

**M407**  
**Murashige & Skoog (MS)**  
**Modified Basal Salt Mixture**  
**(No Nitrogen or Phosphate and trace**  
**Potassium)**

**Properties**

Form: Fine to Fluffy Powder  
 Appearance: White to Yellow Powder  
 Application: Plant Tissue Culture  
 Solubility: Water  
 Typical Working Concentration: 0.61 g/L  
 Storage Temp: 2-8°  
 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) with the following exceptions: No Ammonium Nitrate, Potassium Nitrate, or Potassium Phosphate Monobasic.  
 pH = 3.8-4.8

**Formula (mg/L)**

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
Zinc Sulfate•7H <sub>2</sub> O	8.6

**Application Notes**

Plant Tissue Culture Tested

Plant species: Numerous, especially herbaceous.

This medium was developed to provide researchers with a base medium when determining the optimum nitrogen, potassium, and phosphorus levels.

**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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