

## Product Information

**Product ID** I7302  
**CAS No.** 91-56-5  
**Chemical Name** Indole-2,3-dione

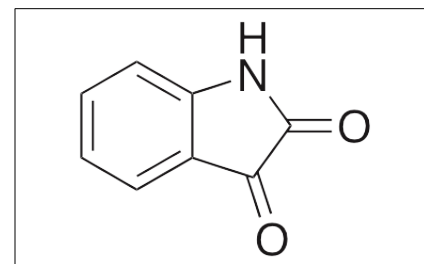
**Synonym** 2,3-Indolinedione, 2,3-Diketoinidoline

**Formula** C<sub>8</sub>H<sub>5</sub>NO<sub>2</sub>  
**Formula Wt.** 147.13  
**Melting Point** 203.5°C (partial subliminati  
**Purity** ≥97%  
**Solubility** Soluble in boiling alcohol,  
ether, boiling water and  
alkali hydroxide.

**Store Temp** Ambient

**Ship Temp** Ambient

**Description** Isatin is an indole derivative found in *Isatis*, *Calanthe*, and *Couroupita* that exhibits anti-inflammatory, antioxidative, neuromodulatory, and anticancer chemotherapeutic activities. Isatin prevents TNBS-induced increases in TNF-α, COX-2, and PGE2 levels as well as decreases in SOD and GSH levels, protecting against colitis-induced injuries in animal models. Isatin also inhibits monoamine oxidase B (MAO-B) and guanylate cyclase (natriuretic peptide receptors). Schiff base derivatives of isatin inhibit the growth of various cancer cells and tumors, likely due to decreasing cyclin B1 and Cdc2 expression and inducing G2/M phase cell cycle arrest. Derivatives of isatin also inhibit tubulin polymerization, Akt activation, and caspases 3, 7, and 9. Isatin may also exhibit antiepileptic/anticonvulsant activity.



**Bulk quantities available upon request**

Product ID	Size
I7302	100 g
I7302	500 g

**References** Liang C, Xia J, Lei D, et al. Synthesis, in vitro and in vivo antitumor activity of symmetrical bis-Schiff base derivatives of isatin. *Eur J Med Chem.* 2014 Mar 3;74:742-50. PMID: 24176732.

Socca EA, Luiz-Ferreira A, de Faria FM, et al. Inhibition of tumor necrosis factor-alpha and cyclooxygenase-2 by Isatin: a molecular mechanism of protection against TNBS-induced colitis in rats. *Chem Biol Interact.* 2014 Feb 25;209:48-55. PMID: 24316276.

Krishnegowda G, Prakasha Gowda AS, Tagaram HR, et al. Synthesis and biological evaluation of a novel class of isatin analogs as dual inhibitors of tubulin polymerization and Akt pathway. *Bioorg Med Chem.* 2011 Oct 15;19(20):6006-14. PMID: 21920762.

Chu W, Rothfuss J, d'Avignon A, et al. Isatin sulfonamide analogs containing a Michael addition acceptor: a new class of caspase 3/7 inhibitors. *J Med Chem.* 2007 Jul 26;50(15):3751-5. PMID: 17585855.

Malawska B. New anticonvulsant agents. *Curr Top Med Chem.* 2005;5(1):69-85. PMID: 15638779.

Edmondson DE, Mattevi A, Binda C, et al. Structure and mechanism of monoamine oxidase. *Curr Med Chem.* 2004 Aug;11(15):1983-93. PMID: 15279562.

Medvedev AE, Sandler M, Glover V. Interaction of isatin with type-A natriuretic peptide receptor: possible mechanism. *Life Sci.* 1998;62(26):2391-8. PMID: 9651105.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.