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Concentrations of Methyl-*Tert*-Butyl Ether (MTBE) in Inputs and Receiving Waters of Southern California

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ABSTRACT

The occurrence and concentration of the fuel additive methyl-*tert*-butyl ether (MTBE) were measured in dry weather runoff, municipal wastewater and industrial effluents, and coastal receiving waters in southern California. Combined, refineries and sewage treatment plants release approximately 214 kg day⁻¹ of MTBE into the marine environment, with Santa Monica Bay receiving most (98%) of this discharge. Dry weather urban runoff was analyzed for samples collected from 25 streams and rivers and accounted for less than 0.5% of the mass of MTBE discharged to coastal waters. Receiving water samples were collected from 23 stations in Santa Monica Bay, Los Angeles Harbour and Mission Bay or San Diego Bay. MTBE was detected at low concentrations near effluent discharges, however there was no evidence of baywide MTBE contamination related to these outfalls. Marinas and areas used intensively for recreational boating had the highest average MTBE concentration (8.8 ug l⁻¹). Surface water contamination was most wide in San Diego Bay and Mission Bay, areas with no refinery or sewage treatment plant inputs.

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