

Nonmethane hydrocarbons in the subtropical marine atmosphere

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Measurements of nonmethane hydrocarbon mixing ratios were made in situ at Oahu Island between 23 July and 12 August. The mixing ratios of alkanes (propane, butanes, pentanes) were in the range of 0.01-0.1 ppb from 23 July to 29 July, indicating that these samples were collected under marine influence. However drastic increases were found for the mixing ratios of these compounds at 1 August. Propane mixing ratios increased from 0.1 ppb (29 August) to 3 ppb (1 August). Using the i-butane/n-butane ratios as a source indicators, the enhanced butanes mixing ratios observed in 1 August are suggested to reflect the gasoline composition. Based on the i-butane/propane and n-butane/propane ratios, the alkanes are suggested to be mainly oxidized by OH radicals.