*, Facsimile Dated March 29, 2000.