(7) Saxitoxin, $C_{10}H_{17}N_7O_4$
CAS No. 35523-8908
NIOSH:RTECS No. UY8708500
Merck 8344

Synonyms: 2,6-diamino-4- (((aminocarbonyl) oxy) methyl)-3a,4,8,9-tetrahydro-1H, 10H-pyrrolo (1,2-c) purine-10,10-diol (3aS-(3a-a-a-4-a,10aR*)).

Physical Properties: MW: 299,$[a]_D$ + 130°, it is a white amorphous solid (the hydrochloride salt is crystalline) and is a hydrate. Information on physical properties is found in J. Bordner et. al., J.A.C.S., 1975, 97, 6008

Synthesis: It is a natural neurotoxin sometimes found in Alaska butter clams, toxic mussels, and plankton. Its chemical synthesis has been reported by H. Tanino et al., J.A.C.S., 1977, 99, 2818.

Toxicity: It is one of the most potent neurotoxins known; its $LD_{50\ ipr}$ is 5 mg/kg (mouse). Data is also available on Saxitoxin hydrochloride ($C_{10}H_{17}N_7O_4$.2Hcl, MW372, CAS No. 35554-08-6, NIOSH/RTECS UY8708600. Both are deadly poisons by ingestion, intravenous and intraperitoneal routes.

Uses: It is used as a neuromuscular blocking agent, and in nerve fibre research.

Suppliers: Two suppliers are listed in the USA.