

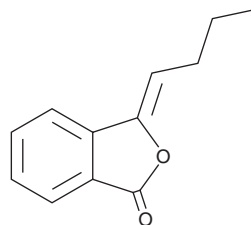
# PRODUCT INFORMATION



## 3-Butyridenepthalide

Item No. 34983

**CAS Registry No.:** 551-08-6  
**Formal Name:** 3-butyridene-1(3H)-isobenzofuranone  
**Synonym:** NSC 325307  
**MF:** C<sub>12</sub>H<sub>12</sub>O<sub>2</sub>  
**FW:** 188.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 216, 235, 260, 270, 311 nm  
**Supplied as:** A neat liquid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Synthetic



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

### Laboratory Procedures

3-Butyridenepthalide is supplied as a liquid. A stock solution may be made by dissolving the 3-butyridenepthalide in the solvent of choice, which should be purged with an inert gas. 3-Butyridenepthalide is soluble in ethanol. 3-Butyridenepthalide is slightly soluble in chloroform and ethyl acetate.

### Description

3-Butyridenepthalide is a plant metabolite that has been found in *L. jeholense* and has diverse biological activities.<sup>1-4</sup> 3-Butyridenepthalide (60 µg/ml) induces apoptosis and inhibits migration and the epithelial-to-mesenchymal transition (EMT) in 5637, BFTC-905, T24, and TCCSUP human bladder cancer cells.<sup>2</sup> *In vivo*, 3-butyridenepthalide (100 and 200 mg/kg) reduces tumor volume in a BFTC-905 mouse xenograft model. 3-Butyridenepthalide (400 mg/kg) increases life span and reduces spinal motor neuron loss in an SOD1<sup>G93A</sup> mouse model of amyotrophic lateral sclerosis (ALS).<sup>3</sup> It also reduces undegradable polyglutamine (polyQ) accumulation and cerebral atrophy, as well as improves motor coordination in a mouse model of spinocerebellar ataxia type 3 (SCA3), effects that can be reversed by the autophagy inhibitors bafilomycin A<sub>1</sub> (Item No. 11038) and wortmannin (Item No. 10010591).<sup>4</sup>

### References

1. Luo, C., Li, D.-L., Wang, Y., *et al.* Bioactivities of 3-butyridenepthalide and *n*-butylbenzene from the essential oil of *Ligusticum jeholense* against stored-product insects. *J. Oleo Sci.* **68(9)**, 931-937 (2019).
2. Chiu, S.-C., Chiu, T.-L., Huang, S.-Y., *et al.* Potential therapeutic effects of *N*-butyridenepthalide from *Radix Angelica Sinensis (Danggui)* in human bladder cancer cells. *BMC Complement. Altern. Med.* **17(1)**, 523 (2017).
3. Zhou, Q.-M., Zhang, J.-J., Li, S., *et al.* *n*-butyridenepthalide treatment prolongs life span and attenuates motor neuron loss in SOD1<sup>G93A</sup> mouse model of amyotrophic lateral sclerosis. *CNS Neurosci. Ther.* **23(5)**, 375-385 (2017).
4. Lee, J.-H., Lin, S.-Y., Liu, J.-W., *et al.* *n*-Butyridenepthalide modulates autophagy to ameliorate neuropathological progress of spinocerebellar ataxia type 3 through mTOR pathway. *Int. J. Mol. Sci.* **22(12)**, 6339 (2021).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM