Tetryzoline Hydrochloride *(BANM, rINNM)* ⊗

Hidrocloruro de tetrizolina; Tetrahydrozoline Hydrochloride; Tetrazolin Hidroklorür; Tetrizolino hidrochloridas; Tetrytsoliinihydrokloridi; Tétryzoline, chlorhydrate de; Tetryzolin-hydrochlorid; Tetryzolinhydroklorid; Tetryzolini hydrochloridum. 2-(1,2,3,4-Tetrahydro-1-naphthyl)-2-imidazoline hydrochloride.

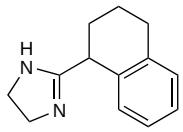
Тетризолина Гидрохлорид

$C_{13}H_{16}N_2$,HCl = 236.7.

CAS — 84-22-0 (tetryzoline); 522-48-5 (tetryzoline hydrochloride).

ATC — R01AA06; R01AB03; S01GA02.

ATC Vet — QR01AA06; QR01AB03; QS01GA02.



(tetryzoline)

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

Ph. Eur. 6.2 (Tetryzoline Hydrochloride). A white or almost white crystalline powder. Freely soluble in water, in alcohol, and in dehydrated alcohol; practically insoluble in acetone.

USP 31 (Tetrahydrozoline Hydrochloride). A white odourless solid. Soluble 1 in 3.5 of water and 1 in 7.5 of alcohol; very slightly soluble in chloroform; practically insoluble in ether. Store in airtight containers.

Profile

Tetryzoline is a sympathomimetic with effects similar to those of naphazoline (p.1565). It is used as the hydrochloride for its vasoconstrictor effect in the symptomatic relief of nasal congestion (p.1548). A 0.1% solution is instilled into each nostril as nasal drops or a spray as necessary, although not more often than every 3 hours. Children aged 2 to 6 years of age may be given 2 or 3 drops of a 0.05% solution in each nostril as necessary, although again not more often than every 3 hours.

Solutions of tetryzoline hydrochloride containing 0.05% are used as a conjunctival decongestant (see Conjunctivitis, p.564).

Other salts of tetryzoline including the nitrate, phosphate, and sulfate have been used similarly.

Effects on the eyes. For mention of conjunctivitis induced by ophthalmic decongestant preparations containing tetryzoline, see under Phenylephrine, p.1568.

Preparations

USP 31: Tetrahydrozoline Hydrochloride Nasal Solution; Tetrahydrozoline Hydrochloride Ophthalmic Solution.

Proprietary Preparations (details are given in Part 3)

Arg.: Bano Ocular; Chiosan; Octilia†; Ocudiafan†; Piam; ***Austral.:*** Murine Sore Eyes; Optazine Fresh†; Visine Original; ***Belg.:*** Visine; ***Canad.:*** Eye Drops†; Visine Original; ***Chile:*** Murine Plus†; Visional Gotas; ***Cz.:*** Rhinal; Tyzine†; Vasopos N; Visine; ***Denm.:*** Tyzine; ***Fin.:*** Oftan Starine; Visine; ***Fr.:*** Constrilia; ***Ger.:*** Caltheon†; Diabenyl T†; Ophtalmin N; Rhinex mit Tetryzolin; Rhinopront†; Sanopinwern T†; Tetrilin; Tyzine†; Vasopos N; Visine Yxin; Yxin†; ***Gr.:*** Ursa-Fin; Visine; ***Hong Kong:*** Optizoline; Visine Original; ***Hung.:*** Tyzine; Visine; ***India:*** Visine; ***Indon.:*** Braito; Insto; Isotic Clearin; Visine; Visolin; Visto; ***Israel:*** Azoline; Stilla; V-Zoline; Visine; ***Ital.:*** Demetil; Octilia; Stilla Decongestionante; Vasorinil; Visine; ***Malaysia:*** Visine; ***Mex.:*** Eye-Mo; Tetrazol; ***NZ:*** Visine; ***Philipp.:*** Eye-Mo; Sinutab NS; Visine; Visine Advanced Relief; Visine Cool; ***Pol.:*** Berberil; Starazolin; Tetryvil; Visine; ***Port.:*** Visine; ***Rus.:*** Octilia (Октилия); Tyzine (Тизин); Visine (Визин); ***S.Afr.:*** Visine; ***Singapore:*** Octilia†; Visine; ***Spain:*** Azulina; Vispring; ***Switz.:*** Rhinopront Top; Visine; ***Thai.:*** Visine; ***Turk.:*** Burnil; Eye-Visol; Visine; Zenkain; ***USA:*** Eye Drops; Eye-Zine; Geneye Extra†; Mallazine†; Optigene 3; Tetrasine†; Tyzine; Visine Original; ***Venez.:*** Cusibel†.

