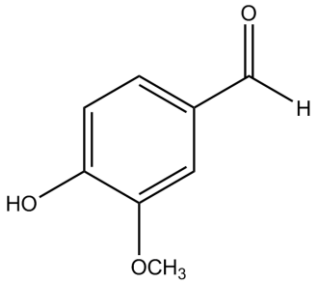
Chemical profile - Vanillin

Basic information

IUPAC name: 4-hydroxy-3-methoxybenzaldehyde
Other names: Vanillin
Molecular formula: $C_8H_8O_3$
Molecular weight: 152.15 g mol^{-1}



Physical properties

Appearance: Off-white (pale yellow) solid
Relative density: 1.060 g cm^{-3}
Melting point: 81 - 83 °C
Boiling point: 170 °C
Flash point: 147 °C

Occurrence and uses

Vanillin is used as a sweetener and flavouring in food and drinks, most notably in ice-cream. Vanillin in also used a starting material in a number of chemical synthesis reactions, including the production of L-Dopa (Parkinson's disease drug), papaverin (heart drug) and trimethoprim (an antibacterial compound). Acid solutions of vanillin in ethanol can be used to develop thin layer chromatography plates for chemical analyses.[1]

1. See Learn Chemistry 'Substance: Vanillin'

Links to curriculum

Functional groups: Alcohol, ether, carbonyl, aromatic ring, aldehyde

Use in practical experiments: Learn Chemistry resources 'The formation of solid derivatives of aldehydes' and 'A giant silver mirror experiment' (Tollens' test).

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