



MODERNWATER

Microtox FX Series: Rapid Acute Toxicity and Bio-Contaminant Detection for Emergency Response

Modern Water offers a complete portable solution for rapid toxicity and bio-contaminant detection in water samples. Using the Microtox® FX analyzer, you can rapidly assess water quality within minutes for contamination, especially in response to drinking water emergencies and chemical spills to water systems.

Rapid Acute Toxicity Results

The Microtox® FX is a simple and portable test system for acute toxicity that is ideal for screening for chemical contamination. Microtox® technology is based on the widely-used and well-documented Microtox® Test System and uses the same specialized strain of luminescent bacteria to provide a direct measurement of the toxicity of a sample and simultaneously detect thousands of potential contaminants. The Microtox® FX Analyzer is portable and is easily used on-site at locations such as: vessels on a lake or the ocean; reservoirs; storage tanks; or sample locations throughout your water distribution system.

Rapid Bio-Contaminant Results

The Microtox® FX instrument can also be used for rapid quantification of total viable biomass using ATP analysis. A Modern Water certified ATP assay uses the principle of bioluminescence to accurately determine the total biomass present in water or wastewater samples. All organisms contain ATP (Adenosine triphosphate) as their main energy source. The amount of ATP in a sample is directly proportional to the biomass of the sample. ATP reacts with luciferin / luciferase – the enzyme system present in firefly tails to produce light. In the reaction, each molecule of ATP produces one photon of light. The light output of this reaction can be accurately measured using the very sensitive Microtox® FX analyzer.

- Results available in 5 minutes, after initial reagent prep
- Broad range of toxins detected - >2,700 compounds
- Microbial detection level in drinking water – 100 cfu/mL



SPECIFICATIONS

Modern Water offers two products that leverage its Microtox technology. The Microtox M500 Series is a benchtop analyzer designed for laboratories and the Microtox FX Series, a lightweight portable analyzer for field testing.

Parameters	Detection Range
Size	20cm x 18cm x 10cm (8" x 7" x 4")
Weight	1 kg (2.2 lbs)
Power	Self-contained Lithium ion battery or a universal power adapter (15V dc @ 4 amps)
Instrument Operational Temperature	0°C - 40°C
Reagent Operational Temperature	10°C - 35°C
Dynamic Test Range	1 to 60 million counts (approx.)
Approvals	CE (European Community)
Display Output	Backlight LCD – 8 lines x 20 characters
Data I/O	standard serial USB for data transfer and firmware updates
Data Storage	6.5k byte storage area (approx. 600 reads)
Data Handling	Stand alone or download capability to PC; built in software prompts operational steps, records light measurements and automatically calculates results for immediate review and further analysis
Test Reagent	Freeze-dried luminescent bacteria (<i>Aliivibrio fischeri</i>)
Toxicity Reagent Storage	Freeze-dried -15°C to -25°C Rehydrated 2 hours (ambient temperature)
ATP Reagent Storage	Refrigerate
Test Modes	Toxicity (Q-Tox and B-Tox) and ATP measurement
Test Durations	1-60 minute exposure
Test Measurement Criterion	Light output by test reagent measured after timed exposure to a sample
Results Display	Percent light loss or gain for toxicity test; or light unit (photon) count (for ATP measurements)
Repeatability (Precision)	<20% coefficient of variation for B-Tox and Q-Tox mode testing
Sensitivity and Range	The analyzer can detect photon counts from 0 to 60 million

Microtox Reagent



Microtox reagent for acute toxicity testing can detect over 2,700 hazardous chemicals and compounds

Modern Water Certified ATP Test



Modern Water Certified ATP test kits for rapid microbiological detection



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