

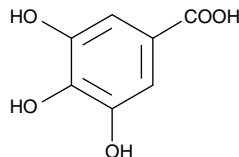
# Product Information



## Gallic Acid

Item No. 11846

**CAS Registry No.:** 149-91-7  
**Formal Name:** 3,4,5-trihydroxy-benzoic acid  
**Synonyms:** NSC 20103, NSC 674319,  
3,4,5-Trihydroxybenzoic acid  
**MF:** C<sub>7</sub>H<sub>6</sub>O<sub>5</sub>  
**FW:** 170.1  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 218, 273 nm



### Laboratory Procedures

For long term storage, we suggest that gallic acid be stored as supplied at -20°C. It should be stable for at least two years.

Gallic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the gallic acid in the solvent of choice. Gallic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of gallic acid in ethanol and DMSO is approximately 16 mg/ml and approximately 25 mg/ml in DMF.

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 gallic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of gallic acid in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Gallic acid is a trihydroxybenzoic acid found in many plants as either the free acid or in the esterified form of gallotannins and ellagitannins. It demonstrates antioxidant activity by scavenging 2,2-diphenyl-1-picrylhydrazyl and hydroxyl free radicals with IC<sub>50</sub> values of 9.4 and 191 μM, respectively, and inhibiting microsomal lipid peroxidation with an IC<sub>50</sub> value of 1.51 μM.<sup>1</sup> Gallic acid is often used as a standard for determining the phenol content of various analytes by the Folin-Ciocalteu assay where results are reported in gallic acid equivalents.<sup>2,3</sup>

### References

1. Cos, P., Hermans, N., Calomme, M., *et al.* Comparative study of eight well-known polyphenolic antioxidants. *J. Pharm. Pharmacol.* **55**, 1291-1297 (2003).
2. Bonilla, F., Mayen, M., Merida, J., *et al.* Extraction of phenolic compounds from red grape marc for use as food lipid antioxidants. *Food Chem.* **66**, 209-215 (1999).
3. Modun, D., Music, I., Vukovic, J., *et al.* The increase in human plasma antioxidant capacity after red wine consumption is due to both plasma urate and wine polyphenols. *Atherosclerosis* **197**, 250-256 (2008).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/11846](http://www.caymanchem.com/catalog/11846)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 09/05/2013

### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

[custserv@caymanchem.com](mailto:custserv@caymanchem.com)

#### Web

[www.caymanchem.com](http://www.caymanchem.com)