



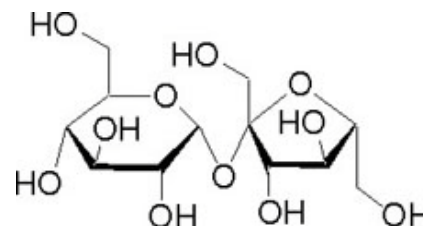
## Product Information Sheet

### S391 D-Sucrose

Synonym:  $\beta$ -D-Fructofuranosyl- $\alpha$ -D-glucopyranoside; Cane Sugar  
CAS: 57-50-1  
Formula:  $C_{12}H_{22}O_{11}$   
Molecular Wt: 342.34

#### Properties

Form: Powder  
Appearance: White Crystalline  
Application: Carbohydrate Source  
Solubility: Water  
Typical Working Concentration: 10 to 30 g/L  
Storage Temp: Room Temperature  
Other Notes: Plant Tissue Culture Tested



#### Application Notes

D-Sucrose is derived from cane sugar. It is commonly used in plant tissue culture as a carbohydrate source. Various concentrations of sucrose can be used in plant tissue culture; however, it has been reported that growth and morphogenesis of related plant species can differ when subcultured on the same optimal sucrose concentrations.<sup>2</sup>

Sucrose concentrations of 15 and 30 g/L have been reported to be optimal concentrations for plant growth of *Calanthe* hybrid 'Bukduseong' x 'Hyesung', while a high concentration of 60 g/L enhanced root growth but root tissues were abnormal.<sup>3</sup> Furthermore, it has been reported that a concentration as high as 80 g/L of sucrose helped induce microtubers in potato culture.<sup>4</sup>

PhytoTechnology Laboratories® also carries Ultra-Pure D-Sucrose, Product No. S829.

#### References

1. Merck **13**, 8966
2. George G. 1993. Plant Propagation by Tissue Culture, Part 1: The Technology. England: Exegetics Limited, 574 pp.
3. Baque, Md. Abdullahil, Shin, Yun-Kyong, ElshMari, Turkey, Lee, Eun-Jung, and Paek, Kee-Yoeup. 2011. Effect of light quality, sucrose and coconut water concentration on the microporpagation of *Calanthe* hybrids ('Bukduseong' x 'Hyesung' and 'Chunkwang' x 'Hyesung'). *Australian Journal of Crop Science*. 5(10):1247-1254.
4. Kanwal, Amina, Ali Amir, and Kunwar Shoaib. 2006. *In vitro* microtuberization of potato (*Solanum tuberosum* L.) cultivar kuroda – a new variety in Pakistan. *International Journal of Agriculture & Biology*. 8(3):337-340.

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