Product Specification

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Technical Information

Gerbera Rooting Medium
With Vitamins, Sucrose and CleriGel™

Product Code: PT1135G

Application: Gerbera Rooting Medium has been developed on the basis of Murashige and Skoog medium for the *in vitro* multiplication of *Gerbera*, family *Asteraceae* (commonly known as daisy family). The formulation is a nutrient blend of inorganic salts, vitamins, carbohydrate and gelling agent.

Gerbera Rooting Medium contains all the essential macroelements and microelements. Potassium nitrate and ammonium nitrate provide nitrogen and is responsible for organogenesis. The mixture of cation and anion is responsible for optimum pH of the medium. Potassium dihydrogen phosphate serves as a source of phosphate. Microelements like Boron, Manganese, Molybdenum, Copper, Iron and Zinc play vital role in the plant metabolism. Boron plays a key role in carbohydrate metabolism. Thiamine and inositol acid act as enzymatic cofactors in the universal pathways including glycolysis and TCA cycle along with primary and secondary metabolism in the plants.

CleriGel™, a gellan gum is used as an alternative toagar. It offers several advantages over conventional agar as it sets a clear gel which assists easy observation of cultures and their possible contamination. Unlike agar, gel strength of CleriGel™ is unaffected over a widerange of pH and contains no contaminants like phenolic compounds that can be toxic to plant tissues. It solidifies uniformly and rapidly.

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/Litre
MACROELEMENTS	
Ammonium nitrate	1630.000
Calcium chloride	332.200
Magnesium sulphate	180.690
Potassium phosphate monobasic	170.000
Potasssium nitrate	1850.000
MICROELEMENTS	
Boric acid	6.200
Cobalt chloride hexahydrate	0.025
Copper sulphate pentahydrate	0.025
EDTA disodium salt dihydrate	37.300
Ferrous sulphate heptahydrate	27.800
Manganese sulphate monohydrate	16.900
Molybdic acid (sodium salt)	0.213
Potassium Iodide	0.830
Zinc sulphate heptahydrate	8.600
VITAMINS	
myo-Inositol	100.000
Thiamine hydrochloride	0.350
CARBOHYDRATE	
Sucrose	15000.000
GELLING AGENT	
Gelrite	2000.000
TOTAL	**21.4ms/litre**

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Material required but not provided

- Autoclaved distilled water
- Plant growth regulators
- 1N NaOH/HCl

Quality Control

Appearance
White to off-white, homogenous, free flowing powder
Solubility
21.4 gms/litre soluble after boiling in distilled water
Colour and Clarity
Colourless to light yellow, clear solution, clear gel is formed on cooling
pH at 25ºC
4.00-5.00
Gelling
Firm gel formed at pH: 5.75 ± 0.5
Plant Tissue Culture Test
The growth promoting properties of medium is assessedby 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.

Directions

- Reconstitute medium by adding required quantity of powder in two-third of total volume with constant, gentle stirring till the medium 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.
- Heat the medium to boiling till complete dissolution ofgelling agent.
- Sterilize the medium by autoclaving at 15 lbs and 121°Cfor 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

Storage and Shelf Life

- The plant tissue culture medium 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.

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.

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Disclaimer

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
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