

**Product Name:** Melphalan

**Catalog No.:** 4619

**Batch No.:** 2

CAS Number: 148-82-3

IUPAC Name: 4-[Bis(2-Chloroethyl)amino]-L-phenylalanine

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>13</sub>H<sub>18</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>2</sub>·¼H<sub>2</sub>O

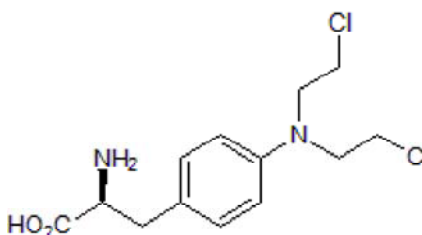
**Batch Molecular Weight:** 309.7

**Physical Appearance:** White solid

**Solubility:** DMSO to 20 mM  
1eq. HCl to 20 mM

**Storage:** Store at RT

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 97.5% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Optical Rotation:** [α]<sub>D</sub> = -28.4 (Concentration = 0.67, Solvent = Methanol)

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	50.42	6.02	9.05
Found	50.21	6.22	8.79

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

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**Description:**

DNA alkylating agent; induces cytotoxicity through the formation of stable interstrand and intrastrand crosslinks within DNA. Inhibits growth of PC-3 cells (IC<sub>50</sub> values are 0.074 and 0.77 µg/ml for sequential dosing and single dosing respectively).

**Physical and Chemical Properties:**

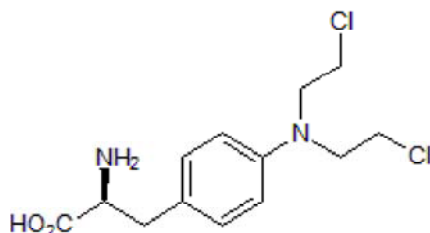
Batch Molecular Formula: C<sub>13</sub>H<sub>18</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>2</sub>·½H<sub>2</sub>O

Batch Molecular Weight: 309.7

Physical Appearance: White solid

**Minimum Purity:** >95%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

DMSO to 20 mM

1eq. HCl to 20 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:**

**Mougenot *et al*** (2006) In vitro cytotoxic effect of melphalan and pilot phase II study in hormone-refractory prostate cancer. *Anticancer Res.* **26** 2197. PMID: 16821586.

**Bauer and Povirk** (1997) Specificity and kinetics of interstrand and intrastrand bifunctional alkylation by nitrogen mustards at a G-G-C sequence. *Nucleic Acids Res.* **25** 1211. PMID: 9092631.

**Blumberg *et al*** (1965) An alkylating agent for multiple myeloma: melphalan. *JAMA.* **191** 547. PMID: 14239026. Merck Index **12** 5872.

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