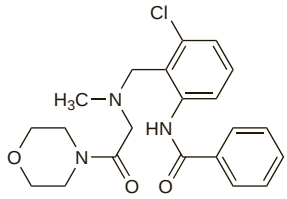
### Fominoben Hydrochloride *(rINNM)*

Fominobène, Chlorhydrate de; Fominobeni Hydrochloridum; Hidrocloruro de fominobén; PB-89. 3′-Chloro-2′-[*N*-methyl-*N*-(morpholinocarbonylmethyl)aminomethyl]benzanilide hydrochloride.

Фоминобена Гидрохлорид

$C_{21}H_{24}ClN_3O_3$,HCl = 438.3.

*CAS — 18053-31-1 (fominoben); 24600-36-0 (fominoben hydrochloride).*



*(fominoben)*

#### Profile
Fominoben hydrochloride is a centrally acting cough suppressant (see p.1547) that is also reported to have respiratory stimulant properties. It is given in oral doses of 160 mg up to three times daily; it has also been given by slow intravenous injection.

#### Preparations
**Proprietary Preparations** (details are given in Part 3)
***Jpn:*** Noleptan; ***Mex.:*** Noleptan; ***Spain:*** Tosifar.

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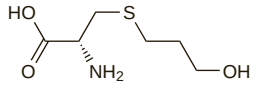
### Fudosteine *(rINN)*

Fudosteína; Fudostéine; Fudosteinum; SS-320A. (–)-3-[(3-Hydroxypropyl)thio]-L-alanine.

Фудостеин

$C_6H_{13}NO_3S$ = 179.2.

*CAS — 13189-98-5.*



#### Profile
Fudosteine is an expectorant given orally in a dose of 400 mg three times daily.

#### Preparations
**Proprietary Preparations** (details are given in Part 3)
***Jpn:*** Cleanal.

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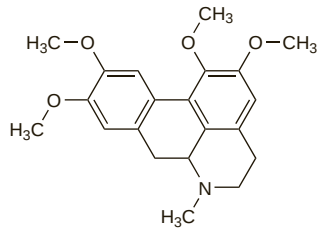
### Glaucine

Boldine Dimethyl Ether; DL-832 (*dl*-glaucine phosphate); Glaucina; *dl*-Glaucine; MDL-832 (*dl*-glaucine phosphate). DL-1,2,9,10-Tetramethoxyaporphine.

Глауцин

$C_{21}H_{25}NO_4$ = 355.4.

*CAS — 5630-11-5 (dl-glaucine); 73239-87-9 (dl-glaucine phosphate); 475-81-0 (d-glaucine); 5996-06-5 (d-glaucine hydrobromide).*



*(dl-glaucine)*

#### Profile
Glaucine is a centrally acting cough suppressant used in non-productive cough (p.1547); it has been given as the phosphate.

*d*-Glaucine has also been used, as the hydrobromide and the hydrochloride. It has been obtained from *Glaucium flavum* (Papaveraceae).

#### Preparations
**Proprietary Preparations** (details are given in Part 3)
***Rus.:*** Glauvent (Глаувент)†.

**Multi-ingredient:** ***Rus.:*** Bronchitussin (Бронхитусен); Bronchocin (Бронхоцин); Broncholytin (Бронхолитин).

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### Guacetisal *(rINN)*

Acetylsalicylic Acid Guaiacol Ester; Guacétisal; Guacetisalum. *o*-Methoxyphenyl salicylate acetate.

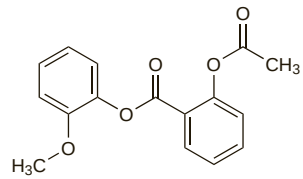
Гуацетисал

$C_{16}H_{14}O_5$ = 286.3.

*CAS — 55482-89-8.*

*ATC — N02BA14.*

*ATC Vet — QN02BA14.*



#### Profile
Guacetisal has been used in respiratory disorders as an expectorant (see p.1547). It has also been used as an antipyretic to reduce fever (p.10). It has been given by mouth and rectally.

#### Preparations
**Proprietary Preparations** (details are given in Part 3)
***Ital.:*** Prontomucil.

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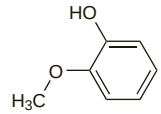
### Guaiacol

Gaïacol; Guaiacolum; Guajacol; Guayacol; Gwajakol; Methyl Catechol. 2-Methoxyphenol.

Гваякол

$C_7H_8O_2$ = 124.1.

*CAS — 90-05-1 (guaiacol); 553-17-3 (guaiacol carbonate); 60296-02-8 (calcium guaiacolglycolate); 4112-89-4 (guaiacol phenylacetate).*



**Pharmacopoeias.** In *Eur.* (see p.vii). *Fr.* also includes guaiacol carbonate.

**Ph. Eur. 6.2** (Guaiacol). A crystalline mass or colourless or yellowish hygroscopic liquid. Sparingly soluble in water; freely soluble in alcohol; very soluble in dichloromethane. Store in airtight containers. Protect from light.

#### Profile
Guaiacol has disinfectant properties and has been used in dentistry and as an expectorant for productive cough (p.1547).

In high concentrations, adverse effects are similar to, but less severe than, those of phenol (p.1656).

A wide range of salts and derivatives of guaiacol have been used similarly including the carbonate, cinnamate, ethylglycolate, calcium and sodium glycolates, phenylacetate, and phenylbutyrate. See also Guaifenesin, p.1561 and Sulfogaiacol, p.1573.

