

Diisopropyl fluorophosphate (DFP)

Product Description

a potent inhibitor of serine proteases such as trypsin and chymotrypsin and acetylcholinesterase.

Catalog #: 013343, 1g

Name: **Diisopropyl fluorophosphate (DFP)**

diisopropyl phosphorofluoridate, Phosphoric acid diisopropyl ester fluoride, Difluorophosphate, DFP, DIFP, Diflupyl, Diflurphate, Dyflos, Dyphlos, Fluoropryl, Fluostigmine, isofluorophosphate, isofluorophate, Neoglaucit, PF-3, PF3, T-1703, TL 466

MW: 184.15 g/mol

CAS [55-91-4]; EC [200-247-6]

Melt. point: -82 °C (-116 °F)

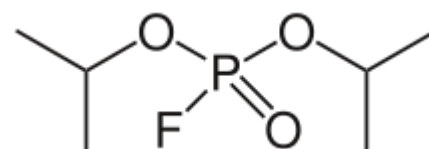
Boiling point : 183 °C (361 °F) 1013 mbar

Vapor pressure : 0.58 mmHg (20 °C)

Refractive index: n_D 1.385(lit.)

Density : 1.06 g/mL at 25 °C(lit.)

Purity min. : 95 % (HPLC).



Storage: RT

Technical and Scientific Information

• Biological activity and Applications

Diisopropyl fluorophosphate (DFP) is a very potent neurotoxin, a parasympathomimetic drug "irreversible anti-cholinesterase" and also inhibits some proteases (serine proteases).

DFP combines with the amino acid serine at the active site of the enzyme acetylcholinesterase, an enzyme that deactivates the neurotransmitter acetylcholine. The resulting inhibition is irreversible, leading to accumulation of acetylcholine prolonging nerve impulses, causing prolonged muscle contraction.

Hence DFP is used in neuroscience because of its acetylcholinesterase inhibitory properties and ability to induce delayed peripheral neuropathy.

It has been used in ophthalmology as a miotic agent in treatment of chronic glaucoma, as a miotic in veterinary medicine.

DFP also inhibits some proteases, that prompt its use in biochemistry and biotechnology:

DFP is potent inhibitor of serine proteases such as trypsin and chymotrypsin. It is a useful additive for protein or cell isolation procedure, typically at 0.10 mM (as an alternative of PMSF for serine proteases).

DFP also inhibits cathepsin G, cholinesterase, coagulation factor Xa, leucocyte elastase, pancreatic elastase, tissue kallikrein, plasmin, subtilisin, and thrombin.

DFP inhibits apoptosis induced by ricin and bacterial toxins.

• Data

LD₅₀ in rats is 1.3 mg/kg

• Hazard mentions

UN 3382, Class 6.1, Packing group I

Acute Tox.1; Acute Tox.2

H300 + H310 + H330

P260-P264-P280-P284-P301+P310-P302+P350

Contact your local distributor

interbiotech@interchim.com

FT-013343

T+, R26/27/28

Other Bioactive compounds:

- other [BioActive compounds search](#)^[], i.e. Neurotoxins (Bungarotoxins [38034A](#)); Geldanamycin [GS775K](#) (inhibits protein maturation), Na⁺-Cl⁻ symporter agonists (Chlortalidone [221055](#)); Trk Receptor Agonists (LM22A4 [673030](#)), ...

Other Information

For in vitro R&D use only

Please contact InterBioTech – Interchim for any other information

Rev.N10E

Contact your local distributor

interbiotech@interchim.com

InterBioTech, powered by
 **interchim**
213 Avenue J.F. Kennedy - BP 1140
93103 Montluçon Cedex - France
Tél. 04 70 03 88 55 - Fax 04 70 03 82 60