

MODERNWATER

Environmental



Environmental monitoring technologies for  
field, laboratory and industry



MODERNWATER

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Modern Water is expert in the design, development and provision of analytical instruments and technologies for monitoring specific environmental contaminants in water, soil and industry samples. Our systems selectively identify contaminants such as PCB, pesticides, hydrocarbons, toxins, metals and explosives.

Our Environmental Monitoring products include a range of portable fluorometers, strip tests, test kits and portable trace metals analyzer.

The fluorometer range allows rapid field deployment as well as in-situ, real-time monitoring and products include the AlgaeChek, AlgaeChek Ultra, BODChek, PetroChek, PAH and BTEX.

We have a wide variety of test kits which include the following product ranges: Ensys; EnviroGard®, RaPID Assay® and QuickChek. We have also developed the QuickChek brand to include a variety of strip tests which are used with a reader to give instant results.



## Test Kits

Modern Water has a wide variety of test kits which include the following product ranges: **EnSys**; **EnviroGard®**; **RaPID Assay®** and **QuickChek**.

### QuickChek

The QuickChek SRB detection system is a rapid enzyme immunoassay method that detects sulphate reducing bacteria (SRB). The test employs purified antibodies to detect the enzyme adenosine-5'-phosphosulfonate (APS) reductase which is common to all strains of SRB.



### EnSys

The EnSys range are rapid field or laboratory colorimetric tests for the analysis of explosives in soil. The kits are based on a method developed by Dr. Thomas Jenkins at US Army Corps of Engineers - CRREL.

### RaPID Assay®

The RaPID Assay® range is a rapid field or laboratory enzyme immunoassay method for the analysis of soil and water for remediation, assessment and industrial testing. It uses an antibody coated magnetic particle technology to detect the analyte of concern. The method can be used to test for analytes such as pesticides, petroleum hydrocarbons, PCBs and PCP.

### EnviroGard®

EnviroGard® is a rapid field or laboratory immunoassay method for the analysis of soil and/or water for remediation assessment, and industrial testing. It uses an antibody coated test tube or plate technology to detect the analyte of concern. The method can be used to test for analytes such as pesticides, Microcystins and PCBs.

# Test Kits

## Typical levels of detection (LOD) for Modern Water’s test kit range

CATEGORY	SPECIFIC COMPOUND	PRODUCT	LODS
Explosives	RDX (Research Department Explosive)	EnSys RDX	1 ppm to 30 ppm
	TNT (Trinitroluene)	Ensys TNT	1 ppm to 30 ppm
Petroleum Hydrocarbons	BTEX (Benzene, Toluene, Ethyl Benzene, Xylene)	RaPID Assay BTEX/ TPH	Soil - 0.9 to 30 ppm Water - 0.02 to 3.0ppm
	TPH (Total Petroleum Hydrocarbons)	Petroflag	10 to 50,000 ppm
Pesticides, herbicides, insecticides	Atrazine	QuickChek Atrazine RaPID Assay Atrazine	1 to 10 ppb 0.04 to 5 ppb
	Chlordane	EnviroGard Chlordane	20 to 600 ppb
	DDT	EnviroGard DDT	200 to 10,000 ppb
	Triazine (Plate and tube)	EnviroGard Triazine	Plate: 0.1 to 2 ppb Tube: 0.1 to 1 ppb
	2,4-Dichlorophenoxyacetic acid	RaPID Assay 2,4-D	0.7 to 50 ppb
Microbial	SRB (Sulfate Reducing Bacteria)	QuickChek SRB	10 <sup>3</sup> cells/ml (Detection limit for “clean” waters down to 10 <sup>1</sup> cells/ml)
	ATP (Adenosine Triphosphate)	2nd Generation kits	0.1pg/mL (Approx. 100 CFU)
Persistant Organic Pollutants	PAH (Poly aromatic hydrocarbons)	RaPID Assay PAH	Soil: 0.2 to 5 ppm Water: 2 to 50 ppb
		RaPID Assay PCB	Soil: 0.5 to 10 ppm Water: 0.2 to 5 ppb Wipes: 5.0 ug to 500 ug/100cm <sup>2</sup> with dilutions
	PCB (Polychlorinated Biphenyl)	EnvrioGard PCB	Soil: 0.2 to 500 ppm Water: 50 to 400 ppb Wipes: 5 to 100µg per wipe
	PCP (Pentachloraphenol)	RaPID Assay PCP	Soil: 0.25 to 10 ppm Water: 0.1 to 10 ppb
	cPAH	RapidAssay cPAH	Soil: 10 to 500 ppb Water: 0.1 to 5 ppb
Toxins	Microcystins	EnviroGard Microcystins	Plate: 0.1 to 1.6 ppb Tube: 0.2 to 4 ppb



## Smart Reader for all Modern Water Test Kits

**The Modern Water Smart Reader is a simple-to-use dual light source photometer. It is designed for the Modern Water RaPID Assay® and EnviroGard line of environmental test kits for use in the field or in the laboratory.**

This innovative technology offers low power consumption, self-diagnostic functionality and wireless connectivity allowing the user to effortlessly read and store the data on a rugged field tablet using Bluetooth® SMART connectivity. The rugged field tablet comes pre-loaded with custom software for reading test

results for multiple parameters offered in the Modern Water test kit line. Due to the versatility and simplicity of use it has been designed to simplify the process of testing.

