

Product Data Sheet

Product Name: TFM
Cat. No.: GC48924

Chemical Properties

Cas. No. 88-30-2

SMILES OC(C=C1C(F)(F)F)=CC=C1[N+](O-)=O

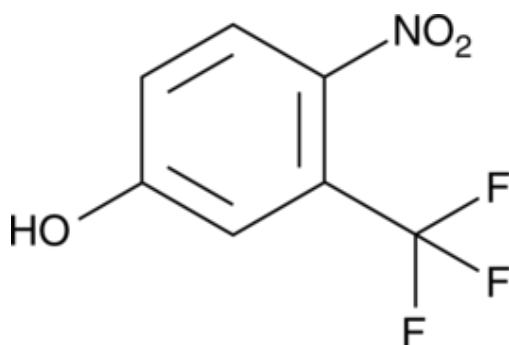
Formula C₇H₄F₃NO₃ M.Wt 207.1

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, Ethanol: 30 mg/ml, PBS (pH 7.2): 5 mg/ml
Storage -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

TFM is a piscicide.¹ It is toxic to sea lamprey (*P. marinus*) with LC₅₀ values ranging from 1.97 to 2.11 and 2.05 to 2.21 mg/L for sac and swim-up fry, respectively, 1.6 to 2.45 mg/L for juveniles, and 1.6 to 1.63 mg/L for adults. It is also toxic to juvenile lake sturgeon (*A. fulvescens*) less than 100 mm in size but not to a variety of other fish species. TFM (50 µM) uncouples oxidative phosphorylation by 22 and 28% in isolated sea lamprey and rainbow trout (*O. mykiss*) liver, respectively.² Formulations containing TFM have been used as lampricides in the control of larval sea lamprey populations.

1. Boogaard, M.A., Bills, T.D., and Johnson, D.A. Acute toxicity of TFM and a TFM/niclosamide

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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mixture to selected species of fish, including lake sturgeon (*Acipenser fulvescens*) and mudpuppies (*Necturus maculosus*), in laboratory and field exposures. J. Great Lakes Res. 29(Suppl 1):529-541 (2003). 2. Birceanu, O., McClelland, G.B., Wang, Y.S., et al. The lampricide 3-trifluoromethyl-4-nitrophenol (TFM) uncouples mitochondrial oxidative phosphorylation in both sea lamprey (*Petromyzon marinus*) and TFM-tolerant rainbow trout (*Oncorhynchus mykiss*). Comp. Biochem. Physiol. C. Toxicol. Pharmacol. 153(3):342-349 (2011).

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