Multi-ingredient: ***Arg.:*** Antiflogol; Biocortin†; Efemolina; Larsimal; Provisual Compuesto; Toflam; Visine Plus; Visubril; ***Austral.:*** In A Wink Allergy†; Visine Advanced Relief; Visine Allergy†; Visine Revive†; ***Braz.:*** Fenidex; Mirabel; Vislin; Visodin; Visolux†; ***Canad.:*** Visine Advance Triple Action; Visine Allergy; Visine Cool; ***Chile:*** Spersallerg; ***Cz.:*** Spersallerg; ***Ger.:*** Allergopos N; Berberil N; Efemolin; Spersadexolin†; Spersallerg; ***Gr.:*** Spersadexoline†; Spersallerg; ***Hong Kong:*** Efemoline; Spersadexoline†; Spersallerg; Visine AC; Visine Moisturizing; ***Hung.:*** Spersallerg; ***Indon.:*** Visine Extra; ***Israel:*** Visine AC; ***Ital.:*** Biorinil; Cromozil; Dexoline; Efemoline; Eta Biocortilen VC; Flumezina; Ischemol A; Stillergy; Tetramil; Vasosterone; Vasosterone Antibiotico; Vasosterone Collirio; Visublefarite; Visucloben Decongestionante; Visumetazone Antibiotico; Visumetazone Decongestionante; Visustrin; ***Malaysia:*** Efemoline†; Gentadexa; Murine Plus†; Spersadexoline; Spersallerg; ***Mex.:*** Fluorometil; Visine Extra; ***Norw.:*** Spersallerg; ***NZ:*** Visine Advanced Relief; ***Philipp.:*** Efemoline; Spersallerg; ***Pol.:*** Spersallerg; ***Port.:*** Gentadexa; Medrivas Antibiotico; ***Rus.:*** Spersallerg (Сперсаллерг); ***S.Afr.:*** Efemoline; Gemini; Oculerge; Oculoforte†; Safyr Bleu Antihistamine†; Spersadexoline; Spersallerg; ***Singapore:*** Efemoline; Spersadexoline†; Spersallerg; ***Spain:*** Dexam Constric†; Fluorvas; Gentadexa; Medrivas; Medrivas Antib; Tivitis; Vasodexa; ***Switz.:*** Collypan; Efemoline; Spersadexoline†; Spersallerg; ***Thai.:*** Antazallerge; Efemoline; Histaoph; Mano; Opsa-His†; Opsil-A; Spersadexoline; Spersallerg; ***Turk.:*** Efemoline; Flumetol; ***USA:*** Advanced Relief Visine; Collyrium Fresh†; Murine Plus; Tetrasine Extra†; Visine Allergy Relief; Visine Moisturizing†; ***Venez.:*** Gentidexa; Gentisor†.

Thebacon Hydrochloride *(BANM, rINNM)*

Acethydrocodone Hydrochloride; Acetyldihydrocodeinone Hydrochloride; Dihydrocodeinone Enol Acetate Hydrochloride; Hidrocloruro de tebacón; Thébacone, Chlorhydrate de; Thebaconi Hydrochloridum. 6-*O*-Acetyl-7,8-dihydro-3-*O*-methyl-6,7-didehydromorphine hydrochloride; (–)-(5*R*)-4,5-Epoxy-3-methoxy-9a-methylmorphin-6-en-6-yl acetate hydrochloride.

