

## Method

Detergents can be introduced into the water supply by industry, soap manufacturers, and private households. Environmental analysts often include a determination of anionic detergents when assessing surface water pollution.

### The Methylene Blue Method

**References:** USEPA Methods for Chemical Analysis of Water and Wastes, Method 425.1 (1983). APHA Standard Methods, 22<sup>nd</sup> ed., Method 5540 C - 2000. ASTM D 2330-02, Methylene Blue Active Substances.

The methylene blue active substances (MBAS) method is used in a 3-minute procedure to measure anionic detergents. The procedure features a unique extraction/sampling technique that eliminates several steps required in other test procedures and provides increased sensitivity.

Anionic detergents react with methylene blue to form a blue-colored complex that is extracted into an immiscible organic solvent. Results are expressed in ppm (mg/L) as linear alkylbenzene sulfonate (LAS), equivalent weight 325.

**Shelf-life:** eight months. We recommend stocking quantities that will be used within seven months.

## Visual Kits

**Range: 0-3 ppm**  
MDL: 0.125 ppm / Method: Methylene Blue

	Cat#
<b>CHEMets Kit</b>	<b>K-9400</b>
CHEMets Refill, 20 ampoule sets, Shelf-life 8 months	R-9400
Comparator 0, 0.25, 0.50, 0.75, 1.0, 1.5, 2.0, 3.0 ppm	C-9400
Kit comes in a cardboard box and contains everything needed to perform 20 tests: Refill, Comparator, reaction tube with lid, tip breaking tool and instructions.	

**Range: 0-1400 ppm**  
MDL: 100 ppm / Method: Methylene Blue

	Cat#
<b>CHEMets Kit</b>	<b>K-9404</b>
CHEMets Refill, 20 ampoule sets and 20 pipette tips; Shelf-life 8 months	R-9404
Comparator 0, 100, 200, 400, 600, 800, 1000, 1200, 1400 ppm	C-9404
Kit comes in a cardboard box and contains everything needed to perform 20 tests (except distilled water): Refill, Comparator, 25 uL MiniPet <sup>®</sup> , reaction tube with lid, tip breaking tool, and instructions.	

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## Instrumental Kits

### Multi-Analyte Photometers

V-3000 Series

(See page 14 for instrumental features)

**Range: 0-2.50 ppm**  
Method: Methylene Blue

	Cat#
<b>Detergents Instrumental Refill</b>	<b>R-9423</b>

Instrumental Refill, comes in a cardboard box and contains everything needed to perform 20 test: 20 double-tipped ampoules, 21 test tubes, dropper bottle with cap, tip-breaking tool and instructions. Shelf-life 8 months.

### SAM Single-Analyte Photometer

(See page 17 for instrumental features)

**Range: 0-2.50 ppm**  
Method: Methylene Blue

	Cat#
<b>Detergents SAM Kit</b>	<b>I-2017</b>

Instrumental Refill, 20 double-tipped ampoules, 21 test tubes, dropper bottle with cap, tip-breaking tool and instructions. Shelf-life 8 months.

**R-9423**

SAM Kit comes in a cardboard box and contains everything needed to perform 20 tests: Instrumental Refill, SAM Photometer, light shield, 4 AAA batteries, screwdriver, and instructions.

### Kit Components common to Detergents

Description	Cat#
Tip Breaking Tool Pack (2 ea)	A-0197
Reaction Tube w/Lid, Detergents (5 ea)	A-0087
Pipette Tips Pack (30 ea)	A-0171
MiniPet <sup>®</sup> , 25 uL (1 ea)	A-0191

**Instructions and MSDS(s) are posted on our website.**

**If no shelf-life is listed for a product, then the shelf-life is at least 2 years.**

