

# PRODUCT INFORMATION

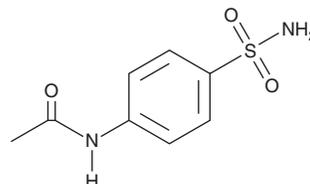


## 4-Acetamidobenzenesulfonamide

Item No. 34689

**CAS Registry No.:** 121-61-9  
**Formal Name:** N-[4-(aminosulfonyl)phenyl]-acetamide  
**Synonyms:** APAS, N-Acetyl *p*-Aminobenzene Sulfonamide, N<sup>4</sup>-Acetyl Sulfanilamide, N-Acetylsulfanilamide, NSC 217, NSC 406839

**MF:** C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>O<sub>3</sub>S  
**FW:** 214.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 261 nm  
**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

4-Acetamidobenzenesulfonamide is supplied as a solid. A stock solution may be made by dissolving the 4-acetamidobenzenesulfonamide in the solvent of choice, which should be purged with an inert gas. 4-Acetamidobenzenesulfonamide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 4-acetamidobenzenesulfonamide in these solvents is approximately 30 mg/ml.

4-Acetamidobenzenesulfonamide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-acetamidobenzenesulfonamide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 4-Acetamidobenzenesulfonamide has a solubility of approximately 0.09 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

4-Acetamidobenzenesulfonamide is a metabolite of the herbicide asulam and the sulfonamide antibiotic sulfanilamide (Item No. 23723).<sup>1-3</sup> It is formed from asulam by conversion to sulfanilamide *via* intestinal microflora, followed by N<sup>4</sup>-acetylation in the liver. 4-Acetamidobenzenesulfonamide inhibits carbonic anhydrase II (CAII), CAIX, and CAXII (K<sub>s</sub> = 246, 135, and 49 nM, respectively, for the human enzymes).<sup>4</sup> It has also been used in the synthesis of compounds with antibacterial activity.<sup>5</sup>

### References

1. Heijbroek, W.M., Muggleton, D.F., and Parke, D.V. Metabolism of the carbamate herbicide, asulam, in the rat. *Xenobiotica* **14**(3), 235-247 (1984).
2. Okumura, F., Ueda, O., Kitamura, S., *et al.* N-acetylation and N-formylation of carcinogenic arylamines and related compounds in dogs. *Carcinogenesis* **16**(1), 71-76 (1995).
3. Olsen, H. and Mørland, J. Sulfonamide acetylation in isolated rat liver cells. *Acta Pharmacol. Toxicol. (Copenh)* **49**(2), 102-109 (1981).
4. Ozensoy, O., Puccetti, L., Fasolis, G., *et al.* Carbonic anhydrase inhibitors: Inhibition of the tumor-associated isozymes IX and XII with a library of aromatic and heteroaromatic sulfonamides. *Bioorg. Med. Chem. Lett.* **15**(21), 4862-4866 (2005).
5. Wang, X.-L., Wan, K., and Zhou, C.-H. Synthesis of novel sulfanilamide-derived 1,2,3-triazoles and their evaluation for antibacterial and antifungal activities. *Eur. J. Med. Chem.* **45**(10), 4631-4639 (2010).

#### 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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