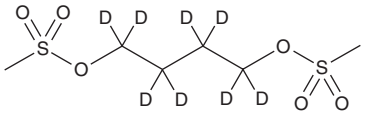
PRODUCT INFORMATION

Busulfan-d_8

Item No. 23096

CAS Registry No.:	116653-28-2
Formal Name:	1,4-butane-1,1,2,2,3,3,4,4-d_8-diol, dimethanesulfonate
Synonyms:	Busulphan-d_8, Mielosan-d_8, Milecitan-d_8, Myeloleukon-d_8, Myleran-d_8
MF:	$C_6H_6D_8O_6S_2$
FW:	254.3
Chemical Purity:	≥95% Busulfan
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_8); ≤1% d_0
UV/Vis.:	λ_{max}: 256 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Busulfan-d_8 is intended for use as an internal standard for the quantification of busulfan (Item No. 14843) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Busulfan-d_8 is supplied as a crystaline solid. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of busulfan-d_8 in these solvents is approximately 16.7 mg/ml.

Description

Busulfan is an alkyl sulfonate that acts as an alkylating antineoplastic agent.[1] It forms both intra- and interstrand crosslinks on DNA.[2,3] In mammals, busulfan causes profound and prolonged reduction in the generation of hematopoietic progenitors without significantly affecting lymphocyte levels or humoral antibody responses.[4]

References

1. Appelbaum, F.R. Optimizing the conditioning regimen for acute myeloid leukemia. *Best Pract. Res. Clin. Haematol.* **22(4)**, 543-550 (2009).
2. Iwamoto, T., Hiraku, Y., Oikawa, S., *et al.* DNA intrastrand cross-link at the 5'-GA-3' sequence formed by busulfan and its role in the cytotoxic effect. *Cancer Sci.* **95(5)**, 454-458 (2004).
3. Ponti, M., Souhami, R.L., Fox, B.W., *et al.* DNA interstrand crosslinking and sequence selectivity of dimethanesulphonates. *Br. J. Cancer* **63(5)**, 743-747 (1991).
4. Copelan, E.A., and Deeg, H.J. Conditioning for allogeneic marrow transplantation in patients with lymphohematopoietic malignancies without the use of total body irradiation. *Blood* **80(7)**, 1648-1658 (1992).

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