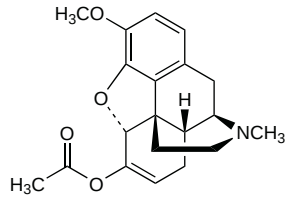
Тебакона Гидрохлорид

$C_{20}H_{23}NO_4$,HCl = 377.9.

CAS — 466-90-0 (thebacon); 20236-82-2 (thebacon hydrochloride).

ATC — R05DA10.

ATC Vet — QR05DA10.



(thebacon)

Profile

Thebacon hydrochloride is a centrally acting cough suppressant used for non-productive cough (p.1547). It has actions similar to those of codeine (p.37) but is stated to be about 4 times more potent. It is given orally in a usual daily dose of 10 mg in divided doses; the maximum daily dose should not exceed 20 mg.

Preparations

Proprietary Preparations (details are given in Part 3)

Belg.: Acedicon.

Tipepidine Hibenzate *(rINNM)*

AT-327 (tipepidine); CR-662 (tipepidine); Hibenzato de tipepidina; Tipépidine, Hibenzate de; Tipepidine Hybenzate; Tipepidini Hibenzas. 3-[Di(2-thienyl)methylene]-1-methylpiperidine 2-(4-hydroxybenzoyl)benzoate.

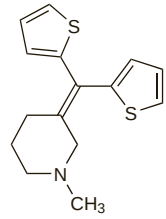
Типепидина Гибензат

$C_{15}H_{17}NS_2$,$C_{14}H_{10}O_4$ = 517.7.

CAS — 5169-78-8 (tipepidine); 31139-87-4 (tipepidine hibenzate).

ATC — R05DB24.

ATC Vet — QR05DB24.



(tipepidine)

Pharmacopoeias. In *Jpn*.

Profile

Tipepidine hibenzate is a cough suppressant used for non-productive cough (p.1547) which is claimed also to have an expectorant action. It is given orally as the hibenzate but doses are expressed as the citrate; tipepidine hibenzate 22.2 mg is equivalent to about 20 mg of tipepidine citrate. A usual dose is the equivalent of 20 to 40 mg of the citrate 3 times daily.

Epileptogenic effect. Generalised convulsions associated with therapeutic oral doses of tipepidine hibenzate have occurred in some patients.[1]

1. Cuomo RM. On the possible convulsive activity of an antitussive piperidinic derivative ('tipepidina ibenzato') in man. *Acta Neurol (Napoli)* 1982; **37:** 110–16.

Preparations

Proprietary Preparations (details are given in Part 3)

Indon.: Asvex; ***Jpn:*** Asverin.

Multi-ingredient: ***Arg.:*** Di-Neumobron; ***Indon.:*** Neo Novapon; Neo Novapon Plus; ***Jpn:*** Sin Colgen Kowa Kaze.

Tolu Balsam

Bálsamo de tolú; Balsamum tolutanum; Baume de tolu; Tolu balzamas; Toluánský balzám; Tolubalsam; Tolubalzsam; Tolupalsami.

Толуанский Бальзам

CAS — 9000-64-0; 8017-09-2.

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

Ph. Eur. 6.2 (Tolu Balsam). Oleoresin obtained from the trunk of *Myroxylon balsamum* var. *balsamum*. It contains 25 to 50% of free or combined acids, expressed as cinnamic acid, calculated with reference to the dried drug. It occurs as a hard, friable, brownish to reddish-brown mass; thin fragments are brownish-yellow when examined against the light. It has an odour reminiscent of vanillin. Practically insoluble in water and in petroleum spirit; very soluble or freely soluble in alcohol. Do not store in powdered form.

USP 31 (Tolu Balsam). A balsam obtained from *Myroxylon balsamum* (Leguminosae). It is a brown or yellowish-brown plastic solid transparent in thin layers and brittle when old, dried, or exposed to cold temperatures. It has a pleasant aromatic odour, resembling that of vanilla. Practically insoluble in water and in petroleum spirit; soluble in alcohol, in chloroform, and in ether, sometimes with slight residue or turbidity. Store at a temperature not exceeding 40° in airtight containers.