The Smart Reader, paired with the rugged tablet, offers both sample analysis and data interpretation giving a rapid onsite sample result. By pairing the tablet with the reader and hitting one button, the sample is read and the result automatically sent to the tablet for interpretation and saving. After test completion, the results can be transferred to a PC via USB connection or Bluetooth.

# SmartReader

## WHICH PRODUCTS IS THE SMARTREADER COMPATIBLE WITH?

Analyte	Matrix	EnviroGard MDL	RaPID Assay MDL
PCB	Soil	0.5 ppm	<0.5 ppm
	Water	50 ppb*	0.2 ppb
	Wipes	5µg/wipe	<5 µg
	Concrete	0.5 ppm	0.5 ppm
PAH	Soil	n/a	0.2 ppm
	Water	n/a	2.0 ppb
cPAH	Soil	n/a	10 ppb
	Water	n/a	0.1 ppb
Total BTEX/TPH	Soil	n/a	0.9 ppm
	Water	n/a	0.02 ppm
Pentachlorophenol	Soil	n/a	0.1 ppm
	Water	n/a	0.1 ppb
Triazine Tube	Soil	n/a	n/a
	Water	0.1 - 1.0 ppb	n/a
2, 4-D	Water	n/a	0.70 ppb
Atrazine	Water	n/a	0.015 ppb
Chlordane (soil)	Soil	14 - 600 ppb	n/a
	Water	(as soil)	
DDT (soil)	Soil	20 - 1,000 ppb	n/a
	Water	(as soil)	

Call Modern Water for specific analytes, MDLs and other test kits





## QuickChek Strip Tests

### QuickChek Atrazine

QuickChek™ Atrazine strip test produces results in just 10 minutes using the rapid enzyme immunoassay strip method and is ideal for detecting atrazine in both drinking water and environmental water samples. It has excellent analytical precision with a detection range from just 1 ppb to 10 ppb.

This innovative technology saves operators and laboratories both time and resources when compared to costly analytical instrumentation that can take over an hour to achieve results. This enables plant operators to take faster corrective action when atrazine levels spike due to storm water runoff.

Atrazine is one of the most widely used herbicides in the United States and Australia. Since 2001 it is the most commonly detected pesticide in drinking water supplies in the United States.



# Strip Tests



## QuickChek Strip Reader

Modern Water's QuickChek Reader is a portable, robust and automated lateral flow reading device. It is an extremely flexible device, capable of performing qualitative and semi-quantitative assays. With one push of a button the assay will be analysed within seconds and up to 10,000 results can then be stored within the device and/ or emailed.

