

Product Information Sheet

M404

Murashige & Skoog (MS) Modified Basal Medium w/ Gamborg Vitamins

Properties

Form:	Powder
Appearance:	White to Yellow
Application:	Plant Tissue Culture
Solubility:	Water
Typical Working Concentration:	4.44 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 macro- and micronutrients as described by Murashige and Skoog (1962) and vitamins as described by Gamborg, et al. (1968). pH = 3.5 – 4.5

Formula (mg/L)

Ammonium Nitrate	1650
Boric Acid	6.2
Calcium Chloride, Anhydrous	332.2
Cobalt Chloride•6H ₂ O	0.025
Cupric Sulfate•5H ₂ O	0.025
Na ₂ EDTA•2H ₂ O	37.26
Ferrous Sulfate	27.8
Magnesium Sulfate, Anhydrous	180.7
Manganese Sulfate•H ₂ O	16.9

Molybdc Acid (Sodium Salt)•2H ₂ O	0.25
Potassium Iodide	0.83
Potassium Nitrate	1900
Potassium Phosphate Monobasic	170
Zinc Sulfate•7H ₂ O	8.6
myo-Inositol	100
Nicotinic Acid (Free Acid)	1
Pyridoxine•HCl	1
Thiamine•HCl	10

Application Notes

Plant species: *Cannabis sativa* L (Feeney & Punja, 2003; Wang et al, 2009).
Tobacco (Murashige and Skoog, 1962)

References

- Feeney M & ZK Punja (2003) Tissue culture and Agrobacterium-mediated transformation of hemp (*Cannabis sativa* L.) *In Vitro Cell. Dev. Biol-Plant* 39, 578–585.
- Gamborg, OL, RA Miller and K Ojima. 1968. Nutrient requirements of suspension cultures of soybean root cells. *Exp. Cell Res.* 50: 151-158.
- Murashige, T and F Skoog. 1962. A revised medium for rapid growth and bioassays with tobacco tissue cultures. *Physiol. Plant.* 15: 473-497.
- Wang R, L He, B Xia, JF Tong, N Li & F Peng (2009) A micropropagation system for cloning of hemp (*Cannabis sativa* L.) by shoot tip culture. *Pak. J. Bot.*, 41(2): 603-608.

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