

## Product Information

### (-)-EPIGALLOCATECHIN GALLATE

Sigma Prod. No. **E4143**

Store at 2-8° C

**CAS NUMBER:** 989-51-5

**SYNONYM:** (2R,3R)-2-(3,4,5-Trihydroxyphenyl)-3,4-dihydro-1(2H)-benzopyran-3,5,7-triol 3-(3,4,5-trihydroxybenzoate); (-)-Epigallocatechin 3-O-gallate<sup>1</sup>; EGCG<sup>1</sup>

#### PHYSICAL DESCRIPTION:

Appearance: powder

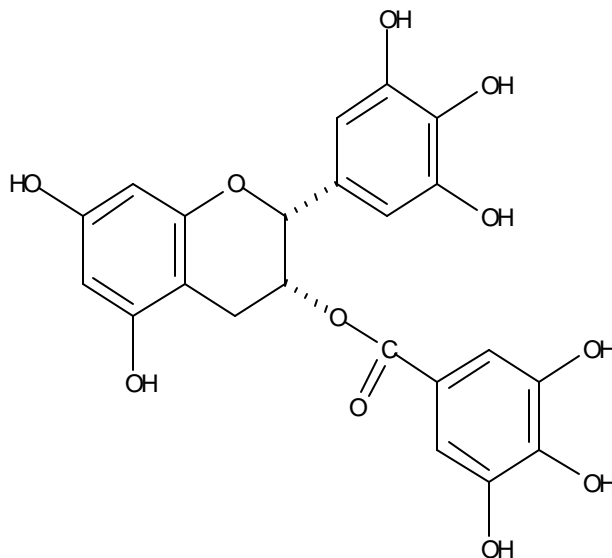
Molecular formula: C<sub>22</sub>H<sub>18</sub>O<sub>11</sub>

Molecular weight: 458.4

Melting point: 218°C<sup>1</sup>

E<sup>M</sup>(275 nm) = 11,500 (ethanol)<sup>1</sup>

Optical rotation: -185° ±2° (ethanol)<sup>1</sup>



#### STORAGE / STABILITY AS SUPPLIED:

#### SOLUBILITY:

This is soluble in water at least to 5 mg/mL, giving a clear faint yellow solution. The stability of a solution of this product in water at a concentration of 0.3 mg/mL was tested. A sample left for 2.5 hours at room temperature was found to have significantly decreased in purity (from 99.6% to 81.7%, by HPLC). A sample left for 2 hours at 4°C was found to have decreased only slightly (from 99.5% to 99.3%).

#### GENERAL NOTES:

Epigallocatechin gallate (EGCG) is a polyphenolic compound found in green tea leaves. Studies with EGCG indicate it has antitumor promoting activity.<sup>1,2</sup>

#### METHOD OF PREPARATION:

It is isolated by extracting the tea leaves with hot water, back-extracted with ethyl acetate. The EGCG is chromatographically isolated from the organic phase.<sup>3</sup>

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### **HPLC SYSTEM:<sup>4</sup>**

Column: YMC ODS-A 15 cm x 4.6 mm ID Particle size 5 µm

Mobile phase:acetonitrile:ethyl acetate:0.05% H<sub>3</sub>PO<sub>4</sub> (12:2:86)

Flow rate: 1.0 mL/min

Solvent: Product dissolved at 0.3 mg/mL in water, 20 µL injected

Detection at 280 nm

Retention time for major peak ≈12 minutes

Determination of this compound in plasma and urine by HPLC has been reported.<sup>5</sup>

### **REFERENCES:**

1. *Merck Index*, 12th ed., #3568 (1996).
2. Yamane, T. et al., *Cancer Res.*, 55, 2081 (1995).
3. Supplier information.
4. Sigma quality control.
5. Lee, M.-J. et al., *Cancer Epidemiol. Biomark. Prev.*, 4, 393 (1995).

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