



>>Entry Name: Demeton-S

Synonym(s): *O,O*-Diethyl *S*-[2-(ethylthio)ethyl]phosphorothioate, 9Cl, 8Cl. Dimetonthiol

CAS Registry Number: 126-75-0

Related CAS Registry Numbers(s): 8065-48-3

(EtO)₂P(O)SCH₂CH₂SEt

Molecular Formula: C₈H₁₉O₃PS₂

Molecular Weight: 258.342

Accurate Mass: 258.051322

Percentage Composition: C 37.19%; H 7.41%; O 18.58%; P 11.99%; S 24.82%

General Statement: See also Demeton-O [BGJ22-Z](#)

Use/Importance: Systemic insecticide. Now superseded

Physical Description: Liq.

Boiling Point: Bp₂ 132-134°. Bp_{0.25} 100°

Solubility: Sol. H₂O

Density: d₄²¹ 1.132

Other Data: More toxic and more easily hydrolyzed in base than Demeton-O [BGJ22-Z](#). Cholinesterase inhibitor. LD₅₀ (rat, oral) 1.5 mg/kg

>>Derivative: S-Oxide

Synonym(s): *O,O*-Diethyl *S*-[2-(ethylsulfinyl)ethyl]phosphorothioate

CAS Registry Number: 2496-92-6

Molecular Formula: C₈H₁₉O₄PS₂

Molecular Weight: 274.341

Accurate Mass: 274.046237

Percentage Composition: C 35.02%; H 6.98%; O 23.33%; P 11.29%; S 23.38%

Boiling Point: Bp_{0.01} 108°

>>Derivative: S,S-Dioxide

Synonym(s): *O,O*-Diethyl *S*-[2-(ethylsulfonyl)ethyl]phosphorothioate

CAS Registry Number: 2496-91-5

Molecular Formula: C₈H₁₉O₅PS₂

Molecular Weight: 290.341

Accurate Mass: 290.041152

Percentage Composition: C 33.09%; H 6.60%; O 27.55%; P 10.67%; S 22.09%

Boiling Point: Bp_{0.2} 160°

References:

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Ripley, B.D. *et al.*, *J. Assoc. Off. Anal. Chem.*, 1983, **66**, 1084, (*glc*)

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