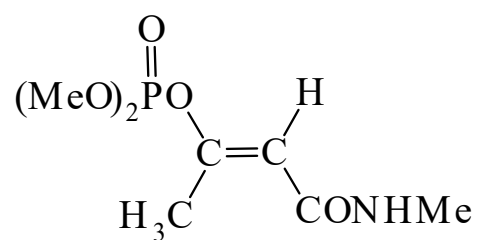




>>Entry Name: Monocrotophos, BSI, ISO, JMAF

ENTRY UNDER REVIEW

Synonym(s): Dimethyl 1-methyl-3-(methylamino)-3-oxo-1-propenyl phosphate, 9CI. Dimethyl phosphate, ester with 3-hydroxy-*N*-methylcrotonamide, 8CI. Dimethyl 1-methyl-2-methylcarbamoylvinyl phosphate. Nuvacron. Azodrin. Alphate. Parryfos. Cerophos. Apadrin. Croton 36. (*E*)-form



CAS Registry Number: 2157-98-4

Molecular Formula: C₇H₁₄NO₅P

Molecular Weight: 223.165

Accurate Mass: 223.060961

Percentage Composition: C 37.67%; H 6.32%; N 6.28%; O 35.85%; P 13.88%

Use/Importance: Metab. of bidrin

>>Variant: (*E*)-form

CAS Registry Number: 6923-22-4

Molecular Formula: C₇H₁₄NO₅P

Molecular Weight: 223.165

Accurate Mass: 223.060961

Percentage Composition: C 37.67%; H 6.32%; N 6.28%; O 35.85%; P 13.88%

Use/Importance: Agricultural insecticide with both systemic and contact action. Cholinesterase inhibitor

Biological Use/Importance: Cholinesterase inhibitor

Physical Description: Cryst.

Melting Point: Mp 54-55°

Solubility: Sol. H₂O, Me₂CO; insol. hexane

Hazard & Toxicity: LD₅₀ (rat, orl) 8 mg/kg. LD₅₀ (rat, skn) 112 mg/kg. LC₅₀ (rat, ihl) 63 mg m⁻³ (4 h exposure). Human neurotoxic effects. ACGIH TLV 0.25 mg m⁻³ (sk)

>>Variant: (*Z*)-form

CAS Registry Number: 919-44-8

Molecular Formula: C₇H₁₄NO₅P

Molecular Weight: 223.165

Accurate Mass: 223.060961

Percentage Composition: C 37.67%; H 6.32%; N 6.28%; O 35.85%; P 13.88%

Physical Description: No phys. props. reported

References:

- Menzer, R.E. *et al.*, *J. Agric. Food Chem.*, 1965, **13**, 102, (*ir*)
U.S. Pat., 1965, 3 400 177; *CA*, **70**, 87064r, (*synth*)
Babad, H. *et al.*, *Anal. Chim. Acta*, 1968, **41**, 259, (*pmr*)
Ross, R.T. *et al.*, *Anal. Chim. Acta*, 1970, **52**, 139, (*P nmr*)
Beynon, K.I. *et al.*, *Residue Rev.*, 1973, **47**, 55, (*metab, rev*)
Szalontai, G., *J. Chromatogr.*, 1976, **124**, 9, (*hplc*)
Busch, K.L. *et al.*, *Appl. Spectrosc.*, 1978, **32**, 388, (*ms*)
Stan, H.-J. *et al.*, *Biomed. Mass Spectrom.*, 1982, **9**, 483, (*ms*)
Stan, H.-J. *et al.*, *J. Chromatogr.*, 1983, **279**, 173, (*glc*)
Agrochemicals Handbook, 3rd edn., Royal Society of Chemistry, 1992, A284
Pesticide Manual, 11th edn., No. 502, 1997
Handbook of Pesticide Toxicology, (Eds. Hayes, W.J. *et al*), Academic Press, 1991, 1012
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, MRH209