Salsalate
Item No. 11911

CAS Registry No.: 552-94-3
Formal Name: 2-hydroxy-2-carboxyphenyl ester-benzoic acid
Synonyms: Nobacid, NSC 49171
MF: C14H10O5
FW: 258.2
Purity: ≥98%
UV/Vis.: \(\lambda_{\text{max}}^\text{abs}: 207, 234, 308 \text{ nm}\)
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

Salsalate is supplied as a crystalline solid. A stock solution may be made by dissolving the salsalate in the solvent of choice, which should be purged with an inert gas. Salsalate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of salsalate in these solvents is approximately 3, 5, and 14 mg/ml, respectively.

Salsalate is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, salsalate should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Salsalate has a solubility of approximately 0.5 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

Salsalate is a non-steroidal anti-inflammatory drug (NSAID) and prodrug form of salicylic acid.\(^1\) It is converted to salicylic acid by hydrolysis. It inhibits prostaglandin E\(_2\) (PGE\(_2\); Item No. 14010) production in isolated human whole blood stimulated with LPS (IC\(_{50}\) = 39.9 \(\mu\)M).\(^2\) Salsalate (1,000 mg/kg) inhibits weight gain and decreases fasting plasma glucose and insulin levels, as well as decreases plasma cholesterol and triglyceride levels in a mouse model of non-alcoholic steatohepatitis (NASH) induced by a high-fat high-cholesterol diet.\(^3\) Formulations containing salsalate have been used in the treatment of pain associated with osteoarthritis and rheumatoid arthritis.

References