

Product Data Sheet

Product Name: Piperonyl Butoxide-d9

Cat. No.: GC91189

Chemical Properties

Cas. No. 1329834-53-8

Formula $C_{19}H_{21}D_9O_5$

M.Wt 347.5

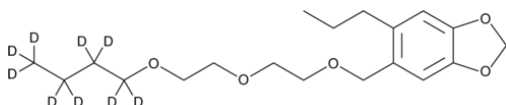
Solubility Acetonitrile: Soluble, Chloroform: Slightly soluble, Methanol: Slightly soluble

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Piperonyl butoxide-d₉ is intended for use as an internal standard for the quantification of piperonyl butoxide by GC- or LC-MS. Piperonyl butoxide is an insecticide synergist.^{1,2} It inhibits cytochrome P450 (CYP) activity in western corn rootworm (*D. virgifera*) abdominal microsomes in a concentration-dependent manner.³ Piperonyl butoxide increases the toxicity of the pyrethroid insecticide deltamethrin to field-collected, deltamethrin-resistant strains of the bed bug *C. lectularius* by 5.6- to 176-fold when used at a concentration of 50 µg/µl.² Piperonyl butoxide also increases the toxicity of the organotin insecticide cyhexatin to fourth instar larvae of susceptible strains of the cotton leafworm *S. littoralis*.⁴ It is not toxic to the freshwater invertebrates *H. azteca*, *C. tentans*, and *L. variegatus* (LC₅₀s = 530, 2,740, and 3,540 µg/L, respectively) and reduces the toxicity of the organophosphate pesticides diazinon, chlorpyrifos, and azinphos-methyl.¹ Formulations containing piperonyl butoxide have been used in the control of agricultural, household, and veterinary pests.

Caution: Product has not been fully validated for medical applications. For research use only.

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