

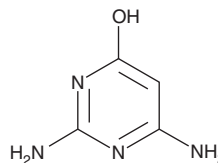
# PRODUCT INFORMATION



## 2,4-Diamino-6-hydroxypyrimidine

Item No. 81260

**CAS Registry No.:** 56-06-4  
**Formal Name:** 2,4-diamino-6(1H)-pyrimidinone  
**Synonym:** DAHP  
**MF:** C<sub>4</sub>H<sub>6</sub>N<sub>4</sub>O  
**FW:** 126.1  
**Purity:** ≥98%  
**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

2,4-Diamino-6-hydroxypyrimidine is supplied as a crystalline solid. A stock solution may be made by dissolving the 2,4-diamino-6-hydroxypyrimidine in the solvent of choice, which should be purged with an inert gas. 2,4-Diamino-6-hydroxypyrimidine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 2,4-diamino-6-hydroxypyrimidine in these solvents is approximately 50 µg/ml, 14.6, and 14.4 mg/ml, respectively.

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 2,4-diamino-6-hydroxypyrimidine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 2,4-diamino-6-hydroxypyrimidine in PBS (pH 7.2) is approximately 3.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

2,4-Diamino-6-hydroxypyrimidine (DAHP) is a selective, specific inhibitor of GTP cyclohydrolase I, the rate limiting step for *de novo* pterin synthesis. In HUVEC cells, the IC<sub>50</sub> for inhibition of BH<sub>4</sub> biosynthesis is about 0.3 mM. DAHP can be used to effectively block NO production in several cell types.<sup>1-3</sup>

### References

1. Monfort, S.L., Mashburn, K.L., Brewer, B.A., et al. Evaluating adrenal activity in African wild dogs (*Lycopus pictus*) by fecal corticosteroid analysis. *J. Zoo Wildl. Med.* **29**(2), 129-33 (2011).
2. Sung, Y.J., Hotchkiss, J.H., and Dietert, R.R. 2,4-Diamino-6-hydroxypyrimidine, an inhibitor of GTP cyclohydrolase I, suppresses nitric oxide production by chicken macrophages. *Int. J. Immunopharmacol.* **16**(2), 101-108 (1994).
3. Gross, S.S. and Levi, R. Tetrahydrobiopterin synthesis. An absolute requirement for cytokine-induced nitric oxide generation by vascular smooth muscle. *J. Biol. Chem.* **267**(36), 25722-25729 (1992).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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