PRODUCT INFORMATION

CHU (N_6) Macroelements

Product Code: TS1043

Product Description :

CHU (N_6) Medium has been developed by C.C. *et al*. in 1975 for the i*n vitro* anther culture of *oryza sativa* family *Graminae*. The medium helps in the initiation, growth and differentiation of callus from the rice pollen cultures.

CHU (N_6) Macroelements is a nutrient blend of inorganic salts that provides all essential macroelements to the plants. Potassium nitrate serves as a source of nitrate. Ammonium sulphate quantity has been reduced as ammonium ions have inhibitory effect on growth and quality of the rice callus but aids in morphogenesis. Magnesium sulphate provides magnesium which acts as a precursor in many vital metabolic processes. Calcium serves as a modulator and helps in cell wall synthesis and stabilization.

The product is plant tissue culture tested but it is the sole responsibility of the user to ensure the suitability of the medium for individual species.

Composition :

Ingredients	mg/L
MACROELEMENTS	
Ammonium sulphate	463.000
Calcium chloride	125.340
Magnesium sulphate	90.370
Potassium nitrate	2830.000
Potassium phosphate monobasic	400.000
Total(gms/litre)	3.9

Material required but not provided :

- Autoclaved distilled water
- Plant growth regulators
- 1N NaOH/HCl
- Sucrose (PCT0607)
- CHU (N_6) Microelements (TS1042/PL002)
- CHU (N_6)Vitamins (VP010)
- Gelling agents like Agar (PCT0901) or CleriGel™ (PCT0903)

Precautions :

- Ensure appropriate pH of the medium before addition of gelling agent as acidic pH will lead to decreased gelation resulting in semi solid flowing gel while alkaline pH will lead to formation of hardened gel.
- Use of Distilled water/Tissue culture grade water is recommended for media preparation as tap water or lower grade water may lead to salt precipitation and improper gelation.
- Avoid preparation of concentrated solutions, as it will lead to precipitation of salts.

Directions :

- Reconstitute powder by adding required quantity of powder in two-third of total volume with constant, gentle stirring till the powder gets completely dissolved.
- Add heat stable supplements prior to autoclaving.
- Make up the final volume with distilled water.
- Adjust the pH of the medium to 5.75 ± 0.5 using 1N NaOH/ HCl.
- Add the gelling agent and heat the medium to boiling till complete dissolution of gelling agent.
- Sterilize the medium by autoclaving at 15 lbs and 121°C for 15 min.
- Cool the autoclaved medium to about 45°C before adding heat labile supplements.
- Aseptically dispense the desired amount of medium under a laminar airflow unit in sterile culture vessels.

Quality Control:

Appearance
White to off-white, homogenous, free flowing powder

Solubility
3.90 gms/litre soluble in distilled water

Colour and Clarity
Colourless to light yellow, clear solution

pH at 25ºC
4.20 - 5.20

Plant Tissue Culture Test

The growth promoting property of macroelements is assessed by adding required supplements to make a complete medium and testing for culture performance. Culture test is done by providing plant cultures with relative humidity of about 60%±2%, temperature 22ºC±2ºC and photoperiod of about 16:8. The plant species showed actively growing callus and shoots with no structural, necrotic and toxic deformity.

Storage and Shelf Life:

• The plant tissue culture macroelements powder is extremely hygroscopic and must be stored at 2-8°C in air tight containers.
• Preferably, entire content of each package should be used immediately after opening.
• Use before the expiry date.

Revision : 01 / 2017