Hydrazine - PDMAB Method

Version 5 | Mar 2018

Applications and Industries

Boiler feedwater, process water

References

ASTM D 1385-07, Hydrazine in Water

L.C. Thomas and G.J. Chamberlin, Colorimetric Chemical Analytical Method, 8th ed., pp. 194-195, Method I (1974)

Chemistry

In an acidic solution, hydrazine reacts with PDMAB (p-dimethylaminobenzaldehyde) to form a yellow colored complex In direct proportion to the hydrazine concentration. Results are expressed in ppm (mg/L) N_2H_4.

Available Analysis Systems

Visual colorimetric: CHEMets®, ULR CHEMets®, Vacuettes®

Instrumental colorimetric: Vacu-vials®

Shelf Life

When stored in the dark and at room temperature:

Visual colorimetric:

ULR CHEMets, CHEMets, VACUettes refills, color comparators: at least 1 year

Instrumental colorimetric:

Vacu-vials kit: at least 1 year

Accuracy Statement

CHEMets, ULR CHEMets, and VACUettes kits:

±1 color standard increment.

Vacu-vials kit:

With spectrophotometer:

≤0.018 ppm at 0 ppm
±0.025 ppm at 0.070 ppm
±0.050 ppm at 0.250 ppm
±0.075 ppm at 0.500 ppm

With V-2000 and V-3000:

≤0.03 ppm at 0 ppm
±0.04 ppm at 0.10 ppm
±0.05 ppm at 0.25 ppm
±0.14 ppm at 0.90 ppm

Interference Information

Most substances normally present In industrial water do not interfere.

Nitrite causes a significant low bias. Nitrite also causes a green color development In test ampoules that have been improperly stored at high temperatures.

Color and turbidity may interfere.

Sample pHs of up to at least 12 can be tolerated.

Sample temperatures up to at least 40°C do not impact the chemistry.

Carbohydrazide at up to 100 ppm does not interfere.

DEHA at concentrations within the test range does not interfere.

Ammonia at up to 10 ppm does not interfere.

Morpholine at up to 10 ppm is not expected to interfere.

Acetic acid interferes by converting PDMAB to a protonated form that reacts with primary aromatic amines and not hydrazine.

Hydrazine content may be diminished by the presence of oxidizing agents (e.g. chlorine, bromine, peroxides) in the sample.

Safety Information

Safety Data Sheets (SDS) are available upon request and at www.chemetrics.com. Read SDS before using these products. Breaking the tip of an ampoule in air rather than water may cause the glass ampoule to shatter. Wear safety glasses and protective gloves.

Storage Requirements

Products should be stored in the dark and at room temperature.