Profile

Tolu balsam is considered to have very mild antiseptic properties and some expectorant action but is mainly used in the form of a syrup to flavour cough mixtures. However, Tolu Syrup (BP 2008) no longer contains tolu balsam but is based on cinnamic acid (p.1640).

Preparations

BPC 1954: Compound Iodoform Paint;
USNF 26: Tolu Balsam Syrup; Tolu Balsam Tincture;
USP 31: Compound Benzoin Tincture.

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Arg.:*** Cobenzil Compuesto†; No-Tos Adultos; No-Tos Infantil; Pastillas Medex; Pectobron; Polipectol†; Refenax Caramelos Expectorantes; ***Austral.:*** Camphor Linctus Compound; ***Belg.:*** Saintbois; Tux†; ***Braz.:*** Agrimel†; Broncofisin†; Calmatoss†; Expectomel; Frenotosse; Frenotossil†; Glycon; Infantoss†; Inhalante Yatropan; Iodetal; Ipecol†; Melagriao; Peitoral Angico Pelotense†; Pulmonix†; Tossanil†; Vick Pastilhas; Xarope de Caraguata†; Xarope Sao Joao†; ***Canad.:*** Bronco Asmol; Rophelin†; ***Chile:*** Elitos ET; Fitotos; Flemex Jat; Jarabe Palto Compuesto con Miel Adulto; Notosil†; Pulmosina; Sedotus†; ***Cz.:*** Solutan†; Stodal; ***Fr.:*** Broncalene Nourisson; Dinacode avec codeine†; Dinacode†; Hexapneumine; Pastilles Medicinales Vicks; Pastilles Monleon; Pates Pectorales; Phytotux; Theralene Pectoral Nourrisson†; Tussipax; ***Hong Kong:*** Baby Cough with Antihistamine; Hexapneumine; ***Ital.:*** Stenobronchial; ***Mex.:*** Citos; Epicol†; Fen-y-Tos; ***Port.:*** Broncodiazina; Lesil; Stodal; ***Rus.:*** Solutan (Солутан); ***S.Afr.:*** Choats Extract of Lettuce Cough Mixture; Linctus Tussi Infans; Puma Cough Balsam; Turulington Tincture; ***Spain:*** Bactopumon; Bronquidiazina CR; Pastillas Antisep Garg M; Pulmofasa; Tosdiazina†; ***Switz.:*** Baume†; Dinacode N†; Euphon N; Ipeca†; Neo-Codion N; Neo-DP†; Pastilles pectorales Demo N; Pectocalmine Junior N; Pectosan N†; Phol-Tussil; Pommade au Baume; Saintbois; Sano Tuss; ***Thai.:*** Baby Cough Syrup Atlantic; Baby Cough with Antihistamine; ***UK:*** Allens Chesty Cough; Chesty Cough Relief; Modern Herbals Cold & Congestion; Sanderson's Throat Specific; ***USA:*** Tonsiline; Vicks Menthol Cough Drops; ***Venez.:*** Yerba Santa.

Tramazoline Hydrochloride *(BANM, USAN, rINNM)* ⊗

Hidrocloruro de tramazolina; Tramazoline, chlorhydrate de; Tramazolin-hidroklorid; Tramazolin-hydrochlorid; Tramazolini hydrochloridum; Tramazolino hidrochloridas; Tramazoliny chlorowodorek. 2-(5,6,7,8-Tetrahydro-1-naphthylamino)-2-imidazoline hydrochloride monohydrate.

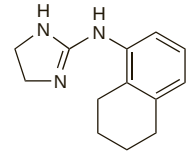
Трамазолина Гидрохлорид

$C_{13}H_{17}N_3$,HCl,H_2O = 269.8.

CAS — 1082-57-1 (tramazoline); 3715-90-0 (tramazoline hydrochloride).

ATC — R01AA09.

ATC Vet — QR01AA09.



(tramazoline)

Pharmacopoeias. In *Eur.* (see p.vii).

