

## PRODUCT DATA SHEET

### Tocol

**Catalog No:** 1797

**Common Name:** *rac*-Tocol

**Source:** synthetic

**Solubility:** hexane, methanol, ethanol

**CAS No:** 119-98-2

**Molecular Formula:** C<sub>26</sub>H<sub>44</sub>O<sub>2</sub>

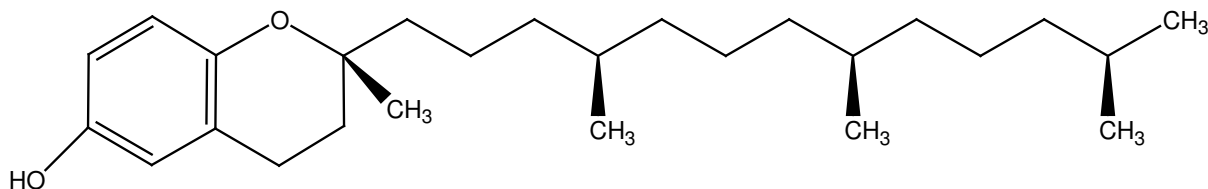
**Molecular Weight:** 389

**Storage:** -20°C

**Purity:** TLC >95%, GC >98%, HPLC >98%,  
identity confirmed by MS

**TLC System:** chloroform/methanol (97:3)

**Appearance:** liquid



### **Application Notes:**

This synthetic product is very similar in structure to tocopherol (vitamin E) and tocotrienol but is not found naturally and is therefore an ideal MS, HPLC, and GC internal standard for tocopherols and tocotrienols.<sup>1</sup> In experimental procedures it has been found that the functionality of tocol is different from tocopherols and tocotrienols. Whereas natural *alpha*-tocopherol is effective in suppressing erythrocyte hemolysis tocol has very little effect on hemolysis.<sup>2</sup> Tocol has also been found to be ineffective in increasing the microviscosity of rat liver PC liposomes while *alpha*-tocopherol showed good effectiveness. Whereas most tocopherol substrates (including *rac*-5,7-dimethyltolcol) are converted *in vitro* into *alpha*-tocopherol tocol is not, making it a stable synthetic compound in living systems.<sup>3</sup>

### **Selected References:**

1. T. Sontag and R. Parker "Influence of major structural features of tocopherols and tocotrienols on their  $\omega$ -oxidation by tocopherol  $\omega$ -hydroxylase" *Journal of Lipid Research*, Vol. 48 pp. 1090-1098, 2007
2. K. Mukail et. al "Vitamin E: Inhibition of Retinol-induced Hemolysis and Membrane-stabilizing Behavior" *Journal of Biological Chemistry*, Vol. 267:26 pp.18365-18370, 1992
3. K. Thimann *Vitamins and Hormones* Vol. 34 pp. 91

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