

MODERNWATER

Microtox[®] M500

Industry-leading toxicity detection

The Microtox[®] Model 500 (M500) analyser is a laboratory-based, temperature-controlled, self-calibrating photometer that measures acute toxicity. Microtox[®] M500 is a biosensor-based measurement system that uses bioluminescence technology to monitor for either accidental or deliberate contamination of both water supplies and waste water. With over 2,400 instruments sold worldwide, the Microtox[®] toxicity test system is the industry standard for rapid toxicity screening and analysis. DeltaTox[®] II is the portable toxicity analyser used with the Microtox[®] technology.

Microtox[®] rapid toxicity detection is an in vitro test system that uses bioluminescent bacteria for the detection of toxicity in water and is used as a screening system to detect the relative toxicity of a sample. Results are given either as an effective concentration (EC) value or as a % inhibition. Applications include the testing of samples containing biological toxins, industrial effluent, industrial process waters, municipal effluent, drinking water eco toxicological samples, hazardous waste, soil, sediments, storm water and medical products for bio reactivity.

The Microtox[®] M500 has a built-in cooling block, enabling it to be used for ISO and DIN standard methods. The Omni software contains detailed step by step protocols for 11 standard methods, including ISO 11348-3, DIN 38412 and ASTM D5660.

**after initial reagent preparation*

- Test sensitive to more than 2,700 different simple and complex chemicals
- Results available in as little as 15 minutes*
- Cost effective and easy to perform tests
- More than 2,400 instruments sold worldwide
- Results provided as either EC values or % inhibition
- Excellent correlation with whole-organism toxicity test LD values



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SPECIFICATIONS

Size	18.3cm x 39.1cm x 41.2cm (7" x 15" x 16")
Weight	9.5kg (21lbs)
Power	100 +/- 10% VAC, 2 Amp Slo Blo, 50/60 Hz 120 +/- 10% VAC, 2 Amp Slo Blo, 50/60 Hz 220 +/- 10% VAC, 1 Amp Slo Blo, 50/60 Hz 240 +/- 10% VAC, 1 Amp Slo Blo, 50/60 Hz
Room Temperature Requirement	15°C to 30°C
Temperature	REAGENT well 5.5°C ± 1°C Acute Mode Incubator block 15°C ± 0.5°C READ well 15°C ± 1.0°C Mutatox/Chronic Mode Incubator block 27°C ± 0.5°C READ well 27°C ± 1.0°C It is available in 120V and 220V versions



Drinking water testing and surveillance

The Microtox® acute toxicity test is being used to monitor drinking water supplies in many countries and major cities where either accidental or deliberate contamination is a concern. The test can be completed in as little as 15 minutes*, allowing for a quick response to changes in water quality.

Microtox® toxicity test systems are uniquely suited for drinking water surveillance where supplies are monitored regularly and at strategic points. Microtox® M500 can quickly reveal any changes in the level of toxicity of drinking water making it the ideal solution for major events like the Olympics; the system has been used at every Summer Olympics since 1984.

**after initial reagent preparation*

Municipal and industrial wastewater

Wastewater treatment plants have been using Microtox® acute toxicity test results since 1979. They continue to use our products because they help assure compliance with wastewater treatment effluent permits (like NPDES toxicity limits in the USA), they measure toxicity in influent streams, they determine treatment efficiency in industrial and municipal wastewater treatment plants and they monitor treatment processes from the raw influent to final effluent.



MICROTOX® OMNI SOFTWARE PROTOCOLS

Provided with purchase
of Microtox® M500 analyser

ASTM (D5660)
Basic toxicity test
Comparison test
Confirmation test
ISO (International Standard Organization 11348-3)
DIN (Deutsches Institut für Normung 38412 Teil Test)
Screening toxicity test
Solid Phase/Basic Solid Phase
Comparison
Confirmation
WET (Whole Effluent Toxicity)

Applications

(Petro) Drilling mud
Contaminated soil
Drinking water monitoring
Ecotoxicology
Hazardous waste
Industrial effluent
Industrial process water
Marine water
Medical/Pharmaceutical products
Mining wastes, soil and water
Municipal effluent
Personal care/Household
Chemicals
Recreational water
Sediments
Solid phase materials
Storm water

Process explained

The Microtox® test system uses a strain of naturally occurring luminescent bacteria called *Vibrio fischeri* to provide acute toxicity detection. The bacteria emit light as a natural part of their metabolism. Exposure to a toxic substance causes disruption of the respiratory process of the bacteria resulting in reduced light output. The Microtox® photometer measures the light levels before and after addition of the sample, and the reduction in light output is a measure of the toxicity of the sample. The test is fast, simple to conduct, uses small sample sizes and is very cost effective. Results correlate well with those from other toxicity bioassays such as fish, daphnia and shrimp. The test is used extensively in the measurement of toxicity of "fit for use" water and wastewater treatment effluent as well as an early screening tool for relative toxicity as part of a test battery. The system detects unknown pollutants and effects of mixtures (synergistic effects).