

Product Information

Tetramethylammonium hydroxide solution

Catalog Number **334901**
Store at Room Temperature

CAS RN: 75-59-2

Molecular Formula: (CH₃)₄N(OH)

Molecular Weight: 91.15

Density: 0.866 g/ml (25 °C)

Synonyms: N,N,N-trimethylethanaminium hydroxide:
TMAOH; TMAH;

Product Description

This product is a 25 wt. % solution of tetramethylammonium hydroxide in methanol.

Tetramethylammonium hydroxide (TMAOH) is an ion pairing agent that is commonly used in analytical chemistry. TMAOH is utilized in gas chromatography/mass spectrometry (GC/MS), capillary isotachopheresis and capillary zone electrophoresis, and liquid chromatography. TMAOH has been used in the analysis of marine compounds by TLC-pyrolysis-GC/MS and thermal desorption/capillary GC/inductively coupled plasma mass spectrometry.^{1,2} The use of TMAOH in a capillary zone electrophoresis technique for the separation of inorganic anions has been described.³ A study has been reported on oligonucleotide reassociation in the presence of TMAOH.⁴ The use of TMAOH in the synthesis of organic and inorganic compounds, such as vinyl halides and tetramethylammonium dithiocarboxylates, has been described.^{5,6} TMAOH has been utilized in the preparation of iron oxide nanoparticles for application as magnetic resonance imaging contrast agents.⁷

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

References

1. Hudson, E. D., et al., Thin-layer chromatography-pyrolysis-gas chromatography-mass spectrometry: a multidimensional approach to marine lipid class and molecular species analysis. *J. Chromatogr. Sci.*, **39(4)**, 146-152 (2001).
2. Vercauteren, J., et al., Stir bar sorptive extraction for the determination of ppq-level traces of organotin compounds in environmental samples with thermal desorption-capillary gas chromatography-ICP mass spectrometry. *Anal. Chem.*, **73(7)**, 1509-1514 (2001).
3. Chen, Z., et al., Enhanced selectivity and sensitivity for inorganic anions using an ion-pairing reagent and sample stacking in capillary zone electrophoresis with direct UV detection. *Anal. Bioanal. Chem.*, **375(1)**, 182-187 (2003).
4. Maskos, U., and Southern, E. M., A study of oligonucleotide reassociation using large arrays of oligonucleotides synthesised on a glass support. *Nucleic Acids Res.*, **21(20)**, 4663-4669 (1993).
5. Trost, B. M., and Pinkerton, A. B., Formation of vinyl halides via a ruthenium-catalyzed three component coupling. *J. Am. Chem. Soc.*, **124(25)**, 7376-7389 (2002).
6. Kato, S., et al., Heavy Alkali Metal Arenedithiocarboxylates: A Facile Synthesis, Dimeric structure, and nonbonding interaction between the metals and aromatic ring carbons. *Inorg. Chem.*, **38(3)**, 496-506 (1999).
7. Babes, L., et al., Synthesis of iron oxide nanoparticles used as MRI contrast agents: A parametric study. *J. Colloid Interface Sci.*, **212(2)**, 474-482 (1999).

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