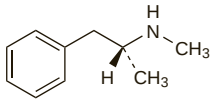
Levmetamfetamine *(USAN, rINN)* ⊗

l-Deoxyephedrine; L-Desoxiefedrina; L-Desoxyephedrine; Lesoxyephedrine; Levmétamfétamine; Levmetamfetaminum; Levmetanfetamina; Levometanfetamina; *l*-Methamphetamine; *l*-Methylamphetamine. (*R*)-*N*,α-Dimethylbenzeneethanamine; (–)-(*R*)-*N*,α-Dimethylphenethylamine.

Левметамфетамин

$C_{10}H_{15}N$ = 149.2.
CAS — 33817-09-3.



Pharmacopoeias. In *US.*
USP 31 (Levmetamfetamine). A clear, practically colourless, liquid. Store in airtight containers. Protect from light.

Profile
Levmetamfetamine is the *laevo* isomer of metamfetamine (p.2158) and is used topically in the treatment of nasal congestion (p.1548).

Abuse. Levmetamfetamine is a less potent central stimulant than metamfetamine, but it has been subject to occasional abuse.[1,2] In addition, as a stimulant its use is prohibited in sport during competition. However, it is classed by the World Anti-Doping Agency as one of the specified substances particularly susceptible to unintentional anti-doping rule violations because of general availability in medicinal products or which are less likely to be successfully abused as doping agents.[3]

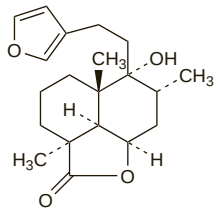
1. Halle AB, *et al.* Drug abuse with Vicks nasal inhaler. *South Med J* 1985; **78:** 761–2.
2. Ferrando RL, *et al.* Bizarre behavior following the ingestion of levo-desoxyephedrine. *Drug Intell Clin Pharm* 1988; **22:** 214–17.
3. World Anti-Doping Agency. The World Anti-Doping Code: 2007 Prohibited List International Standard (issued 16 September, 2006). Available at: http://www.wada-ama.org/rtecontent/document/2007_List_En.pdf (accessed 04/04/07)

Preparations
Proprietary Preparations (details are given in Part 3)
USA: Vicks Vapor Inhaler.

Marrubium

Andornkraut; Herba Marrubii; Hurtanminttu; Jablečníková nať; Juanrubio; Kransborre; Malva de sapo; Malvarrubia; Marrube blanc, parties aériennes fleuries de; Marrubii herba; Marrubio; Šantrų žolė; White Horehound.

Шандра Обыкновенная



(marrubiin)

Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (White Horehound). The whole or fragmented dried flowering aerial parts of *Marrubium vulgare*. It contains a minimum 0.7% of marrubiin ($C_{20}H_{28}O_4$ = 332.4), calculated as the dried drug.

Profile
Marrubium is the flower or leaf of *Marrubium vulgare* (Labiatae). It has been used for its supposed expectorant properties in herbal preparations for the treatment of cough. It has also been used as a flavouring.

Preparations
Proprietary Preparations (details are given in Part 3)
Ger.: Angocin Bronchialtropfen.

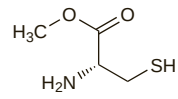
Multi-ingredient: ***Austral.:*** Broncafect; Verbascum Complex†; ***Austria:*** Asthmatee EF-EM-ES; Gallen- und Lebertee St Severin; ***Canad.:*** Herbal Throat†; Original Herb Cough Drops; Swiss Herb Cough Drops; ***Chile:*** Fucus Compuesto†; ***Cz.:*** Original Schwedenbitter; Species Cholagogae Planta; The Salvat; Zlucnikova Cajova Smes; ***Ital.:*** Altuss; Broncosedina; ***Pol.:*** Amarosal; ***S.Afr.:*** Cough Elixir; ***Spain:*** Natusor Asmaten†; Natusor Broncopul†; ***Switz.:*** Hederix; ***UK:*** Allens Chesty Cough; Asthma & Catarrh Relief; Catarrh-eeze; Chest Mixture; Cough-eeze; Herb and Honey Cough Elixir; Honey & Molasses; Horehound and Aniseed Cough Mixture; Modern Herbals Cough Mixture; Vegetable Cough Remover.

Mecysteine Hydrochloride *(BANM, rINNM)*

Hidrocloruro de mecisteína; Mécystéine, Chlorhydrate de; Mecysteini Hydrochloridum; Methyl Cysteine Hydrochloride; Methylcysteine Hydrochloride. Methyl L-2-amino-3-mercaptopropionate hydrochloride.

Мецистеина Гидрохлорид

$C_4H_9NO_2S$,HCl = 171.6.
CAS — 2485-62-3 (mecysteine); 18598-63-5 (mecysteine hydrochloride); 5714-80-7 (mecysteine hydrochloride).



(mecysteine)

Adverse Effects and Precautions
Nausea and heartburn have occasionally been reported. Since mucolytics may disrupt the gastric mucosal barrier mecysteine hydrochloride should be used with caution in patients with a history of peptic ulcer disease.

Uses and Administration
Mecysteine hydrochloride is used as a mucolytic in respiratory disorders associated with productive cough (p.1547). It is given orally in a usual dose of 200 mg three times daily before meals reduced to 200 mg twice daily after 6 weeks. A rapid clinical effect can be achieved by giving 200 mg four times daily for the first 2 days. For children's doses, see Administration in Children, below. Mecysteine has also been given by inhalation.

