

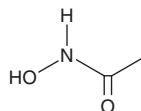
# PRODUCT INFORMATION



## Acetohydroxamic Acid

Item No. 23979

**CAS Registry No.:** 546-88-3  
**Formal Name:** N-hydroxy-acetamide  
**Synonyms:** AHA, NSC 5073, NSC 176136, NSC 408425  
**MF:** C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub>  
**FW:** 75.1  
**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

Acetohydroxamic acid (AHA) is supplied as a solid. A stock solution may be made by dissolving the AHA in the solvent of choice, which should be purged with an inert gas. AHA is slightly soluble in methanol.

AHA is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

AHA is an irreversible inhibitor of urease and a derivative of hydroxyurea (Item No. 23725).<sup>1</sup> It inhibits the growth of struvite crystals produced by *P. mirabilis* in artificial urine and the growth of *H. pylori* *in vitro* (MICs = 200 and 400 mg/L for various isolates of *H. pylori*).<sup>2,3</sup> Chronic AHA administration in dogs dose-dependently reduces urine urease activity, pH, and crystalluria and inhibits growth of bladder stones.<sup>4</sup> It also decreases gastritis, gastric lesions, and bacterial infection rates in Mongolian gerbils when administered at 2,500 ppm/animal following *H. pylori* infection.<sup>5</sup> Formulations containing AHA have been used in the treatment of urinary tract infections.

### References

1. Fishbein, W.N. and Carbone, P.P. Urease Catalysis. II. Inhibition of the enzyme by hydroxyurea, hydroxylamine, and acetohydroxamic acid. *J. Biol. Chem.* **240(6)**, 2407-2414 (1965).
2. Downey, J.A., Nickel, J.C., Clapham, L., *et al.* *In vitro* inhibition of struvite crystal growth by acetohydroxamic acid. *Br. J. Urol.* **70(4)**, 355-359 (1992).
3. Phillips, K., Munster, D.J., Allardyce, R.A., *et al.* Antibacterial action of the urease inhibitor acetohydroxamic acid on *Helicobacter pylori*. *J. Clin. Pathol.* **46(4)**, 372-373 (1993).
4. Krawiec, D.R., Osborne, C.A., Leininger, J.R., *et al.* Effect of acetohydroxamic acid on dissolution of canine struvite uroliths. *Am. J. Vet. Res.* **45(7)**, 1266-1275 (1984).
5. Ohta, T., Shibata, H., Kawamori, T., *et al.* Marked reduction of *Helicobacter pylori*-induced gastritis by urease inhibitors, acetohydroxamic acid and flurofamide, in Mongolian gerbils. *Biochem. Biophys. Res. Commun.* **285(3)**, 728-733 (2001).

#### 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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