Petroselinic Acid
Item No. 20024

CAS Registry No.: 593-39-5
Formal Name: 6Z-octadecenoic acid
Synonyms: cis-Octadecenoic Acid, cis-Petroleinic Acid, 5-Heptadecylene-1-carboxylic Acid
MF: C_{18}H_{34}O_{2}
FW: 282.5
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

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

Laboratory Procedures

Petroselinic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the petroselinic acid in the solvent of choice. Petroselinic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of petroselinic acid in DMSO is approximately 10 mg/ml and approximately 25 mg/ml in ethanol and DMF.

Petroselinic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, petroselinic acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Petroselinic acid has a solubility of approximately 0.25 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Petroselinic acid is a monounsaturated fatty acid and isomer of oleic acid (Item No. 90260) that is a component of plant lipids. Arachidonic acid levels decrease, while linoleic acid levels increase, in the heart, liver, and blood of rats fed a diet containing petroselinic acid. It has been used in a composite membrane as a model of plant partitioning to study the uptake of hydrophobic organic contaminants and polycyclic aromatic hydrocarbons. It has also been used as a substrate for the synthesis of new sophorolipids, which could have biological activities similar to natural biosurfactants.

References