

# Come full circle with CHEMetrics COD



- ✓USEPA accepted
- ✓Less expensive than other brands
- ✓No need to modify existing equipment, accessories or procedures
- ✓Reduces operating costs
- ✓Disposal service offered

## COD Reagent Vials\*

CHEMetrics Part No.	No. of Tests	Range (ppm)	USEPA Accepted	Hach <sup>1</sup> Equivalent Cat. No.
K-7350S	25	0-150	Yes	21258-25
K-7360S	25	0-1500	Yes	21259-25
K-7370S	25	0-15,000	No	24159-25
K-7355	150	0-150	Yes	21258-15
K-7365	150	0-1500	Yes	21259-15
K-7375	98	0-15,000	No	24159-15

## Mercury-free COD Reagent Vials

CHEMetrics Part No.	No. of Tests	Range (ppm)	USEPA Accepted	Hach <sup>1</sup> Equivalent Cat. No.
K-7351S	25	0-150	No	25650-25
K-7361S	25	0-1500	No	25651-25
K-7371S	25	0-15,000	No	28343-25
K-7356	150	0-150	No	N/A
K-7366	150	0-1500	No	25651-15
K-7376	98	0-15,000	No	N/A

\*USEPA accepted COD Vials can be used for NPDES reporting.  
See next page for description of disposal service program.

<sup>1</sup> NOTE: No endorsement by Hach Company is implied or intended.

## greenCOD™ Recycling Program

For disposal of CHEMetrics mercury-containing COD Vials. Through our new partnership with U.S. Waste Industries, a full service environmental company, CHEMetrics now offers an easy, economical method to dispose of CHEMetrics used COD Vials, using our new convenient 5-gallon mail-back program.

- Free shipping
- Certificate of Recycling provided
- DOT Approved Recycling Container
- \*Holds about 400 used COD Vials
- Available to Conditionally Exempt Small Quantity Generators

\*For disposal of CHEMetrics mercury-containing COD Vials only. For U.S. customers only. Not available for following states: AK, AR, CA, HI, IL, MA, ME, MI, MN, NH, RI. Contact CHEMetrics Customer Service for details.



## Easy 1-2-3 Ordering

1. Place your order for a 5-gallon recycling container, catalog no. A-7300.
2. U.S. Waste Industries will send recycling container and label for shipping. All documentation and transportation cost to recycling facility are included in purchase.
3. Drop CHEMetrics' used mercury-containing COD vials in greenCOD™ recycling container and ship to designated location.



## Methods

The determination of Chemical Oxygen Demand (COD) is widely used in municipal and industrial laboratories to measure the overall level of organic contamination in wastewater. The contamination level is determined by measuring the equivalent amount of oxygen required to oxidize organic matter in the sample.

References: USEPA Methods of Analysis of Water and Wastes, Method 410.4 (1983). APHA Standard Methods, 22nd ed., Method 5220 D-1997. A.M. Jirka and M. J. Carter, "Micro Semi-Automated Analysis of Surface and Wastewaters for Chemical Oxygen Demand," Analytical Chemistry, Vol. 47, p. 1397 (1975). J. A. Winter, "Method Research Study 3, Demand Analysis, An Evaluation of Analytical Methods for Water and Wastewater," USEPA, 1971. ASTM D 1252-00, Chemical Oxygen Demand (Dichromate Oxygen Demand) of Water, Test Method B.



## The Dichromate Reactor Digestion Method

CHEMetrics offers two dichromate reactor digestion methods for fast, easy, safe determinations of low-, mid-, and high-range COD levels in wastewater: the USEPA-accepted Method, and a mercury-free method. The products using the USEPA-accepted method contain mercuric sulfate in the reagent to eliminate chloride interferences. The mercury-free product line is applicable when chloride interference is not a concern and USEPA reporting is not required.

CHEMetrics' leakproof reagent vials contain pre-measured solutions of sulfuric acid and potassium dichromate. To perform the COD determination, the analyst simply removes the Teflon-lined screw cap from the vial, adds sample to the vial, and replaces the cap. The vial is then heated for two hours at 150°C in a standard digester block. Once digestion is completed, results are obtained using any photometer that accepts 16-mm diameter cells. CHEMetrics COD vials can be directly used in a CHEMetrics multi-analyte photometer, CHEMetrics' single analyte COD photometers, as well as in Hach<sup>1</sup> spectrophotometers. Built-in Hach COD methods and calibrations can be used without the need for a new calibration. A generic calibration equation is included within the CHEMetrics kit for use with other spectrophotometers.

<sup>1</sup>NOTE: No endorsement by Hach Company is implied or intended.



## Instrumental Kit

**Range: 0-40 (ULR)**  
Method: Dichromate Reactor Digestion

	Cat#
COD ( <i>Not USEPA Accepted</i> ) Vials Kit	*K-7340S

Kit comes in a cardboard box and contains everything needed to perform up to 24 tests (except distilled water): 25 vials and instruction book. Shelf-life 12 months.

