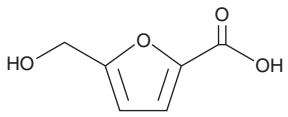
PRODUCT INFORMATION

5-Hydroxymethyl-2-furancarboxylic Acid

Item No. 22999

CAS Registry No.: 6338-41-6
Formal Name: 5-(hydroxymethyl)-2-furancarboxylic acid
Synonym: NSC 40739
MF: $C_6H_6O_4$
FW: 142.1
Purity: ≥98%
UV/Vis.: λ_{max}: 254 nm
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

5-Hydroxymethyl-2-furancarboxylic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-hydroxymethyl-2-furancarboxylic acid in the solvent of choice, which should be purged with an inert gas. 5-Hydroxymethyl-2-furancarboxylic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 5-hydroxymethyl-2-furancarboxylic acid in these solvents is approximately 100, 10, and 15 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 5-hydroxymethyl-2-furancarboxylic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 5-hydroxymethyl-2-furancarboxylic acid in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

5-Hydroxymethyl-2-furancarboxylic acid is the main metabolite of 5-hydroxymethyl-2-furfural, a product of acid-catalyzed degradation of sugars during the heating and storage of foods that influences taste and physiological functions in the body.[1] 5-Hydroxymethyl-2-furancarboxylic acid can be used as a building block in the enzymatic synthesis of macrocyclic oligoesters.[2]

References

1. Jöbstl, D., Husøy, T., Alexander, J., *et al.* Analysis of 5-hydroxymethyl-2-furoic acid (HMFA) the main metabolite of alimentary 5-hydroxymethyl-2-furfural (HMF) with HPLC and GC in urine. *Food Chem.* **123(3)**, 814-818 (2010).
2. Hirai, H., Naito, K., Hamasaki, T., *et al.* Syntheses of macrocyclic oligoesters from 5-hydroxymethyl-2-furancarboxylic acid. *Macromol. Chem. Phys.* **185(11)**, 2347-2359 (1984).

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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