

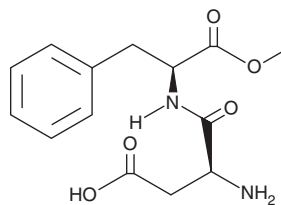
PRODUCT INFORMATION



Aspartame

Item No. 26089

CAS Registry No.: 22839-47-0
Formal Name: L- α -aspartyl-L-phenylalanine, 2-methyl ester
Synonym: L-Aspartyl-L-Phenylalanine methyl ester
MF: C₁₄H₁₈N₂O₅
FW: 294.3
Purity: \geq 98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

Aspartame is supplied as a crystalline solid. A stock solution may be made by dissolving the aspartame in the solvent of choice. Aspartame is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of aspartame in these solvents is approximately 2.5 and 0.5 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 aspartame can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of aspartame in PBS, pH 7.2, is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Aspartame is a synthetic non-caloric sweetener that is metabolized to phenylalanine, aspartic acid, and methanol in the gut.^{1,2} Aspartame (80 mg/kg per day for 90 days) increases plasma alanine aminotransferase (ALT) and aspartate aminotransferase (AST) activity, induces hepatocyte degeneration and leukocyte infiltration in the liver, and reduces hepatic levels of reduced glutathione (GSH), oxidized glutathione (GSSG), and γ -glutamylcysteine (γ -GC) in mice.² Formulations containing aspartame have been used as sweetening agents and flavor enhancers in foods and beverages.

References

1. Choudhary, A.K. and Pretorius, E. Revisiting the safety of aspartame. *Nutr. Rev.* **75(9)**, 718-730 (2017).
2. Finamor, I., Pérez, S., Bressan, C.A., et al. Chronic aspartame intake causes changes in the trans-sulphuration pathway, glutathione depletion and liver damage in mice. *Redox Biol.* **11**, 701-707 (2017).

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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