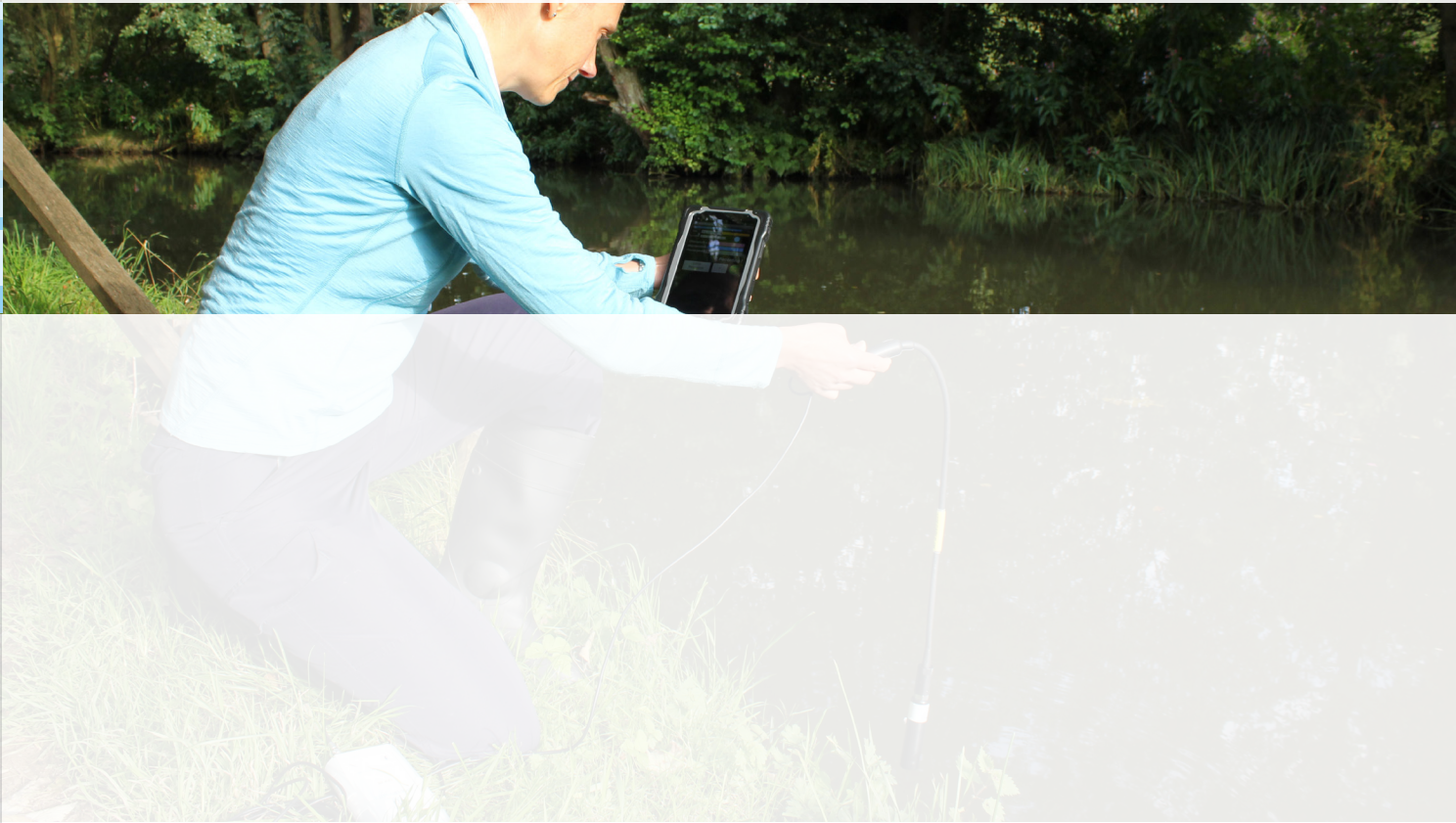
Each strip test is marked with a bar code which identifies the specific assay. The reader scans this bar code and utilises an image of the test window to generate a result.

The results can be programmed in a number of ways. The QuickChek™ reader is capable of giving semi-quantitative results based off of the intensity of the test line.

Results are easy to read and understand. The result output is specified by the type of assay being performed. For example, Atrazine results are read in ppb.

## Features

- Portable and robust
- Semi-quantitative results
- Automated
- Flexible
- Accurate



## Fluorometers

Modern Water's fluorometer range includes the AlgaeChek, AlgaeChek Ultra, BODChek and PetroChek.

### AlgaeChek and AlgaeChek Ultra

Algae fluorometers are rugged and portable for rapid field deployment or can be used on-line with a flowcell. The single parameter AlgaeChek can be programmed to detect Chlorophyll a, phycocyanin and phycoerythrin. Additionally, the AlgaeChek Ultra combines capacities to detect all three pigments with one instrument. Many species of cyanobacteria produce toxins that can be harmful to human health or have significant environmental impact. These systems provide a low-cost, high-performance sensor for marine, freshwater or process applications.

### BODChek

BODChek enables in-situ, real-time monitoring of Biological Oxygen Demand (BOD) within natural water systems and water processing plants. The monitor can be used as a portable analyser or online with a flow cell. It detects fluorescent tryptophan-like compounds that are inherent within sewage and slurry and provides an output in BOD equivalent units.



The AlgaeChek Ultra with the Modern Water Rugged Tablet

# Fluorometers

## PetroChek PAH and PetroChek BTEX

PetroChek is a portable or online crude and refined hydrocarbon monitor that enables in-situ, real-time monitoring of crude and refined hydrocarbons within both fresh and marine water systems. The monitor detects fluorescent poly aromatic hydrocarbons (PAHs) or BTEX that are inherent in crude oil and refined fuels and lubricants.



## Typical detection limits for Modern Water's fluorometer range

SPECIFIC COMPOUND	PRODUCT	DETECTION RANGE
Chlorophyll a	AlgaeChek Ultra AlgaeChek	0 to 100 µg/L
Phycocerythrin (Red algae)	AlgaeChek Ultra AlgaeChek	0 to 100 µg/L
Phycocyanin (Blue-green algae)	AlgaeChek Ultra AllgaeChek	0 to 100 µg/L
Fluorescein	AlgaeChek Ultra AllgaeChek	0 to 100 µg/L
Rhodamine	AlgaeChek Ultra AllgaeChek	0 to 100 µg/L
Turbidity	AlgaeChek Ultra AlgaeChek	0 to 100FTU
Biological Oxygen Demand	BODChek	0.01 to 35 mg/L (Factory set - can be extended on request)
Poly aromatic hydrocarbons (PAH)	PetroChek	0.005 to 200 µg/L Carbazole (Factory set - can be extended on request)
BTEX	PetroChek	3 to 50,000 ppb

To find out how we can help you please contact us on:  
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