

## 19 Specific References

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## 20 General References

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## 21 Authors

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## 22 Date of Revision

2 October 2013.

# Ethylparaben

## 1 Nonproprietary Names

BP: Ethyl Hydroxybenzoate

JP: Ethyl Parahydroxybenzoate

PhEur: Ethyl Parahydroxybenzoate

USP-NF: Ethylparaben

## 2 Synonyms

Aethylum hydrobenzoicum; *CoSept E*; E214; ethylis parahydroxybenzoas; ethyl *p*-hydroxybenzoate; *Ethyl parasept*; 4-hydroxybenzoic acid ethyl ester; *Nipagin A*; *Solbrol A*; *Tegosept E*; *Uniphen P-23*.

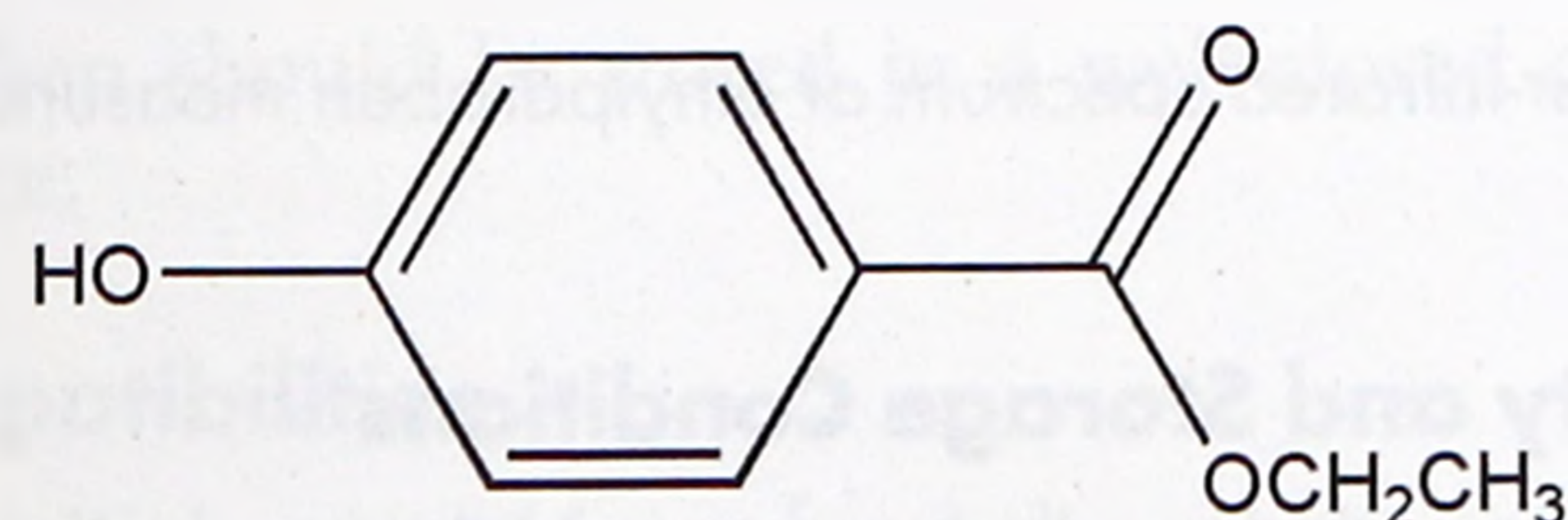
## 3 Chemical Name and CAS Registry Number

Ethyl-4-hydroxybenzoate [120-47-8]

## 4 Empirical Formula and Molecular Weight

C<sub>9</sub>H<sub>10</sub>O<sub>3</sub> 166.18

## 5 Structural Formula



## 6 Functional Category

Antimicrobial preservative.

## 7 Applications in Pharmaceutical Formulation or Technology

Ethylparaben is widely used as an antimicrobial preservative in cosmetics,<sup>(1)</sup> food products, and pharmaceutical formulations.

It may be used either alone or in combination with other paraben esters or with other antimicrobial agents. In cosmetics it is one of the most frequently used preservatives.

The parabens are effective over a wide pH range and have a broad spectrum of antimicrobial activity, although they are most effective against yeasts and molds; *see* Section 10.

Owing to the poor solubility of the parabens, paraben salts, particularly the sodium salt, are frequently used. However, this may cause the pH of poorly buffered formulations to become more alkaline.

*See* Methylparaben for further information.

## 8 Description

Ethylparaben occurs as a white, odorless or almost odorless, crystalline powder.

## 9 Pharmacopeial Specifications

The pharmacopeial specifications for ethylparaben have undergone harmonization of many attributes for JP, PhEur, and USP-NF.

*See* Table I. *See also* Section 18.

## 10 Typical Properties

**Antimicrobial activity** Ethylparaben exhibits antimicrobial activity from pH 4-8. Preservative efficacy decreases with increasing pH owing to the formation of the phenolate anion. Parabens are more active against yeasts and molds than against bacteria. They are also more active against Gram-positive than against Gram-negative bacteria.

The activity of the parabens increases with increasing chain length of the alkyl moiety, but solubility decreases.