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21 Authors

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22 Date of Revision

4 May 2017.

Propylparaben

1 Nonproprietary Names

BP: Propyl Hydroxybenzoate
JP: Propyl Parahydroxybenzoate
PhEur: Propyl Parahydroxybenzoate
USP–NF: Propylparaben

2 Synonyms

Aseptoform P; *CoSept P*; E216; 4-hydroxybenzoic acid propyl ester; *Nipagin P*; *Nipasol M*; propagin; *Propyl Aseptoform*; propyl butex; *Propyl Chemosept*; propylis parahydroxybenzoas; propyl *p*-hydroxybenzoate; *Propyl Parasept*; *Solbrol P*; *Tegosept P*; *Uniphen P-23*.

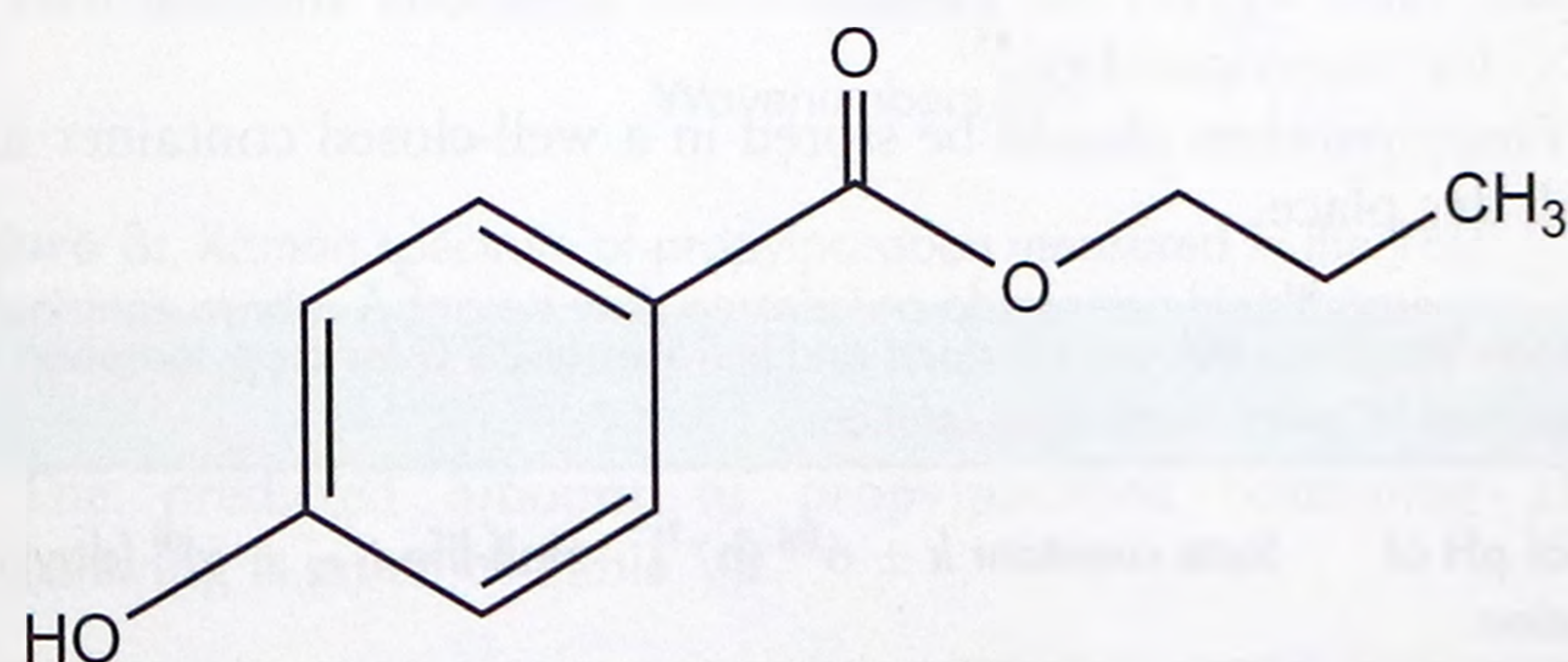
3 Chemical Name and CAS Registry Number

Propyl 4-hydroxybenzoate [94-13-3]

4 Empirical Formula and Molecular Weight

C₁₀H₁₂O₃ 180.20

5 Structural Formula



6 Functional Category

Antimicrobial preservative.

7 Applications in Pharmaceutical Formulation or Technology

Propylparaben is widely used as an antimicrobial preservative in cosmetics, food products, and pharmaceutical formulations; *see* Table I.

It may be used alone, in combination with other paraben esters, or with other antimicrobial agents. It is one of the most frequently used preservatives in cosmetics.⁽¹⁾

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, the paraben salts, particularly the sodium salt, are frequently used in formulations. This may cause the pH of poorly buffered formulations to become more alkaline.

Propylparaben (0.02% w/v) together with methylparaben (0.18% w/v) has been used for the preservation of various parenteral pharmaceutical formulations; *see* Section 14.

See Methylparaben for further information.

Table I: Uses of propylparaben in pharmaceutical preparations.

Use	Concentration (%)
IM, IV, SC injections	0.005–0.2
Inhalation solutions	0.015
Intradermal injections	0.02–0.26
Nasal solutions	0.017
Ophthalmic preparations	0.005–0.01
Oral solutions and suspensions	0.01–0.02
Rectal preparations	0.02–0.1
Topical preparations	0.01–0.6
Vaginal preparations	0.02–0.1

8 Description

Propylparaben occurs as a white, crystalline, odorless, and tasteless powder.

9 Pharmacopeial Specifications

The pharmacopeial specifications for propylparaben have undergone harmonization of many attributes for JP, PhEur, and USP–NF. *See* Table II. *See also* Section 18.