

## M519 Murashige & Skoog (MS) Basal Medium w/ Vitamins

Synonym: MS Medium

### Properties

Form: Fine to Fluffy Powder  
 Appearance: White to Yellow Powder  
 Application: Plant Tissue Culture  
 Solubility: Water  
 Typical Working Concentration: 4.43 g/L  
 Storage Temp: 2-6°  
 Storage Temp of Stock Solution: Preparation of concentrated solutions is not recommended as insoluble precipitates may form.  
 Other Notes: Contains the macro- and micronutrients and vitamins as described by Murashige and Skoog (1962).  
 pH = 3.5-4.5

### Formula (mg/L)

Ammonium Nitrate	1650
Boric Acid	6.2
Calcium Chloride, Anhydrous	332.2
Cobalt Chloride•6H <sub>2</sub> O	0.025
Cupric Sulfate•5H <sub>2</sub> O	0.025
Na <sub>2</sub> EDTA•2H <sub>2</sub> O	37.26
Ferrous Sulfate•7H <sub>2</sub> O	27.8
Magnesium Sulfate, Anhydrous	180.7
Manganese Sulfate•H <sub>2</sub> O	16.9
Molybdcic Acid (Sodium Salt)• 2H <sub>2</sub> O	0.25

Potassium Iodide	0.83
Potassium Nitrate	1900
Potassium Phosphate, Monobasic	170
Zinc Sulfate•7H <sub>2</sub> O	8.6
Glycine (Free Base)	2
myo-Inositol	100
Nicotinic Acid (Free Acid)	0.5
Pyridoxine•HCl	0.5
Thiamine•HCl	0.1

### Application Notes

Plant Tissue Culture Tested

Plant species: This medium is used for a numerous species.

### References

Murashige, T and F Skoog. 1962. A revised medium for rapid growth and bioassays with tobacco tissue cultures. *Physiol. Plant.* 15: 473-497.

Revised 3/2007