Ph. Eur. 6.2 (Tramazoline Hydrochloride Monohydrate). A white or almost white crystalline powder. Soluble in water and in alcohol. A 5% solution in water has a pH of 4.9 to 6.3.

Profile

Tramazoline hydrochloride is a sympathomimetic with effects similar to those of naphazoline (p.1565). It is used to provide symptomatic relief of nasal congestion (p.1548). Tramazoline hydrochloride is given as a solution containing about 0.12%, instilled into each nostril as nasal drops or a spray three or four times daily.

Solutions of tramazoline hydrochloride containing about 0.06% have also been used in eye drops as a conjunctival decongestant (see Conjunctivitis, p.564).

Preparations

Proprietary Preparations (details are given in Part 3)
Austral.: Spray-Tish; ***Austria:*** Rinorix; ***Belg.:*** Rhinospray; ***Cz.:*** Muconasal Plus; ***Ger.:*** Biciron; Ellatun; Rhinospray; ***Ital.:*** Rinogutt Spray-Fher; ***Neth.:*** Bisolnasal; ***Port.:*** Rhinospray; ***Spain:*** Rhinospray.

Multi-ingredient: ***Arg.:*** Dexa-Rhinospray N; ***Austral.:*** Spray-Tish Menthol; ***Austria:*** Rhinospray Plus; ***Belg.:*** Dexa-Rhinospray; ***Ger.:*** Dexa Biciron; Oxy Biciron; Rhinospray Plus; Rhinospray sensitiv; ***Gr.:*** Dexa-Rhinaspray-N; ***Hung.:*** Rhinospray Plus; ***Irl.:*** Dexa-Rhinaspray Duo; ***Ital.:*** Rinogutt Antiallergico Spray; Rinogutt Eucalipto-Fher; ***Neth.:*** Rhinospray met menthol; ***Rus.:*** Adrianol (Адрианол); ***Spain:*** Rhinospray Antialergico; ***UK:*** Dexa-Rhinaspray Duo†.

Tuaminoheptane Sulfate *(rINNM)* ⊗

Sulfato de tuaminoheptano; Tuaminoheptane, Sulfate de; Tuaminoheptane Sulphate *(BANM)*; Tuaminoheptani Sulfas.

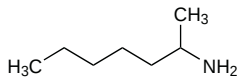
Туаминогептана Сульфат

$(C_7H_{17}N)_2,H_2SO_4$ = 328.5.

CAS — 6411-75-2.

ATC — R01AA11; R01AB08.

ATC Vet — QR01AA11; QR01AB08.



(tuaminoheptane)

Profile

Tuaminoheptane is a volatile sympathomimetic (p.1407) that has been used as the sulfate for the symptomatic relief of nasal congestion. Tuaminoheptane has also been used in the form of the carbonate.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Braz.:*** Rinofluimucil; ***Fr.:*** Rhinofluimucil; ***Ger.:*** Rinofluimucil-S†; ***Hong Kong:*** Rinofluimucil; ***Hung.:*** Rinofluimucil; ***Ital.:*** Rinofluimucil; ***Port.:*** Rinofluimucil; ***Rus.:*** Rinofluimucil (Ринофлуимуцил); ***Spain:*** Rinoflumil; ***Switz.:*** Rinofluimucil; ***Thai.:*** Rinofluimucil.

Tymazoline Hydrochloride *(BANM)* ⊗

2-Thymyloxymethyl-2-imidazoline Hydrochloride; Timazolina, hidrocloruro de; Tymazolini Hydrochloridum; Tymazoliny chlorowodorek. 2-(2-Isopropyl-5-methylphenoxymethyl)-2-imidazoline hydrochloride.

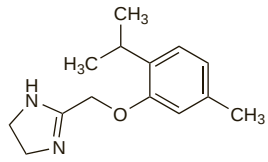
Тимазолина Гидрохлорид

$C_{14}H_{20}N_2O,HCl$ = 268.8.

CAS — 24243-97-8 (tymazoline); 28120-03-8 (tymazoline hydrochloride).

ATC — R01AA13.

