

T8224

Tris-Acetate-Phosphate

Synonym: TAP

Properties:

Form: Fine to Coarse Powder
 Appearance: White Powder
 Application: Freshwater algal culture
 Solubility: Few to no insolubles at the typical working concentration in water
 Typical Working Concentration: 3.17 g/L
 Storage Temp: 2 - 8°C
 Storage Temp of Stock Solution: Preparation of concentrated solutions is not recommended as insoluble precipitates may form.
 Biological Assay: Algal culture tested with *Chlamydomonas reinhardtii*

Formula (mg/L):

Ammonium Chloride	400.0	EDTA, Disodium Salt	50.00
Tris-Base	2420	Ferrous Sulfate•7H ₂ O	4.990
Ammonium Molybdate•4H ₂ O	1.100	Magnesium Sulfate, Anhydrous	48.83
Boric Acid	11.40	Manganese Chloride•4H ₂ O	5.060
Calcium Chloride, Anhydrous	37.74	Potassium Phosphate, Dibasic	108.0
Cobalt Chloride•6H ₂ O	1.610	Potassium Phosphate, Monobasic	54.00
Cupric Sulfate•5H ₂ O	1.570	Zinc Sulfate•7H ₂ O	22.00

Application Notes:

Tris-acetate-phosphate medium (TAP) is a standard maintenance medium often used for *Chlamydomonas reinhardtii*, the most well-characterized eukaryotic freshwater algae. Ammonium (NH₄⁺) serves as the primary nitrogen source and Tris buffers the pH. Since TAP contains a relatively low concentration of phosphate, it can be used for ³²P labeling as well as experiments/isolations that require clarity of solid-substrate cultures (e.g. agar) (Harris 1989).

Media Preparation:

The standard (photoheterotrophic) medium is prepared as follows: 1 mL of glacial acetic acid (A256) is added per liter of medium to obtain the proper final concentration of acetate (17.4 mM). The final solution pH is adjusted to 7.0 +/- 0.1 with HCl.

If T8224 is to be used photoautotrophically, glacial acetic acid is omitted. The final solution pH is adjusted to 7.0 +/- 0.1 with HCl.

PhytoTech Labs Inc. also carries TAP medium in liquid form, Product No. T8050.

References:

Gorman, D.S., and R.P. Levine (1965) Proc. Natl. Acad. Sci. USA 54, 1665-1669.
 Harris, E.H. (1989): The *Chlamydomonas* sourcebook: a comprehensive guide to biology and laboratory use. Academic Press, San Diego, 780pp.

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