



Corporate Headquarters: UVP, Inc.
2066 W. 11th Street, Upland, CA 91786
Tel: (800)452-6788 * (909)946-3197
E-Mail: uvp@uvp.com

European Operations: Ultra-Violet Products Ltd., Unit 1, Trinity Hall Farm Estate, Nuffield Rd
Cambridge UK CB4 4FH Tel: +44(0)1223-420022
E-Mail: uvp@uvp.co.uk

USE OF ULTRAVIOLET LIGHT IN WATER TESTING

APPLICATION: Autoanalysis Coliform Testing

**WAVELENGTHS/
LAMPS USED:** Longwave 365nm
Models UVL-21 (115V or 220V), ML-49 (12V)

FIELD OF USE: Public Health Service - Drinking Water

BACKGROUND: Swift identification of coliform bacteria in water at water distribution plants is necessary to ensure a safe public drinking water supply. The Autoanalysis coliform test, officially introduced in November, 1987, at the Water Quality Technology Conference, was developed to address the time and identification limitations inherent in the existing standard tests — Multiple Tube Fermentation (MFT) and Membrane Filter (MF) techniques.

PROCEDURE: The Autoanalysis test is performed in test tubes pre-filled with a powdered, Coliform specific, indicator-nutrient. Ten milliliters of sample water is added to each nutrient-filled tube and agitated to facilitate dissolution. This yields a colorless solution. Tubes are then placed in a 35°C(+3 °C) incubator for 24 hours. A yellow solution after incubation denotes the presence of total Coliforms. Any tube positive for total Coliforms is illuminated with a UVP UVL-21 longwave lamp (or ML-49 when a portable lamp is required). Fluorescence of the solution indicates the presence of Escherichia Coli, the major fecal coliform.

PRIMARY ADVANTAGES

OF THIS METHOD: Unlike the MTF or MF techniques the autoanalysis test simultaneously determines the presence of total coliforms and E. coli, within 24 hours, without the need for confirmatory or completed tests. Best of all, the autoanalysis test the old provides easier to interpret information than the old standards (MTF, MF) in one third the time.