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Collection of Indonaphthol Blue on a Membrane Filter for the Spectrophotometric Determination of Ammonia with 1-Naphthol and Dichloroisocyanurate

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In order to determine ammonium ion in water samples, we propose a method based on the Berthelot reaction of ammonia with 1-naphthol and dichloroisocyanurate to form an indophenol blue derivative and collection of the blue compound as an ion pair using Zephiramine on a pure polytetrafluoroethylene (PTFE)-type membrane filter. The ion pair on the filter was eluted with 5.0 mL of acetonitrile, and the absorbance of the eluate was measured at 725 nm. The detection limit of the method was 2.5 μg L^{-1} of ammonium ion. We showed that the interference of foreign ions was removed by the addition of EDTA. We also demonstrated the success of the method in determining ammonia in river water and seawater.

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