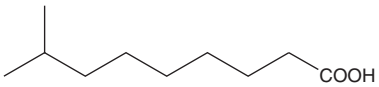
PRODUCT INFORMATION

8-methyl Nonanoic Acid

Item No. 9000310

CAS Registry No.: 5963-14-4
Formal Name: 8-methyl-nonanoic acid
Synonyms: FA 10:0, Isocapric Acid
MF: $C_{10}H_{20}O_2$
FW: 172.3
Purity: ≥98%
Supplied as: A neat oil
Storage: -20°C
Stability: ≥1 year



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

Laboratory Procedures

Isocapric acid is supplied as a neat oil. A stock solution may be made by dissolving the isocapric acid in an organic solvent purged with an inert gas. Isocapric acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of isocapric acid in these solvents is approximately 10 mg/ml.

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 8-methyl nonanoic acid can be prepared by directly dissolving the neat oil in aqueous buffers. The solubility of 8-methyl nonanoic acid 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

Capsaicin, the chemical that imparts the spicy-hot quality of chili peppers, is produced by the fruits of plants belonging to the *Capsicum* family. 8-methyl Nonanoic acid is an immediate precursor of capsaicin as well as a by-product of capsaicin degradation.[1] Addition of 5 mM of 8-methyl nonanoic acid significantly increases the yield of capsaicin in both immobilized and freely suspended cells of *C. frutescens*.[2] Capsaicin has reported antimicrobial properties, however 8-methyl nonanoic acid can act as a growth substrate in certain bacterial strains.[3]

References

1. Kaga, H., Miura, M., and Orito, K. A facile procedure for synthesis of capsaicin. *J. Org. Chem.* **54**, 3477-3478 (1989).
2. Lindsey, K. and Yeoman, M.M. The synthetic potential of immobilised cells of *Capsicum frutescens* Mill cv. annuum. *Planta* **162**, 495-501 (1984).
3. Flagan, S.F. and Leadbetter, J.R. Utilization of capsaicin and vanillylamine as growth substrates by *Capsicum* (hot pepper)-associated bacteria. *Environmental Microbiology* **8(3)**, 560-565 (2006).

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