

Product Information Sheet

A1375 Arabidopsis Germination Medium

Synonym: *Arabidopsis* seed germination medium

Properties:

Form: Fine to Fluffy Powder
 Appearance: White to Yellow Powder
 Application: Arabidopsis seed germination
 Solubility: Water
 Typical Working Concentration: 12.67 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).
 pH = 3.5-4.5

Formula [mg/L]:

Ammonium Nitrate	825
Potassium Nitrate	950
Boric Acid	3.1
Cobalt Chloride 6H ₂ O	0.0125
Cupric Sulfate 5H ₂ O	0.0125
Na ₂ EDTA 2H ₂ O	18.63
Ferrous Sulfate 7H ₂ O	13.9
Magnesium Sulfate Anhydrous	90.35
Manganese Sulfate H ₂ O	8.45
Sodium Molybdate 2H ₂ O	0.125
Potassium Iodide	0.415

Potassium Phosphate Monobasic	85.0
Zinc Sulfate 7H ₂ O	4.3
Calcium Chloride Anhydrous	166.1
MES	500
Sucrose	10,000

Application Notes:

Arabidopsis thaliana (Col-0) and (Ler) possess a relatively low level of seed dormancy, and it is most often broken by stratification (2-6°C) in the dark for 2-4 days.

This formulation contains 1/2X MS (M524) with 0.5 g/L MES, and 10 g/L of sucrose and meets what the ABRC (Arabidopsis Biological Resource Center) recommends (<https://abrc.osu.edu/seed-handling>) for Arabidopsis seed germination. This formulation also contains enough nitrogen (20 mM in nitrate) and carbon (30 mM in sucrose) for proper seedling growth and development (Martin *et al.* 2002). As *Arabidopsis thaliana* is a model flowering plant, this type of formulation has been used often for germinating seeds (Denness *et al.* 2011; Stacey *et al.* 2006; Sorek *et al.* 2014).

If you prefer 1X MS for Arabidopsis germination, we would suggest using M530 (contains M519 + 0.5 g/L MES) and add 10 g/L of sucrose (Valvekens *et al.* 1988; Millet *et al.* 2010). To add Gamborg's vitamins add 1 mL/L of G219.

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References:

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