Administration in children. The recommended oral dose of mecysteine hydrochloride in children aged 5 to 12 years is 100 mg 3 times daily.

Respiratory disorders. Mecysteine hydrochloride given orally has reduced symptoms of cough in patients with chronic bronchitis or other respiratory disorders, but its effect on sputum production and pulmonary function has been variable.[1,2] The use of mucolytics in chronic obstructive pulmonary disease (p.1112) is controversial.

1. Aylward M, *et al.* Clinical therapeutic evaluation of methylcysteine hydrochloride in patients with chronic obstructive bronchitis: a balanced double-blind trial with placebo control. *Curr Med Res Opin* 1978; **5:** 461–71.
2. Sahay JN, *et al.* The effect of methyl cysteine (Visclair) in respiratory diseases: a pilot study. *Clin Trials J* 1982; **19:** 137–43.

Preparations
Proprietary Preparations (details are given in Part 3)
Irl.: Visclair; ***UK:*** Visclair.

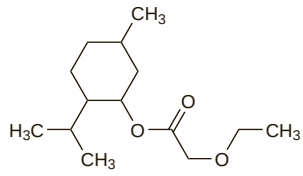
Multi-ingredient: ***Ital.:*** Donatiol.

Menglytate *(rINN)*

Menglitato; Menglytatum; Menthol Ethylglycolate. *p*-Menth-3-yl ethoxyacetate.

Менглитат

$C_{14}H_{26}O_3$ = 242.4.
CAS — 579-94-2.



Profile
Menglytate is an ingredient of a number of preparations promoted for the treatment of cough.

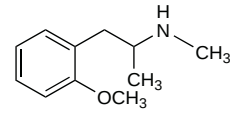
Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Ital.:*** Coryfin C; Neo Borocillina Balsamica.

Methoxyphenamine Hydrochloride *(BANM, rINNM)* ⊗

Hidrocloruro de metoxifenamina; Methoxiphenadrin Hydrochloride; Méthoxyphénamine, Chlorhydrate de; Methoxyphenamini Hydrochloridum; Mexyphamine Hydrochloride. 2-Methoxy-*N*α-dimethylphenethylamine hydrochloride.

Метоксифенамина Гидрохлорид

$C_{11}H_{17}NO$,HCl = 215.7.
CAS — 93-30-1 (methoxyphenamine); 5588-10-3 (methoxyphenamine hydrochloride).
ATC — R03CB02.
ATC Vet — QR03CB02.



(methoxyphenamine)

Profile
Methoxyphenamine is a sympathomimetic with effects similar to those of ephedrine (p.1558), given orally as the hydrochloride. It has been used as a bronchodilator mainly in combination preparations for the relief of cough and nasal congestion.

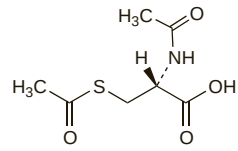
Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Chile:*** Cheracol; ***Hong Kong:*** Asmeton; ***Irl.:*** Casacol; ***Thai.:*** Asmeton†; ***Venez.:*** Metoxifilin.

Methyl Dacisteine *(rINNM)*

Dacisteína de metilo; Dacistéine Méthyle; Dacisteinum Methylis; EL-1035 (dacisteine); Methyl Diacetylcysteinate. Methyl *N*,*S*-diacetyl-L-cysteinate.

Дацистеин Метил

$C_8H_{13}NO_4S$ = 219.3.
CAS — 18725-37-6 (dacisteine); 19547-88-7 (methyl dacisteine).



(dacisteine)

Profile
Like acetylcysteine (p.1548), methyl dacisteine has been used as a mucolytic in respiratory disorders associated with productive cough (p.1547). It has been given orally in a usual dose of 600 mg daily, divided into 3 or 4 doses.

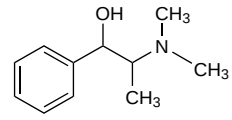
Preparations
Proprietary Preparations (details are given in Part 3)
Fr.: Mucothiol; ***Hung.:*** Mucothiol†; ***Ital.:*** Mucothiol.

Methylephedrine Hydrochloride *(BANM)* ⊗

dl-Methylephedrine Hydrochloride; *dl*-*N*-Methylephedrine Hydrochloride; Metilefedrina, hidrocloruro de. (1*RS*,2*RS*)-2-Dimethylamino-1-phenylpropan-1-ol hydrochloride.

Метилэфедрина Гидрохлорид

$C_{11}H_{17}NO$,HCl = 215.7.
CAS — 552-79-4 ((–)-methylephedrine); 1201-56-5 ((±)-methylephedrine); 38455-90-2 ((–)-methylephedrine hydrochloride); 942-46-1 ((±)-methylephedrine hydrochloride); 18760-80-0 ((±)-methylephedrine hydrochloride).



(methylephedrine)

Pharmacopoeias. In *Jpn.*

Profile
Methylephedrine hydrochloride is a sympathomimetic with effects similar to those of ephedrine (p.1558). It has been used as a bronchodilator and is given orally in combination preparations for the relief of cough and nasal congestion.

Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Austria:*** Tussoretardin; ***Hong Kong:*** Codaewon; ***Jpn:*** Colgen Kowa IB Toumei; Sin Colgen Kowa Kaze; ***S.Afr.:*** Ilvico; ***Switz.:*** Tossamine plus; ***Thai.:*** Coughmin†; Hustazol-C†; Methorcon; ***Venez.:*** Ilvico.