

## Product Information Sheet

### C257 Carrageenan

Synonym: Gelcarin GP 812®; Irish Moss; Kappa-Type Carrageenan  
CAS: 9000-07-1

#### Properties

Form: Powder  
Appearance: Cream to Tan Powder  
Application: Plant Tissue Culture Gelling Agent  
Solubility: Partially Soluble in Cold Water; Soluble in Boiling Water  
Typical Working Concentration: 6 to 10 g/L  
Storage Temp: Room Temperature  
Other Notes: Plant Tissue Culture Tested

#### Application Notes

Carrageenan is produced from a family of red seaweeds, *Rhodophyceae*, of many different genera such as *Chondrus*, *Eucheuma*, *Gigartina*, and *Iridaea*. These different genera produce different types of carrageenans such as kappa, lambda, and iota. Product No. C257 is Gelcarin GP 812® which is a registered trademark of FMC BioPolymer. It is a kappa-type carrageenan that forms a strong, rigid gel in the presence of potassium ions often under the process called potassium precipitation.<sup>2</sup>

When carrageenan is dissolved properly, it will produce a rigid gel. Carrageenan is typically used at a wide range of concentrations from 6 g/L to 10 g/L. It is suspended in a medium that is at room temperature or colder like agar. Carrageenan should be added last since the medium will become viscous, as carrageenan is a water-soluble polymer; the viscosity of carrageenan increases with concentration and decreases with temperature. Moreover, carrageenan should also be added slowly to an agitated medium to help prevent clumping of the carrageenan and to create a uniform suspension. A lumpy suspension of carrageenan will not dissolve uniformly when autoclaved. Next, the pH of the medium should be adjusted. After autoclaving, stir the medium to distribute the melted carrageenan uniformly into the solution.

PhytoTechnology Laboratories® also carries high clarity carrageenan, Product No. C2000.

Please Note: While *PhytoTechnology Laboratories*™ tests each lot of this product with two or more plant cell/ tissue culture lines, it is the sole responsibility of the purchaser to determine the appropriateness of this product for the specific plants that are being cultured and applications that are being used.

#### References

1. *Merck* 13, 1878
2. McHugh, D.J. (1987). Production and Utilization of Products from Commercial Seaweeds. FAO Fisheries Technical Paper 288, Food and Agriculture Organization of the United Nations, Rome.

#### India Contact

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