



>>Entry Name: Phoxim, BAN, BSI, INN, ISO

Synonym(s): 4-Ethoxy-7-phenyl-3,5-dioxa-6-aza-4-phosphaoct-6-ene-8-nitrile 4-sulfide, 9Cl. Phenylglyoxylonitrile oxime *O*-(*O,O*-diethylphosphorothioate), 8Cl. α -[[[(Diethoxyphosphinothioyl)oxy]imino]benzeneacetonitrile. *O,O*-Diethyl α -cyanobenzylideneaminoxyphosphonothioate. Baythion. **Sebacil**‡. Valexon. Volaton. Bayer 9053

CAS Registry Number: 14816-18-3



Molecular Formula: C₁₂H₁₅N₂O₃PS

Molecular Weight: 298.302

Accurate Mass: 298.0541

Percentage Composition: C 48.32%; H 5.07%; N 9.39%; O 16.09%; P 10.38%; S 10.75%

Use/Importance: Broad spectrum veterinary insecticide and anthelmintic of short duration

Physical Description: Liq.

Melting Point: Fp 5-6°

Boiling Point: Bp_{0.01} 102° dec.

Density: d²⁰ 1.176

Calculated Log P Data: Log P 4.38 (calc)

Other Data: Tends to dec. on dist. Mod. cholinesterase inhibitor

Hazard & Toxicity: LD₅₀ (rat, orl) 300 mg/kg; LD₅₀ (rat, skn) 1000 mg/kg. Can evolve HCN on storage

References:

Mason, W.A. *et al.*, *J. Agric. Food Chem.*, 1973, **21**, 762, (*synth*)

Stan, H.-J. *et al.*, *Fresenius' Z. Anal. Chem.*, 1977, **287**, 271, (*glc, ms*)

Stan, H.-J. *et al.*, *Biomed. Mass Spectrom.*, 1982, **9**, 483, (*ms*)

Agrochemicals Handbook, Royal Society of Chemistry, 1983, A328

Pesticide Manual, 9th edn., 1991, No. 9730

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, BAT750

Handbook of Pesticide Toxicology, (Eds. Hayes, W.J. *et al*), Academic Press, 1991, 1074