ATC Vet — QR01AA13.



(tymazoline)

Pharmacopoeias. In *Pol.*

Profile

Tymazoline is a sympathomimetic that has been used as the hydrochloride similarly to naphazoline (p.1565) for its local vasoconstrictor effect in the symptomatic relief of nasal congestion (p.1548).

Preparations

Proprietary Preparations (details are given in Part 3)
Pol.: Thymazen; ***Thai.:*** Pernazene.

Xylometazoline Hydrochloride

(BANM, rINNM) ⊗

Hidrocloruro de xilometazolina; Ksilometazolin Hidroklorür; Ksilometazolino hidrochloridas; Ksylometatsoliinihydrokloridi; Ksylometazoliny chlorowodorek; Xilometazolinhidroklorid; Xylométazoline, chlorhydrate de; Xylometazolinhydro; Xylometazolin-hydrochlorid; Xylometazolini hydrochloridum. 2-(4-*tert*-Butyl-2,6-dimethylbenzyl)-2-imidazoline hydrochloride.

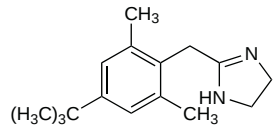
Ксилометазолина Гидрохлорид

$C_{16}H_{24}N_2,HCl$ = 280.8.

CAS — 526-36-3 (xylometazoline); 1218-35-5 (xylometazoline hydrochloride).

ATC — R01AA07; R01AB06; S01GA03.

ATC Vet — QR01AA07; QR01AB06; QS01GA03.



(xylometazoline)

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

Ph. Eur. 6.2 (Xylometazoline Hydrochloride). A white or almost white, crystalline powder. Freely soluble in water, in alcohol, and in methyl alcohol. Protect from light.

USP 31 (Xylometazoline Hydrochloride). A white to off-white, odourless, crystalline powder. Soluble 1 in 35 of water; freely soluble in alcohol; sparingly soluble in chloroform; practically insoluble in ether and in benzene. pH of a 5% solution in water is between 5.0 and 6.6. Store in airtight containers. Protect from light.

Adverse Effects and Precautions

As for Naphazoline, p.1565.

Interactions

Since xylometazoline is absorbed through the mucosa interactions may follow topical application. The *BNF* considers that all sympathomimetic nasal decongestants may cause a hypertensive crisis if used during treatment with an MAOI. For the interactions of sympathomimetics in general, see p.1407.

Uses and Administration

Xylometazoline is a direct-acting sympathomimetic (p.1408) with marked alpha-adrenergic activity. It is a vasoconstrictor which reduces swelling and congestion when applied to mucous membranes. The effect begins within 5 to 10 minutes of application and lasts for up to 10 hours.

Xylometazoline is used as the hydrochloride for the short-term symptomatic relief of nasal congestion (p.1548). A 0.1% solution of xylometazoline hydrochloride is applied topically as nasal drops or a spray into each nostril two or three times daily. For children's doses, see Administration in Children, below.

Xylometazoline hydrochloride solution is instilled into the eye as a conjunctival decongestant (see Conjunctivitis, p.564). Preparations containing 0.05% xylometazoline hydrochloride with 0.5% antazoline sulfate are typical; 0.1% xylometazoline hydrochloride has also been used.

Administration in children. Over-the-counter cough and cold preparations containing sympathomimetic decongestants (including xylometazoline) should be used with caution in children and generally avoided in those under 2 years of age (see p.1547). However, the *BNFC* suggests that, in certain circumstances, specialists may prescribe xylometazoline nasal drops for children under 2 years in the short-term treatment of severe nasal congestion which has not responded to sodium chloride nasal drops or inhalation of warm moist air. A 0.05% solution of xylometazoline hydrochloride is licensed for use in children aged from 2 to 12 years; 1 or 2 drops are instilled into each nostril once or twice daily, for a maximum of 7 days. The *BNFC* suggests that younger children aged 3 months and over may be given similar doses.

Preparations

BP 2008: Xylometazoline Nasal Drops;
USP 31: Xylometazoline Hydrochloride Nasal Solution.

