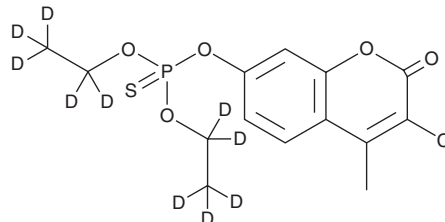


# PRODUCT INFORMATION



## Coumaphos-d<sub>10</sub> Item No. 39563

**CAS Registry No.:** 287397-86-8  
**Formal Name:** O-(3-chloro-4-methyl-2-oxo-2H-1-benzopyran-7-yl), phosphorothioic acid, O,O-di(ethyl-d<sub>5</sub>) ester  
**MF:** C<sub>14</sub>H<sub>6</sub>ClD<sub>10</sub>O<sub>5</sub>PS  
**FW:** 372.8  
**Chemical Purity:** ≥98% (Coumaphos)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>10</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Coumaphos-d<sub>10</sub> is intended for use as an internal standard for the quantification of coumaphos (Item No. 24230) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Coumaphos-d<sub>10</sub> is supplied as a solid. A stock solution may be made by dissolving the coumaphos-d<sub>10</sub> in the solvent of choice, which should be purged with an inert gas. Coumaphos-d<sub>10</sub> is slightly soluble in chloroform and methanol.

### Description

Coumaphos is an organophosphate pesticide.<sup>1</sup> It is converted into the corresponding oxon metabolite *in vivo*, similar to other organophosphate pesticides, that inhibits acetylcholinesterase (AChE). It is active against adult, but not arrested stage, *O. ostertagi* helminths.<sup>2</sup> Coumaphos is toxic to *A. stephensi* and *A. aegypti* mosquitoes when applied topically, with median lethal doses of 0.002 and 0.012 µg per female mosquito, respectively, but not when used as a contact insecticide.<sup>3</sup> It is lethal to rats (LD<sub>50</sub>s = 41 and 16 mg/kg for male and female rats, respectively).<sup>4</sup> Formulations containing coumaphos have been used to control pests in livestock.

### References

1. Guo, J.-X., Wu, J.J.-Q., Wight, J.B., *et al.* Mechanistic insight into acetylcholinesterase inhibition and acute toxicity of organophosphorus compounds: A molecular modeling study. *Chem. Res. Toxicol.* **19(2)**, 209-216 (2006).
2. Prichard, R.K. Anthelmintics and control. *Vet. Parasitol.* **27(1-2)**, 97-109 (1988).
3. Hadaway, A.B. and Barlow, F. The toxicity of some organophosphorus compounds to adult *Anopheles stephensi*. *Bull. World Health Organ.* **28(1)**, 55-61 (1963).
4. Gaines, T.B. Acute toxicity of pesticides. *Toxicol. Appl. Pharmacol.* **14(3)**, 515-534 (1969).

#### 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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