

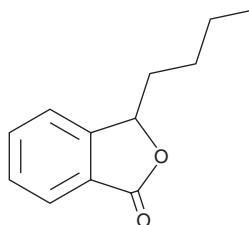
# PRODUCT INFORMATION



## DL-3-n-Butylphthalide

Item No. 30284

**CAS Registry No.:** 6066-49-5  
**Formal Name:** 3-butyl-1(3H)-isobenzofuranone  
**Synonyms:** (±)-3-Butylphthalide,  
dl-3-n-Butylphthalide, (±)-NBP  
**MF:** C<sub>12</sub>H<sub>14</sub>O<sub>2</sub>  
**FW:** 190.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 227 nm  
**Supplied as:** A neat oil  
**Storage:** -20°C  
**Stability:** ≥2 years  
**Item Origin:** Synthetic



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

### Laboratory Procedures

DL-3-n-Butylphthalide is supplied as a neat oil. A stock solution may be made by dissolving the DL-3-n-butylphthalide in the solvent of choice, which should be purged with an inert gas. DL-3-n-Butylphthalide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DL-3-n-butylphthalide in these solvents is approximately 30 mg/ml.

DL-3-n-Butylphthalide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DL-3-n-butylphthalide should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. DL-3-n-Butylphthalide has a solubility of approximately 0.33 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

DL-3-n-Butylphthalide is the racemic form of (-)-butylphthalide, a phthalide that has been found in *A. graveolens*, that has diverse biological activities, including antiplatelet, neuroprotective, and antioxidative properties.<sup>1,2</sup> DL-3-n-Butylphthalide inhibits ADP-, thrombin-, and arachidonic acid-induced aggregation of isolated washed human platelets when used at concentrations of 30, 100, and 300 μM, respectively.<sup>2</sup> It inhibits the phosphorylation of calcium-dependent cytosolic phospholipase A<sub>2</sub> (cPLA<sub>2</sub>) induced by ADP and reduces thromboxane A<sub>2</sub> (TXA<sub>2</sub>) production induced by thrombin or collagen in isolated washed human platelets at concentrations ranging from 30 to 300 μM. DL-3-n-Butylphthalide also inhibits caspase-3 activation, decreases reactive oxygen species (ROS) production and JNK phosphorylation, and prevents cell death induced by serum deprivation in primary mouse cortical neurons when used at a concentration of 10 μM. It reduces infarct volume, as well as caspase-3 activation and JNK phosphorylation in the peri-infarct region, in a mouse model of right middle cerebral artery occlusion (MCAO) with bilateral common carotid artery ligation when administered at a dose of 100 mg/kg one hour following occlusion.

### References

1. Li, J., Li, Y., Ogle, M., *et al.* DL-3-n-butylphthalide prevents neuronal cell death after focal cerebral ischemia in mice via the JNK pathway. *Brain Res.* **1359**, 216-226 (2010).
2. Ye, J., Zhai, L., Zhang, S., *et al.* DL-3-n-butylphthalide inhibits platelet activation via inhibition of cPLA<sub>2</sub>-mediated TXA<sub>2</sub> synthesis and phosphodiesterase. *Platelets* **26(8)**, 736-744 (2015).

#### 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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