

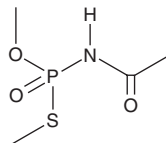
# PRODUCT INFORMATION



## Acephate

Item No. 24038

CAS Registry No.: 30560-19-1  
Formal Name: N-acetyl-phosphoramidothioic acid, O,S-dimethyl ester  
Synonym: RE 12420  
MF:  $C_4H_{10}NO_3PS$   
FW: 183.2  
Purity:  $\geq 98\%$   
Supplied as: A solid  
Storage:  $-20^\circ C$   
Stability:  $\geq 2$  years



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

### Laboratory Procedures

Acephate is supplied as a solid. A stock solution may be made by dissolving the acephate in the solvent of choice, which should be purged with an inert gas. Acephate is soluble in chloroform, DMSO, and water.

### Description

Acephate is an organophosphate insecticide that is active against a variety of insects.<sup>1</sup> It inhibits acetylcholinesterase in the house fly with a topical 24-hour  $LD_{50}$  value of  $1.8 \mu g/g$  but has millimolar  $IC_{50}$  values for vertebrate cholinesterases.<sup>2,3</sup> In rats, acephate (140 mg/kg) induces reversible hyperglycemia after two and six hours and increases plasma corticosterone, liver glucose-6-phosphate, and liver tyrosine aminotransferase.<sup>1</sup> It also increases liver glycogen levels by 3.5-fold after six hours. Formulations containing acephate have been used in the control of insects in agriculture and horticulture.

### References

1. Joshi, A.K.R., and Rajini, P.S. Reversible hyperglycemia in rats following acute exposure to acephate, an organophosphorus insecticide: Role of gluconeogenesis. *Toxicology* **257(1-2)**, 40-45 (2009).
2. Rojakovick, A.S., and March, R.B. *In vitro* and *in vivo* inhibition of house fly acetylcholinesterase by the N-acetyl phosphoramidothioate orthene. *J. Econ. Entomol.* **65(5)**, 1505-1507 (1972).
3. Hussain, M.A., Mohamad, R.B., and Oloffs, P.C. Studies on the toxicity, metabolism, and anticholinesterase properties of acephate and methamidophos. *J. Environ. Sci. Health B.* **20(1)**, 129-147 (1985).

#### 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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