

Technical Information

CHU (N₆) Plant Salt Mixture

Product Code: TS2103

Application: CHU (N₆) plant salt mixture has been specially formulated for plant cell, tissue and organ cultures. The mixture contains macroelements, microelements and iron source.

Composition**

Ingredients	mg/Litre
Potassium nitrate	2830.00
Ammonium sulphate	463.00
Calcium chloride.2H ₂ O	166.02
Magnesium sulphate	90.37
Potassium phosphate monobasic	400.00
Manganese sulphate.H ₂ O	3.33
Boric acid	1.60
Potassium iodide	0.80
Zinc sulphate.7H ₂ O	1.50
Ferrous sulphate.7H ₂ O	27.80
EDTA disodium salt.2H ₂ O	37.26
TOTAL gm/litre	4.02

Methodology

Suspend 3.96 grams of dehydrated plant salt mixture[#] in 600ml of distilled water and rinse media vial with small quantity of distilled water to remove traces of powder. Apply constant gentle stirring to the solution till the powder dissolves completely. Add desired heat stable supplements prior to autoclaving. Adjust the medium to the desired pH using 1N HCl/NaOH. Make up the final volume to 1000ml with distilled water. Sterilize the medium by autoclaving at 15 lbs or 121°C for 15 minutes. Cool the autoclaved medium to 45°C before adding the filter sterilized heat labile supplements. Dispense the desired amount of medium aseptically in sterile culture vessels.

Weight after vacuum drying to remove all water

Quality Control

Appearance

White to off-white, homogeneous, free flowing powder.

Solubility

3.96 gm/litre soluble in distilled water

Colour and clarity.pH at 25°C

Colourless to light yellow, clear solution

Cultural Response

4.0 ±0.5 of 0.396% w/v dehydrated plant salt mixture.

Cultural condition :

Incubation period : 5 weeks
Relative humidity : 60% ± 2%
Temperature : 22°C ± 2°C
Photoperiod (D:N) in hours : 16:8

Cell Line	Type of Culture	Results
<i>Musa</i> species	Shoot culture	No structural deformity observed No necrotic tissues, Actively growing shoots, No toxicity to shoots
<i>Daucus</i> species	Callus culture	No necrotic tissues, Actively growing callus, No toxicity to callus

[The medium is prepared as per direction. The growth promoting activity of this plant salt mixture is evaluated using two plant species viz. *Musa* species and *Daucus* species through three passages. Plant growth hormones (e.g. 2,4-D,NAA, Kinetin and 6-BAP) are added in suitable combinations and concentrations.]

Storage and Shelf Life

Dehydrated plant salt mixture powder is extremely hygroscopic and should be protected from atmospheric moisture. If possible, the entire content of each bottle should be used immediately after opening or else the unused portion should be stored in a desiccator and refrigerated at -2- 8°C. Use before the expiry date.

Reference

1. Chu C.C., *et al.*, Scientia Sinic., (1975), 18, 659 – 668
2. Chu C.C, Wang C.C & Sun C.S., (1978), In: Proc. Symp. Plant Tissue Culture, Science Press, Peking, 45 - 50

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