Proprietary Preparations (details are given in Part 3)

Arg.: Nastizol; Otrivina; ***Austral.:*** Otrivin; ***Austria:*** Olynth; Otrivin; Ratio-Soft; Xylo-COMOD; ***Belg.:*** Nasa Rhinathiol; Nasasinutab; Nuso-San; Otrivine Anti-Rhinitis; Rhinidine†; ***Braz.:*** Orlaxyl†; Otrivina; ***Canad.:*** Balminil Nasal Decongestant; Certified Decongestant; Decongest†; Decongestant Nasal Spray; Decongestant Nose Drops; Nasal Decongestant; Otrivin; ***Cz.:*** Dr Rentschler Snupfenspray†; Dr Rentschler Snupfentropfen†; Mar Rhino; Nasenspray AL; Nasentropfen AL; Olynth; Otrivin; Rhino-Stas; Xylo-COMOD; ***Denm.:*** Otrivin; Passagen; Zymelin; ***Fin.:*** Naso-Ratiopharm; Nasolin; Otrivin; Zymelin†; ***Ger.:*** Balkis; Gelonasal; Imidin K†; Imidin N; Mentopin Nasenspray†; Nasan; Nasengel; Nasengel AL; Nasenspray; Nasenspray AL; Nasenspray E; Nasenspray K; Nasenspray-CT; Nasentropfen AL; Nasentropfen E; Nasentropfen K; Nasentropfen Stada; Olynth; Otriven; Otriven gegen Schnupfen; Rapako xylo; Rhinex mit Xylometazolin; schnupfen endrine; Siozwo Akut†; Snup; stas Nasentropfen, Nasenspray†; Tussamag Nasenspray; Xylo; Xylo Siozwo†; Xylo-COMOD†; Xylo-POS; ***Gr.:*** Otrivin; Otrivin-Menthol; ***Hong Kong:*** Decongestant Nasal Spray; Otrivin; Xyloma; ***Hung.:*** Nasan; Novorin; Otrivin; Rhinathiol; Rhino-Stas; ***India:*** Decon; Nazalin; Otrivin; ***Indon.:*** Otrivin; ***Irl.:*** Otrivine; ***Israel:*** Nazalet; Otrivin; Xylovit; ***Ital.:*** Neo Rinoleina; Otrivin; Respiro; ***Malaysia:*** Otrivin; ***Neth.:*** Kruidvat Neusdruppels; Kruidvat Neusspray; Mucorhinyl; Otrivin; Xylo-COMOD; ***Norw.:*** Naso; Nazaren; Otrivin; Xolin; Zymelin; ***NZ:*** Otrivine; ***Philipp.:*** Otrivin; ***Pol.:*** Otrivin; Xylogel; Xylorin; ***Port.:*** Otrivina; ***Rus.:*** Dlianos (Длянос); Grippostad Rhino (Гриппостад Рино); Halazolin (Галазолин); Olynth (Олинт); Otrivin (Отривин); Rhinonorm (Ринонорм); Rhinostop (Риностоп); Suprima-Nos (Суприма-Нос); Tyzine Xylo (Тизин Ксило); Xymelin (Ксимелин); ***S.Afr.:*** Otrivin; ***Singapore:*** Otrivin; ***Spain:*** Amidrin; Idasal; Otrivin; Rinoblanco; ***Swed.:*** Nasoferm; Otrivin; Zymelin; ***Switz.:*** Nasben; Nasobol Xylo; Olynth; Otrivin; Rhinostop; Rhume†; Rinosedin; Xylo-Mepha; ***Thai.:*** Otrivin; ***Turk.:*** Naze; Otrivine; Rinizol; Xylo-COMOD; ***UAE:*** Xylolin; ***UK:*** Non-Drowsy Sudafed Decongestant Nasal Spray; Otradrops; Otraspray; Otrivine; Tixycolds Cold and Allergy; ***USA:*** 4-Way Moisturizing Relief; Otrivin.

