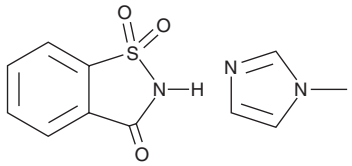
PRODUCT INFORMATION

Saccharin 1-methylimidazole

Item No. 29242

CAS Registry No.:	482333-74-4
Formal Name:	benzo[d]isothiazol-3(2H)-one 1,1-dioxide, 1-methyl-1H-imidazole
MF:	$C_7H_5NO_3S \bullet C_4H_6N_2$
FW:	265.3
Purity:	≥98%
Supplied as:	A 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

Saccharin 1-methylimidazole is supplied as a solid. A stock solution may be made by dissolving the saccharin 1-methylimidazole in the solvent of choice, which should be purged with an inert gas. Saccharin 1-methylimidazole is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of saccharin 1-methylimidazole in ethanol is approximately 10 mg/ml and approximately 5 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of saccharin 1-methylimidazole can be prepared by directly dissolving the solid in aqueous buffers. The solubility of saccharin 1-methylimidazole in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Saccharin 1-methylimidazole is a chemical activator that has been commonly used in solid-phase synthesis of DNA and RNA oligonucleotides.[1] It catalyzes the phosphoramidite coupling reaction of the 5' hydroxy of immobilized nucleosides and the amine group of nucleoside phosphoramidite. Saccharin 1-methylimidazole has been used to synthesize single-stranded DNA (ssDNA) oligonucleotides that are resistant to nuclease digestion.[2]

References

1. Russell, M.A., Laws, A.P., Atherton, J.H., *et al.* The mechanism of the phosphoramidite synthesis of polynucleotides. *Org. Biomol. Chem.* **6(18)**, 3270-3275 (2008).
2. Tatro, E.T., Gianneschi, N., and Rush, A.M. Methods for arranging and packing nucleic acids for unusual resistance to nucleases and targeted delivery for gene therapy. *University of California* **US 2015/0190525A1** (2015).

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