bio-techne
TOCRIS

Print Date: Feb 25th 2025

Certificate of Analysis

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Product Name: **DSP-4** **Catalog No.: 2958** **Batch No.: 4**

CAS Number: 40616-75-9

IUPAC Name: *N*-(2-Chloroethyl)-*N*-ethyl-2-bromobenzylamine hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{11}H_{15}BrClN.HCl$

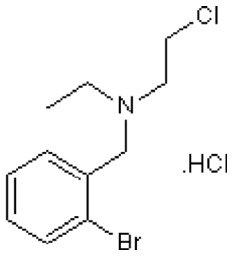
Batch Molecular Weight: 313.06

Physical Appearance: White solid

Solubility: water to 100 mM
ethanol to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	42.2	5.15	4.47
Found	42.25	5.09	4.44

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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CAS Number: 40616-75-9

IUPAC Name: *N*-(2-Chloroethyl)-*N*-ethyl-2-bromobenzylamine hydrochloride

Description:

DSP-4 is an adrenergic neurotoxin. Displays neurotoxic effects on both peripheral and central noradrenergic neurons.

Physical and Chemical Properties:

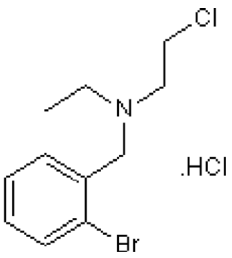
Batch Molecular Formula: $C_{11}H_{15}BrClN.HCl$

Batch Molecular Weight: 313.06

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

water to 100 mM
ethanol to 100 mM

This compound is hygroscopic and may absorb atmospheric moisture during prolonged storage, causing the solid to become sticky and/or collapse into a gel or glass-like form. Although purity is unaffected, it may be difficult to extract the full quantity from the vial. In such a situation, we recommend that solutions are made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved. We also recommend that solutions are freshly prepared before use.

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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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:

Kawamura *et al* (2005) Short and long term analysis of heart rate variations in spontaneous hypertensive rats: effect of DSP-4 administration. Biomed.Pharmacother. ***59*** S203. PMID: 16275495.

Haidkind *et al* (2002) Denervation of the locus coeruleus projections by treatment with the selective neurotoxin DSP-4 [*N*(2-chloroethyl) -*N*-ethyl-2-bromobenzylamine] reduces DA release potential in the nucleus accumbens shell in conscious rats. Neurosci.Letts. ***332*** 79.

Jaim-Etcheverry and Zieher (1980) DSP-4: a novel compound with neurotoxic effects on noradrenergic neurons of adult and developing rats. Brain Res. ***188*** 513. PMID: 7370771.