

# PRODUCT INFORMATION



## Calcein

Item No. 16221

**CAS Registry No.:** 1461-15-0  
**Formal Name:** N,N'-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthene)-2',7'-diyl]bis(methylene)]bis[N-(carboxymethyl)-glycine]

**Synonyms:** Fluorescein Complexone, NSC 298193

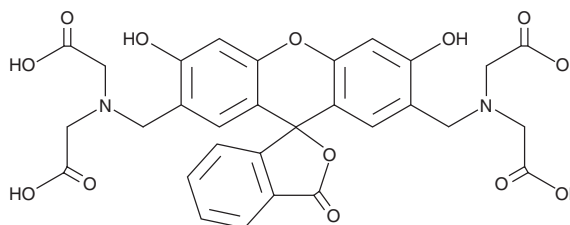
**MF:** C<sub>30</sub>H<sub>26</sub>N<sub>2</sub>O<sub>13</sub>  
**FW:** 622.5

**UV/Vis.:** λ<sub>max</sub>: 226, 278 nm

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Calcein is supplied as a crystalline solid. A stock solution may be made by dissolving the calcein in the solvent of choice. Calcein is soluble in 1 M sodium hydroxide at a concentration of approximately 50 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of calcein can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of calcein in PBS, pH 7.2, is approximately 0.2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Calcein is a xanthene that is commonly used for the fluorometric determination of calcium in solution.<sup>1,2</sup> As this form of calcein is not membrane permeable, it can be used in assays that evaluate membrane integrity.<sup>3,4</sup> Calcein can also be used as a fluorescent indicator for fluoride, iron, and mercury.<sup>5-7</sup> Excitation and emission maxima for calcein are 494 and 517 nm, respectively.<sup>2</sup>

### References

1. Bandrowski, J.F. and Benson, C.L. *Clin. Chem.* **18(11)**, 1411-1414 (1972).
2. Sabnis, R.W. John Wiley & Sons, Inc., Hoboken, NJ, USA (2010).
3. Cutler, A.J. and Saleem, M. *Plant Physiol.* **83(1)**, 24-28 (1987).
4. Kendall, D.A. and MacDonald, R.C. *J. Biol. Chem.* **257(23)**, 13892-13895 (1982).
5. Li, H.B. and Chen, F. *Fresenius. J. Anal. Chem.* **368(5)**, 501-504 (2000).
6. Ali, A., Zhang, Q., Dai, J., et al. *BioMetals* **16(2)**, 285-293 (2003).
7. Lista, A.G., Palomeque, M.E., and Fernjndez Band, B.S. *Talanta* **50(4)**, 881-885 (1999).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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