FORMAMIDE MOLECULAR BIOLOGY REAGENT
Sigma Prod. No. F7508

ProductInformation

CAS NUMBER: 75-12-7

SYNONYMS: Amid Kyseliny Mravenci (Czech); Carbamaldehyde; Methanamide; Methanoic Acid, Amide

PHYSICAL PROPERTIES:

Appearance: Clear colorless liquid
Melting Point: +2.55°C[1]
Boiling Point: 210.5°C @760 mm (partial decomposition into CO and NH3 at atm pressure beginning at 180°C)[1]
Specific Gravity: 1.13340 @20°C with respect to H_2O @4°C[1]
Refractive Index: 1.44754 @20°C for sodium light[1]
Dielectric constant: 84[1]

NOTE:

This product has not been deionized and should be deionized before use in molecular biology applications. For instructions on how to deionize, please refer to the **APPLICATIONS** section below.

STABILITY / STORAGE AS SUPPLIED:

Formamide may be stored at room temperature and should be protected from exposure to moisture. It will begin to partially decompose into carbon monoxide and ammonia at one atmosphere of pressure at 180°C. Industrial grades may have a faint odor of ammonia.[1]

SOLUBILITY / SOLUTION STABILITY:

Formamide is miscible with water, methanol, ethanol, acetone, acetic acid, dioxane, ethylene glycol, U.S.P. glycerol and phenol. It is very slightly soluble in ether and benzene. Many compounds such as tannins, starch, lignin, polyvinyl alcohol, cellulose acetate, nylon, chlorides of copper, lead, zinc, tin, cobalt, iron, aluminum, nickel and the acetates of the alkali metals will dissolve in formamide.[1]

The pH of a 0.5 M solution is approximately 5.0 before deionization and approximately 6.8 after deionization.[2]

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APPLICATIONS:

Formamide is used in nucleic acid hybridizations and gel loading solutions. It should be deionized before use. To deionize:

1. Mix 1 gram of a mixed bed resin (such as Sigma Prod. No. M8032) with 10 mL of formamide.
2. Stir for approximately 1 hour.
3. Filter two times through Whatman #1 filter.
4. Sterile filter and store for a single use at -20°C; stable up to 6 months. If the deionized formamide is stored at room temperature, deionize every 2 weeks. The pH of a 0.5 M solution is approximately 5.0 before deionization and approximately 6.8 after deionization. Formamide with a yellowish appearance requires deionization.[2]

REFERENCES:

1. *The Merck Index*, 12th ed., p. 718, #4264 (1996).
2. Sigma Bioscience's *Tips on Using Our Molecular Biology Reagents*.