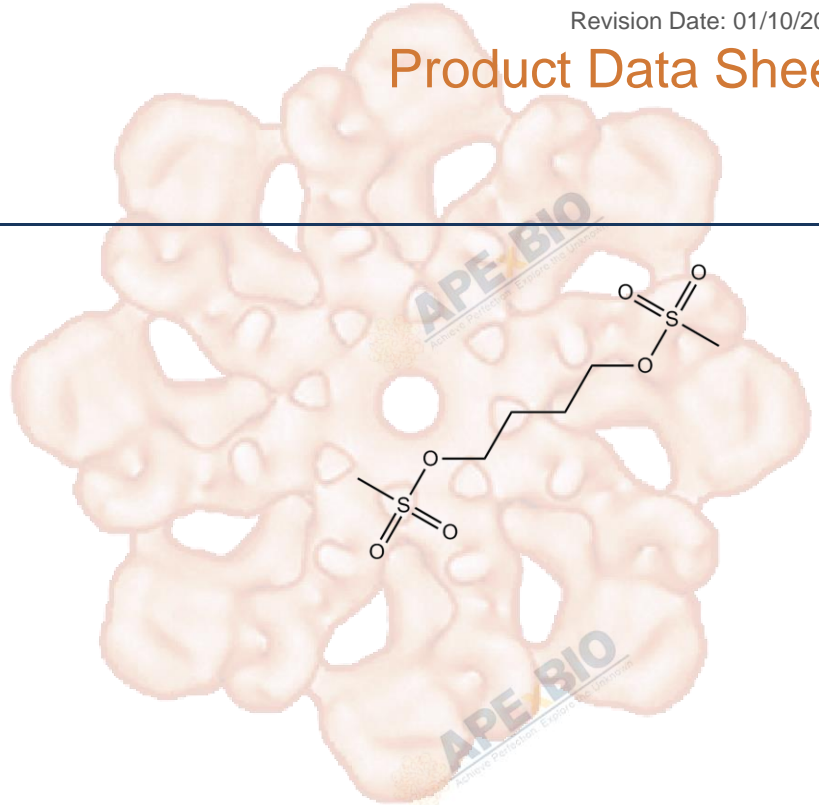


Product Data Sheet

Busulfan

Cat. No.:	A8386
CAS No.:	55-98-1
Formula:	C ₆ H ₁₄ O ₆ S ₂
M.Wt:	246.3
Synonyms:	
Target:	DNA Damage/DNA Repair
Pathway:	DNA Alkylating
Storage:	Store at -20°C



Solvent & Solubility

≥12.3 mg/mL in DMSO; ≥2.35 mg/mL in H₂O with gentle warming; ≥2.82 mg/mL in EtOH with gentle warming

In Vitro

Preparing Stock Solutions	Solvent Concentration	Mass		
		1mg	5mg	10mg
	1 mM	4.0601 mL	20.3004 mL	40.6009 mL
	5 mM	0.8120 mL	4.0601 mL	8.1202 mL
	10 mM	0.4060 mL	2.0300 mL	4.0601 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

DNA alkylating agent

IC₅₀ & Target

Cell Viability Assay

In Vitro

Cell Line:	WI38 cells (human embryonic lung diploid fibroblasts)
Preparation method:	Soluble in DMSO > 12.3mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

	Reacting conditions:	120µM for 24 h.
	Applications:	Busulfan , an alkylating agent that causes DNA damage by crosslinking DNAs and DNA and proteins, induced senescence in normal human diploid WI38 fibroblasts through the extracellular signal-regulated kinase (Erk) and p38 mitogen-activated protein kinase (p38 MAPK) cascade independent of the p53-DNA damage pathway.
In Vivo	Animal experiment	
	Animal models:	ICR male mice ranging in age from 8 to 12weeks
	Dosage form:	Diluted in sesame oil, 40 mg/kg body weight, intraperitoneal injection
	Applications:	Busulfan-treated mice exhibited a marked increase in apoptosis and a decrease in testis weight. The percentage of apoptosis-positive tubules and the apoptotic cell index increased in a time-dependent manner. Increased depletion of male germ cells in the busulfan-treated mouse was mediated by loss of c-kit/SCF(stem cell factor) signaling but not by p53- or Fas/FasL(Fas ligand) -dependent mechanisms.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

- [1]. Probin V, Wang Y, Zhou D. Busulfan-induced senescence is dependent on ROS production upstream of the MAPK pathway. Free Radic Biol Med, 2007, 42(12): 1858-1865.
- [2]. Choi YJ, Ok DW, et al. Murine male germ cell apoptosis induced by busulfan treatment correlates with loss of c-kit-expression in a Fas/FasL- and p53-independent manner. FEBS Lett, 2004, 575(1-3): 41-51.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt

of the product, follow the storage recommendations on the product data sheet.



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