Multi-ingredient: ***Chile:*** Bacitopic Compuesto; Nasomin; Rinobanedif; ***Denm.:*** Otrivin Menthol; ***Fin.:*** Otrivin Menthol; ***Ger.:*** Lomupren compositum†; Nasic; ***Irl.:*** Otrivine-Antistin; ***Israel:*** Aforinol; ***Ital.:*** Inalar; ***Malaysia:*** Rynacrom Compound†; ***Mex.:*** Rinadex Compuesto; ***Neth.:*** Otrivin Menthol; ***NZ:*** Otrivine Menthol; Otrivine-Antistin; ***Swed.:*** Otrivin Menthol; ***Switz.:*** Lomusol-X†; Muco-Trin†; Triofan; ***Thai.:*** Rynacrom Compound†; ***Turk.:*** Rynacrom Compound; ***UK:*** Otrivine-Antistin; Rynacrom Compound†.

Zipeprol Hydrochloride *(rINNM)*

CERM-3024; Hidrocloruro de zipeprol; Zipéprol, Chlorhydrate de; Zipeproli Hydrochloridum. α-(α-Methoxybenzyl)-4-(β-methoxyphenethyl)-1-piperazineethanol dihydrochloride.

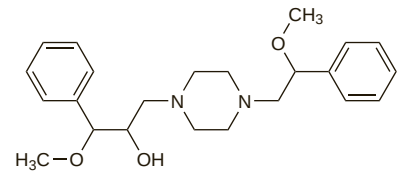
Зипепрола Гидрохлорид

$C_{23}H_{32}N_2O_3,2HCl$ = 457.4.

CAS — 34758-83-3 (zipeprol); 34758-84-4 (zipeprol hydrochloride).

ATC — R05DB15.

ATC Vet — QR05DB15.



(zipeprol)

Profile

Zipeprol is a centrally acting cough suppressant that is stated to have a peripheral action on bronchial spasm. It has been given as the hydrochloride, typically in an oral dose of 150 to 300 mg daily in divided doses. There have been reports of abuse and overdosage producing neurological symptoms.

Abuse and overdosage. Severe neurological symptoms have been reported in young adults after habitual abuse of zipeprol for euphoria. Patients have presented with generalised seizures, followed by coma.[1] One patient who ingested 750 mg of zipeprol [over twice the maximum daily dose] had several opisthotonic crises and developed cerebral oedema.[2] Symptoms of overdosage in children have included restlessness, somnolence, ataxia, choreic movements, forced deviation of the head and eyes, generalised seizures, respiratory depression, and coma.[1,3] Fatalities have been reported.

Dependence and withdrawal symptoms similar to those produced by opioids have been reported.[4] WHO has assessed zipeprol to have a moderate potential for dependence and liability for abuse.[5] Although zipeprol is a weak opioid agonist at high doses its toxicity and hallucinogenic and other psychotropic effects constitute a significant element in its abuse, and the public health and social problems associated with such abuse were considered substantial.

1. Moroni C, *et al*. Overdosage of zipeprol, a non-opioid antitussive agent. *Lancet* 1984; **i:** 45.
2. Perraro F, Beorchia A. Convulsions and cerebral oedema associated with zipeprol abuse. *Lancet* 1984; **i:** 45–6.
3. Merigot P, *et al*. Les convulsions avec trois antitussifs dérivés substitués dé la pipérazine (zipéprol, éprazinone, éprozinol). *Ann Pediatr (Paris)* 1985; **32:** 504–11.
4. Mallaret MP, *et al*. Zipeprol: primary dependence in an unaddicted patient. *Ann Pharmacother* 1995; **29:** 540.
5. WHO. WHO expert committee on drug dependence: twenty-ninth report. *WHO Tech Rep Ser 856* 1995. Also available at: http://whqlibdoc.who.int/trs/WHO_TRS_856.pdf (accessed 11/05/07)

Preparations

Proprietary Preparations (details are given in Part 3)

Chile: Frenotos; ***Gr.:*** Dovavixin†; Duo-Extolen†; Jactuss†; ***Mex.:*** Respilene†; Tusigen; ***Venez.:*** Coloplex†.