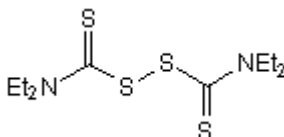


Product Name: Disulfiram
CAS Number: 97-77-8
IUPAC Name: *Bis*(diethylthiocarbamyloyl)disulfide

Catalog No.: 3807 **Batch No.:** 1
EC Number: 202-607-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₀H₂₀N₂S₄
Batch Molecular Weight: 296.54
Physical Appearance: Pale yellow solid
Solubility: DMSO to 20 mM
 ethanol to 100 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: At 70°C
¹H NMR: Consistent with structure

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Product Name: Disulfiram

CAS Number: 97-77-8

IUPAC Name: *Bis*(diethylthiocarbamoyl)disulfide

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EC Number: 202-607-8

Batch No.: 1

Description:

Inhibitor of aldehyde dehydrogenase that displays antialcoholism activity. Shown to reversibly stimulate Ca²⁺-ATPase activity and inhibit V-ATPase (EC₅₀ = 26 μM). Also inhibits expression of MMP-2 and MMP-9 and displays anti-invasive activity.

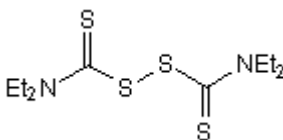
Physical and Chemical Properties:

Batch Molecular Formula: C₁₀H₂₀N₂S₄

Batch Molecular Weight: 296.54

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Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 20 mM
ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Starling et al (1996) Stimulation of the Ca²⁺-ATPase of sarcoplasmic reticulum by disulfiram. *Biochem.J.* **320** 101. PMID: 8947473.

Cho et al (2007) Disulfiram suppresses invasive ability of osteosarcoma cells via the inhibition of MMP-2 and MMP-9 expression. *J.Biochem.Mol.Biol.* **40** 1069. PMID: 18047805.

Johnson et al (2009) Identification of inhibitors of vacuolar proton-translocating ATPase pumps in yeast by high-throughput screening flow cytometry. *Anal.Biochem.* **398** 203. PMID: 20018164.

Fisher et al (2010) The ethanol metabolite acetaldehyde increases paracellular drug permeability *in vitro* and oral bioavailability *in vivo*. *J.Pharmacol.Exp.Ther.* **332** 326. PMID: 19820208.

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