

Hydrazine

Method

Hydrazine is a powerful reducing agent that is used in various chemical processes and in boiler water as an oxygen scavenger. To control corrosion, residual hydrazine typically is maintained in the 0.05 to 0.1 mg/L range. Higher levels may be used to guard against corrosion when the boiler is out of service for an extended period.

The PDMAB Method

References: ASTM D 1385-07, Hydrazine in Water. L. C. Thomas and G. J. Chamberlin, Colorimetric Chemical Analytical Methods, 8th ed., pp. 194-195, Method I (1974).

CHEMetrics' hydrazine test kits employ the PDMAB, paradimethylaminobenzaldehyde chemistry. PDMAB in acid solution reacts with hydrazine to form a yellow product. Results are expressed as ppb ($\mu\text{g/L}$) or ppm (mg/L) N_2H_4 .

Visual Kit

Range: 0-0.5 ppm MDL: 0.005 ppm / Method: PDMAB	
CHEMetrics Kit	K-5005
CHEMetrics Refill, 30 ampoules	R-5005
Comparator 0, 0.01, 0.03, 0.05, 0.07, 0.1, 0.3, 0.5 ppm	C-5005
Kit comes in a plastic case and contains everything needed to perform 30 tests: Refill, Comparator, 25 mL sample cup and instructions.	

Range: 0-12.5 ppm MDL: 0.25 ppm / Method: PDMAB	
VACUettes Kit	K-5005D
VACUettes Refill, 30 ampoules	R-5005D
Comparator 0, 0.25, 0.75, 1.25, 1.75, 2.5, 7.5, 12.5 ppm	C-5005D
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, dilutor snapper cup, micro test tube and instructions.	

Range: 0-25 ppm MDL: 0.5 ppm / Method: PDMAB	
VACUettes Kit	K-5005A
VACUettes Refill, 30 ampoules	R-5005A
Comparator 0, 0.5, 1.5, 2.5, 3.5, 5, 15, 25 ppm	C-5005A
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, dilutor snapper cup, micro test tube and instructions.	

Range: 0-50 ppm MDL: 1 ppm / Method: PDMAB	
VACUettes Kit	K-5005B
VACUettes Refill, 30 ampoules	R-5005B
Comparator 0, 1, 3, 5, 7, 10, 30, 50 ppm	C-5005B
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, dilutor snapper cup, micro test tube and instructions.	

Range: 0-500 ppm MDL: 10 ppm / Method: PDMAB	
VACUettes Kit	K-5005C
VACUettes Refill, 30 ampoules	R-5005C
Comparator 0, 10, 30, 50, 70, 100, 300, 500 ppm	C-5005C
Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, dilutor snapper cup, micro test tube and instructions.	

Components and Accessories	
Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Micro Test Tube Pack (10 ea)	A-0015
Dilutor Snapper Cup Pack (6 ea)	A-0018

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 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.

Hydrogen Peroxide

Methods

Hydrogen peroxide is a strong oxidizing agent with a variety of uses. Applications include the treating of industrial effluents and domestic waste and serving as a disinfectant in aseptic packaging.

For the food and beverage industry, CHEMetrics Hydrogen Peroxide CHEMetrics and Vacu-vials products are used extensively to monitor sterilization solutions in the packaging and sanitizing processes.

The Ferric Thiocyanate Method

Reference: D. F. Boltz and J. A. Howell, eds., Colorimetric Determination of Nonmetals, 2nd ed., Vol. 8, p. 304 (1978).

The ferric thiocyanate method consists of ammonium thiocyanate and ferrous iron in acid solution. Hydrogen peroxide oxidizes ferrous iron to the ferric state, resulting in the formation of a red thiocyanate complex. Chlorine will not interfere with this method. Ferric iron, peracetic acid, and cupric copper will interfere.* Results are expressed as ppm (mg/L) H_2O_2 .

The DPD Method

References: APHA Standard Methods Online, Method 4500- H_2O_2 B-2020.

With the DPD Method, hydrogen peroxide reacts with DPD (N, N-diethyl-p-phenylenediamine) in the presence of potassium iodide and ammonium molybdate to form a pink product. Results are expressed as ppm (mg/L) H_2O_2 .

The Ceric Sulfate Titrimetric Method

Reference: Developed by CHEMetrics.

CHEMetrics developed a titrimetric method using ceric sulfate as the titrant and ferroin as the end point indicator. A color change from green to orange signals the end of the titration. Results are expressed as percent (%) H_2O_2 . The test range can be modified by performing a sample dilution. Details are provided in the kit instructions for ranges of 0.01 - 0.1% through 2-20%.

WARNING! The product employing the Ferric Thiocyanate method can expose you to chemicals including methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.gov.

Visual Kit

Range: 0-0.5 ppm MDL: 0.025 ppm / Method: DPD	
CHEMetrics Kit	K-5502
CHEMetrics Refill, 30 ampoules	R-5502
Activator Solution Pack, six 10 mL bottles	A-5500 ¹
Activator Solution Pack, six 10 mL bottles	A-5501 ¹
Comparator 0, 0.05, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50 ppm	C-5502
Kit comes in a plastic case and contains everything needed to perform 30 tests: Refill, Comparator, Activator Solutions, 25 mL sample cup and instructions.	

Range: 0-0.8 & 1-10 ppm MDL: 0.05 ppm / Method: Ferric Thiocyanate	
CHEMetrics Kit	K-5510
CHEMetrics Refill, 30 ampoules	R-5510
Low Range Comparator 0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8 ppm	C-5501
High Range Comparator 1, 2, 3, 4, 5, 6, 7, 8, 10 ppm	C-5510
Kit comes in a plastic case and contains everything needed to perform 30 tests: Refill, Low and High Range Comparators, 25 mL sample cup and instructions.	

¹ The accessory pack supplies enough solution to perform at least 200 tests.

* Contact technical@chemetrics.com for more information.