#### Preparations
**Proprietary Preparations** (details are given in Part 3)
***Mex.:*** Eucaliptine.

**Multi-ingredient:** ***Arg.:*** Aseptobron; Atomo Desinflamante; Atomo Desinflamante Familiar; ***Belg.:*** Eucalyptine; Eucalyptine Pholcodine; Inopectol; ***Braz.:*** Canfomenol†; Egotussano†; Ozonyl; Transpulmin; Transpulmin Balsamo; Tripulmin Balsamico†; ***Canad.:*** Creo-Rectal; Demo-Cineol; Omni-Tuss†; Valda; ***Cz.:*** Biocalyptol S†; ***Fr.:*** Bronchorectine au Citral; Essence Algerienne; Pulmo Bailly; Pulmoserum; Valda; ***Ger.:*** Dalet Med Balsam†; ***Gr.:*** Gulamyl; ***Hong Kong:*** Biocalyptol†; Valda†; ***Irl.:*** Valda†; ***Ital.:*** Eugenol-Guaiacolo Composto; Fosfoguaiacol; Lactocol; Lipobalsamo; ***Mex.:*** Eucalin†; Guayalin; Guayalin-Plus†; ***Port.:*** Algina; Analgil; Valda†; ***Spain:*** Bronco Aseptilex Fuerte; Eucalyptospirine†; Tos Mai; ***UK:*** Dragon Balm; Pulmo Bailly; ***USA:*** Methagual; ***Venez.:*** Derpinol†.

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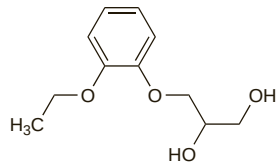
### Guaietolin *(rINN)*

Glycerylguethol; Glyguetol; Guaietolina; Guaïétoline; Guaietolinum; Guayetolina. 3-(2-Ethoxyphenoxy)propane-1,2-diol.

Гвайэтолин

$C_{11}H_{16}O_4$ = 212.2.

*CAS — 63834-83-3.*



#### Profile
Guaietolin is an analogue of guaifenesin which is used as an expectorant (see p.1547). It has been given in oral doses of 300 to 600 mg two or three times daily.

#### Preparations
**Proprietary Preparations** (details are given in Part 3)
***Fr.:*** Guethural.

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### Guaifenesin *(BAN, USAN, rINN)*

Glyceryl Guaiacolate; Glycerylguayacolum; Guaiacol Glycerol Ether; Guaiacyl Glyceryl Ether; Guaifenesiini; Guaifenesina; Guaïfénésine; Guaifénésine; Guaifenesinum; Guaiphenesin; Guajacolum Glycerolatum; Gvajfenezin; Gvajfenezinas. (*RS*)-3-(2-Methoxyphenoxy)propane-1,2-diol.

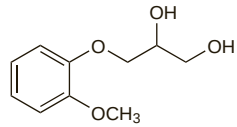
Гвайфенезин

$C_{10}H_{14}O_4$ = 198.2.

*CAS — 93-14-1.*

*ATC — R05CA03.*

*ATC Vet — QM03BX90; QR05CA03.*



**Pharmacopoeias.** In *Eur.* (see p.vii), *Jpn*, and *US*.

**Ph. Eur. 6.2** (Guaifenesin). A white or almost white, crystalline powder. Sparingly soluble in water; soluble in alcohol.

**USP 31** (Guaifenesin). A white to slightly grey crystalline powder. May have a slight characteristic odour. Soluble 1 in 60 to 70 of water; soluble in alcohol, in chloroform, and in propylene glycol; sparingly soluble in glycerol. Store in airtight containers.

#### Adverse Effects and Precautions
Gastrointestinal discomfort, nausea, and vomiting have occasionally been reported with guaifenesin, particularly in very large doses.

**Abuse.** Urinary calculi have been reported in patients consuming large quantities of over-the-counter preparations containing guaifenesin.[1,2] Spectroscopic analysis[1] revealed that the stones were composed of a calcium salt of beta-(2-methoxyphenoxy)-lactic acid, which is a metabolite of guaifenesin. Small quantities of ephedrine were also present in the stones of one of several patients who had ingested preparations containing a combination of guaifenesin and ephedrine.[2]


1. Pickens CL, *et al.* Abuse of guaifenesin-containing medications generates an excess of a carboxylate salt of beta-(2-methoxyphenoxy)-lactic acid, a guaifenesin metabolite, and results in urolithiasis. *Urology* 1999; **54:** 23–7.
2. Assimos DG, *et al.* Guaifenesin- and ephedrine-induced stones. *J Endourol* 1999; **13:** 665–7.


**Porphyria.** Guaifenesin is considered to be unsafe in patients with porphyria because it has been shown to be porphyrinogenic in *animals*.

#### Pharmacokinetics
Guaifenesin is well absorbed from the gastrointestinal tract. It is metabolised and then excreted in the urine.

#### Uses and Administration
Guaifenesin is reported to increase the volume and reduce the viscosity of tenacious sputum and is used as an expectorant for productive cough. It is given in oral doses of 200 to 400 mg every 4 hours. Modified-release preparations, given every 12 hours, are also available. For doses in children see Administration in Children, below.

Guaifenesin has been used similarly as the calcium salt.

Guaifenesin is used as an adjunct to anaesthesia in veterinary medicine.

**Administration in children.** Guaifenesin is licensed for use as an expectorant in children; however, over-the-counter cough and cold preparations containing expectorants (including guaifenesin) should be used with caution in children and generally avoided in those under 2 years of age (see p.1547). Typical licensed oral doses, given every 4 hours, are:

- 6 months to 2 years, 25 to 50 mg
- 2 to 6 years, 50 to 100 mg
- 6 to 12 years, 100 to 200 mg