Product Information Sheet

T8024
TM4 Basal Salt Mixture

Properties

Form:	Powder
Appearance:	White to Yellow
Application:	Plant Tissue Culture
Solubility:	Soluble in Water
Typical Working Concentration:	2.88 g/L
Storage Temp:	2 – 6° C
Storage Temp of Stock Solution:	Preparation of concentrated solutions is not recommended as insoluble precipitates may form.
Other Notes:	Contains the micro- and macronutrients as described by Shahin (1984) in his research with tomato protoplasts. He notes the concentration of potassium iodide used in his work as 0.38g/L. This amount is presumed to be a typo due to cross reference of this medium formulation with his patent (#4634674) also describing this medium, but with 0.83 g/L KI. Formulation does not include the vitamins, sucrose, agar, MES or plant growth regulators as Shahin's 1984 formulation describes

Formula

Ammonium Nitrate	320
Ammonium Phosphate, Monobasic	230
Ammonium Sulfate	134
Boric Acid	6.2
Calcium Chloride, Anhydrous	113.25
Cobalt Chloride•$6H_2O$	0.025
Cupric Sulfate•$5H_2O$	0.025
Na_2 EDTA •$2H_2O$	18.5

Ferrous Sulfate	13.9
Magnesium Sulfate, Anhydrous	122.12
Manganese Sulfate•H_2O	16.9
Molybdic Acid (Sodium Salt) •$2H_2O$	0.25
Potassium Iodide	0.83
Potassium Nitrate	1900
Zinc Sulfate•$7H_2O$	8.6

Application Notes

Plant Tissue Culture Tested

These micro and macronutrients were used in Shahin's (1984) TM4 medium while researching the regeneration of shoots from protoplast derived calli of tomato.

References

Shahin E. A. (1984) Totipotency of tomato protoplasts. Theoretical and Applied Genetics. 69(3): 235-240, DOI: 10.1007/BF00662431.

Shahin E. A. (1987) US Patent 4,634,674.

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