



>>Entry Name: ***O,O*-Dimethyl phosphorothioate**, 9Cl, 8Cl

Synonym(s): *O,O*-Dimethyl hydrogen thiophosphate. *O,O*-Dimethyl phosphorothioic acid. *O,O*-Dimethyl thiophosphoric acid

CAS Registry Number: 1112-38-5

Type of Compound Code(s): AC4100

(MeO)₂P(O)SH << >> (MeO)₂P(S)OH

Molecular Formula: C₂H₇O₃PS

Molecular Weight: 142.115

Accurate Mass: 141.985352

Percentage Composition: C 16.90%; H 4.96%; O 33.77%; P 21.79%; S 22.56%

General Statement: The thiol acid form predominates in aq. solns. but the thioic in alcohols

Source/Synthesis: Metab. and photodegradation prod. of various insecticides

Physical Description: Liq.

Boiling Point: Bp_{0.5} 87-87.5°

Density: d₄²⁰ 1.25

pKa Value: pK_{a1} 1.18 (20°, 7% EtOH) pK_{a1} 2.5 (20°, 2.8, EtOH)

Refractive Index: n_D²⁰ 1.4615

>>Derivative: NH₄ salt

CAS Registry Number: 40633-14-5

Physical Description: Cryst.

Melting Point: Mp 70-78°

>>Derivative: Na salt

CAS Registry Number: 23754-87-2

Physical Description: Solid

Melting Point: Mp 195-197°

Solubility: Sol. Py, insol. Et₂O, CHCl₃

>>Derivative: Trimethylammonium salt

CAS Registry Number: 16284-88-1

Physical Description: Solid

Melting Point: Mp 44-45°

>>Derivative: Dicyclohexylammonium salt

CAS Registry Number: 13941-61-2

Physical Description: Cryst. (C₆H₆/hexane)

Melting Point: Mp 182°

>>Derivative: Fluoride

see *O,O*-Dimethyl phosphorofluoridothioate, [DQT63-Y](#)

>>Derivative: Chloride

see *O,O*-Dimethyl phosphorochloridothioate, [CZZ72-E](#)

>>Derivative: Amide

see *O,O*-Dimethyl phosphoramidothioate, [DRC92-G](#)

>>Derivative: Anilide

see Phenylphosphoramidothioic acid, [DRD22-Q](#)

>>Derivative: Azide

see *O,O*-Dimethyl phosphorazidothioate, [DRF53-K](#)

>>Derivative: Hydrazide

see *O,O*-Dimethyl phosphorohydrazidothioate, [DRF74-R](#)

>>Derivative: 2-Phenylhydrazide