

Product Information

D-(+)-Glucose solution Cell Culture Tested

Product Number **G8644**
Store at Room Temperature

CAS Number: 50-99-7

Product Description

Molecular Formula: C₆H₁₂O₆

Molecular Weight: 180.2

pH: 3-4 (25 °C)

The density of an aqueous 10% solution (w/v) at
17.5 °C is 1.038 g/mL.²

This product is a 10% (w/v) solution of glucose. Based on a 10% (w/v) concentration and a molecular weight for glucose of 180 Da, the solution is 0.56 M glucose.

This product has been tested with cell lines to verify the product is not cytotoxic. The growth promoting capacity of this cell culture tested glucose solution was assessed at 45 mL/L in medium using appropriate cell lines.

Glucose is a main source of energy for living organisms. Glucose occurs naturally in the free state in fruits and other parts of plants. Glucose is combined into glucosides, disaccharides, oligosaccharides, the polysaccharides (cellulose and starch), and glycogen.

Glucose is a mixture of α - and β -anomers, primarily the α -anomer. The optical rotation of the α -anomer is +112.2° (c = 10% in water, 20 °C) and the β -anomer is +18.7° (c = 10% in water, 20 °C). When D-glucose is dissolved in water, the optical rotation gradually changes (mutarotates) with time and approaches a final equilibrium value of +52.7° (c = 10%, 20 °C) due to the formation of an equilibrium mixture consisting of approximately one-third α - and two-thirds β -D-glucose.²

Precautions and Disclaimer

For Research Use Only. Not for drug, household or further manufacturing. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

This solution has been sterilized by filtration.

References

1. Biochemistry, 2nd ed., Lehninger, A. L., ed., Worth Publishers, Inc. (New York, NY: 1975), p. 253.
2. The Merck Index, 13th Ed., Entry# 4472.
3. Puget, K., and Michelson, A.M., Microestimation of glucose and glucose oxidase. Biochimie, **58**, 757-758 (1976).

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