Hydrazine - PDMAB Method

Version 7 / Sep 2023

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®, VACUettes®

Storage Requirements

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

Shelf Life

When stored in the dark and at room temperature:

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

Accuracy Statement

Statements of accuracy are based on laboratory tests performed under ideal testing conditions using standards of known concentration prepared in deionized water.

CHEMets and VACUettes kits: ± 1 color standard increment

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.
- Sample color and turbidity may make a visual color match difficult.
- Sample pHs up to at least 12 can be tolerated.
- Sample temperatures up to at least 40°C do not impact the chemistry.
- Carbohydrazide up to 100 ppm does not interfere.
- DEHA at concentrations within the test range does not interfere.
- Ammonia up to at least 100 ppm does not interfere.
- Morpholine 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 but does not react with 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.