

**M524**  
**Murashige & Skoog (MS)**  
**Basal Salt Mixture**

Synonym: MS Salts

**Properties**

Form: Fine to Fluffy Powder  
 Appearance: White to Yellow Powder  
 Application: Plant Tissue Culture  
 Solubility: Water  
 Typical Working Concentration: 4.33 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 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
Molybdc 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

**Application Notes**

Plant Tissue Culture Tested

Plant species: This basal salt is used for 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

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