

Method

Carbohydrazide is added to boiler system water as an oxygen scavenger to control corrosion. It is a safer alternative to hydrazine, which is toxic. Carbohydrazide reacts with oxygen at low temperatures and pressures. The products of the reaction are volatile and do not contribute dissolved solids to the boiler water. Like hydrazine, carbohydrazide will also passivate metal surfaces.

The PDTS Method

Reference: G. Frederick Smith Chemical Co., *The Iron Reagents*, 3rd ed., p. 47 (1980).

The test kits employ the PDTS chemistry. Carbohydrazide reduces ferric iron to the ferrous state, and the ferrous iron reacts with PDTS (3-(2-pyridyl)-5,6-bis(4-phenylsulfonic acid)-1,2,4-triazine disodium salt) to form a peach-pink colored complex in direct proportion to the carbohydrazide concentration. Test results are expressed as ppm (mg/L) carbohydrazide.

⚠ WARNING! This product can expose you to chemicals including chloroform, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Visual Kit

Range: 0-0.50 ppm MDL: 0.05 ppm / Method: PDTS	
CHEMets Kit	Cat#
CHEMets Refill, 30 ampoules	R-1805
Activator Solution Pack, six 10 mL bottles	A-1800
Comparator 0, 0.05, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50 ppm	C-1805
Kit comes in a plastic case and contains everything needed to perform 30 tests: Refill, Comparator, Activator Solution, 25 mL sample cup and instructions.	

Components and Accessories	
Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Ampoule Blank Pack (5 ea)	A-0023

Instructions and SDSs are posted on our website.
If no shelf life is listed for a product, then the shelf life is at least 1 year.

Method

Dissolved carbon dioxide (CO₂) is naturally present as a result of animal respiration, the decay of organic matter, and the decomposition of certain minerals. It is the major source of acidity in unpolluted water samples. Surface waters typically contain less than 10 ppm (mg/L) dissolved CO₂, while ground waters, particularly if deep, may contain several hundred ppm (mg/L).

The Caustic Titrant with pH Indicator Method

References: APHA Standard Methods, 23rd ed., Method 4500-CO₂ C-2004. ASTM D 513-82, Total and Dissolved Carbon Dioxide in Water, Test Method E.

CHEMetrics' carbon dioxide test kits employ a sodium hydroxide titrant and phenolphthalein indicator. Results are expressed as ppm (mg/L) CO₂.

Visual Kits

Range: 10-100 ppm MDL: 10 ppm / Method: Caustic Titrant with pH Indicator	
Titrets Kit	Cat#
	K-1910
Increments: 10, 11, 12, 13, 14, 15, 16, 18, 20, 25, 30, 35, 40, 50, 70, 100 ppm	
Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules with valve assemblies, Activator Solution, titrettor, 25 mL sample cup and instructions.	

Range: 100-1000 ppm MDL: 100 ppm / Method: Caustic Titrant with pH Indicator	
Titrets Kit	Cat#
	K-1920
Increments: 100, 110, 120, 130, 140, 150, 160, 180, 200, 250, 300, 350, 400, 500, 700, 1000 ppm	
Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules with valve assemblies, Activator Solution, titrettor, 25 mL sample cup and instructions.	

Range: 250-2500 ppm MDL: 250 ppm / Method: Caustic Titrant with pH Indicator	
Titrets Kit	Cat#
	K-1925
Increments: 250, 275, 300, 325, 350, 375, 400, 450, 500, 625, 750, 875, 1000, 1250, 1750, 2500 ppm	
Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules with valve assemblies, Activator Solution, titrettor, 25 mL sample cup and instructions.	

Components and Accessories	
Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Titrettor Pack (1 ea)	A-0053

Instructions and SDSs are posted on our website.
If no shelf life is listed for a product, then the shelf life is at least 1 year.



⚠ WARNING! These products can expose you to chemicals including phenolphthalein, which is known to the State of California to cause cancer, and methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

