



>>Entry Name: Aldoxycarb

Synonym(s): 2-Methyl-2-(methylthio)propanal *O*-[(methylamino)carbonyl]oxime, 9Cl. 2-Methyl-2-(methylthio)propionaldehyde *O*-methylcarbamoyloxime. Aldicarb, ANSI, BSI, ISO, Temik

CAS Registry Number: 116-06-3

Related CAS Registry Numbers(s): 61602-66-2

MeSC(CH3)2CH=NOOCNMe

Molecular Formula: C₇H₁₄N₂O₂S

Molecular Weight: 190.266

Accurate Mass: 190.077598

Percentage Composition: C 44.19%; H 7.42%; N 14.72%; O 16.82%; S 16.85%

Use/Importance: Soil applied insecticide, acaricide and nematocide

Physical Description: Cryst.

Melting Point: Mp 98-100°

Solubility: Spar. sol. H₂O

Hazard & Toxicity: LD₅₀ (rat, orl) 0.81-0.93 mg/kg

>>Derivative: S-Oxide

CAS Registry Number: 1646-87-3

Molecular Formula: C₇H₁₄N₂O₃S

Molecular Weight: 206.265

Accurate Mass: 206.072513

Percentage Composition: C 40.76%; H 6.84%; N 13.58%; O 23.27%; S 15.55%

Use/Importance: Soil metabolite of aldoxycarb. Cholinesterase inhibitor

Physical Description: Cryst. (C₆H₆/EtOAc)

Melting Point: Mp 108-110°

>>Derivative: S,S-Dioxide

Synonym(s): Aldoxycarb sulfone, BSI. Standak. Aldicarb sulfone

CAS Registry Number: 1646-88-4

Molecular Formula: C₇H₁₄N₂O₄S

Molecular Weight: 222.265

Accurate Mass: 222.067428

Percentage Composition: C 37.83%; H 6.35%; N 12.60%; O 28.79%; S 14.43%

Source/Synthesis: Chemical or metab. oxidn. prod. of Aldicarb

Use/Importance: Soil-applied systemic insecticide and nematocide. Powerful cholinesterase inhibitor

Physical Description: Cryst.

Melting Point: Mp 140-142°

Solubility: Spar. sol. H₂O

Hazard & Toxicity: LD₅₀ (rat, orl) 26.8 mg/kg. LD₅₀ (rat, skn) 1000 mg/kg

References:

- U.K. Pat., 1962, 1 046 407; *CA*, **63**, 2900a
Payne, L.K. *et al.*, *J. Agric. Food Chem.*, 1966, **14**, 356-365, (*S-oxide*)
Takusagawa, F. *et al.*, *J. Agric. Food Chem.*, 1977, **23**, 333, (*cryst struct*)
Barbulescu, N. *et al.*, *Rev. Chim. (Bucharest)*, 1980, **31**, 342; *CA*, **93**, 167080h, (*synth, pmr*)
Muszkat, L. *et al.*, *Int. J. Mass Spectrom. Ion Phys.*, 1983, **48**, 323, (*gc, ms*)
Grou, E. *et al.*, *J. Chromatogr.*, 1983, **260**, 502, (*hplc*)
Wueest, O. *et al.*, *Z. Lebensm.-Unters. -Forsch.*, 1983, **177**, 25, (*detn*)
Ou, L.T. *et al.*, *J. Agric. Food Chem.*, 1985, **33**, 72-78, (*S-oxide*)
Barcelo, G. *et al.*, *Synthesis*, 1986, 627, (*synth*)
Denarie, M. *et al.*, *Tet. Lett.*, 1987, **28**, 5823, (*synth*)
Abdou, W.M. *et al.*, *Z. Naturforsch., B*, 1987, **42**, 907, (*photodec*)
IARC Monog., 1991, **53**, 93, (*rev, tox*)
Mortimer, R.D. *et al.*, *J. Agric. Food Chem.*, 1991, **39**, 911, (*detn, P-31 nmr*)
Pesticide Manual, 9th edn., 1991, Nos. 100; 110; 530
Agrochemicals Handbook, 3rd edn., Royal Society of Chemistry, 1992, A5
Handbook of Pesticide Toxicology, (Eds. Hayes, W.J. *et al.*), Academic Press, 1991, 1135
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, AFK000; CBM500