**Note:** This COD Kit requires the use of a Digester Block and spectrophotometer capable of accepting a 16-mm round cell. The K-7340S cannot be used with CHEMetrics Multi-Analyte Photometers or A-7320 COD Low Range Photometer.

## Multi-Analyte Photometers

V-2000 / V-3000 Series

(See page 14 for instrumental features)

**Range: 0-150 ppm (LR)**  
Method: Dichromate Reactor Digestion

	Cat#
COD ( <i>USEPA Accepted</i> ) Vials Kit	*K-7350S

Kit comes in a cardboard box and contains everything needed to perform up to 24 tests (except distilled water): 25 vials and instruction book.

	Cat#
COD ( <i>USEPA Accepted</i> ) Vials Kit	*K-7355

Kit comes in a cardboard box and contains everything needed to perform up to 149 tests (except distilled water): 150 vials and instruction book.

**Range: 0-150 ppm (LR)**  
Method: Dichromate Reactor Digestion

	Cat#
COD ( <i>Mercury Free</i> ) Vials Kit	K-7351S

Kit comes in a cardboard box and contains everything needed to perform up to 24 tests (except distilled water): 25 vials and instruction book.

	Cat#
COD ( <i>Mercury Free</i> ) Vials Kit	K-7356

Kit comes in a cardboard box and contains everything needed to perform up to 149 tests (except distilled water): 150 vials and instruction book.

**Range: 0-1500 ppm (HR)**  
Method: Dichromate Reactor Digestion

	Cat#
COD ( <i>USEPA Accepted</i> ) Vials Kit	*K-7360S

Kit comes in a cardboard box and contains everything needed to perform up to 24 tests (except distilled water): 25 vials and instruction book.

	Cat#
COD ( <i>USEPA Accepted</i> ) Vials Kit	*K-7365

Kit comes in a cardboard box and contains everything needed to perform up to 149 tests (except distilled water): 150 vials and instruction book.

See Product Price List for COD Quantity Discount Schedule.

Instructions and MSDS(s) are posted on website.

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

**Range: 0-1500 ppm (HR)**  
Method: Dichromate Reactor Digestion

	Cat#
COD ( <i>Mercury Free</i> ) Vials Kit	K-7361S

Kit comes in a cardboard box and contains everything needed to perform up to 24 tests (except distilled water): 25 vials and instruction book.

	Cat#
COD ( <i>Mercury Free</i> ) Vials Kit	K-7366

Kit comes in a cardboard box and contains everything needed to perform up to 149 tests (except distilled water): 150 vials and instruction book.

**Range: 0-15,000 ppm (HR+)**  
Method: Dichromate Reactor Digestion

	Cat#
COD ( <i>Not USEPA Accepted</i> ) Vials Kit	*K-7370S

Kit comes in a cardboard box and contains everything needed to perform up to 24 tests (except distilled water): 25 vials and instruction book.

	Cat#
COD ( <i>Not USEPA Accepted</i> ) Vials Kit	*K-7375

Kit comes in a cardboard box and contains everything needed to perform up to 97 tests (except distilled water): 98 vials and instruction book.

**Range: 0-15,000 ppm (HR+)**  
Method: Dichromate Reactor Digestion

	Cat#
COD ( <i>Mercury Free</i> ) Vials Kit	K-7371S

Kit comes in a cardboard box and contains everything needed to perform up to 24 tests (except distilled water): 25 vials and instruction book.

	Cat#
COD ( <i>Mercury Free</i> ) Vials Kit	K-7376

Kit comes in a cardboard box and contains everything needed to perform up to 97 tests (except distilled water): 98 vials and instruction book.

*All COD Kits require the use of a Digester Block along with a CHEMetrics Photometer, a COD Photometer, or a spectrophotometer capable of accepting a 16 mm round cell. Instruments sold separately.*

*A fresh reagent ampoule blank must be prepared for each series of tests; therefore the number of samples that can be tested with each kit will vary.*

### Accessories

Description	Cat#
Vial Rack (holds 40 vials)	A-0107
Digester Block US (115 Volt, 12 cells), Warranty 1 year	A-0201
Digester Block EURO (230 Volt, 12 cells), Warranty 1 year	A-0202
Digester Block UK (230 Volt, 12 cells), Warranty 1 year	A-0203
Digester Block AUS (230 Volt, 12 cells), Warranty 1 year	A-0204
Calibration Standard, 1000 ppm (200 mL), Shelf-life 8 months	A-7301 <sup>1</sup>
Calibration Standard, 10,000 ppm (200 mL), Shelf-life 8 months	A-7310 <sup>1</sup>
Low Range COD Photometer (0-150 ppm)	A-7320
High Range COD Photometer (0-1500 & 0-15,000 ppm)	A-7325

<sup>1</sup> This product must be refrigerated.

\*Contains mercury. Dispose according to local, state or federal laws.