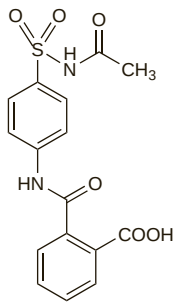
Phthalylsulfacetamide *(BAN)*

Phthalylsulphacetamide; Sulfanilacetamidum Phthalylatum. 4′-(Acetylsulphamoyl)phthalanilic acid.

$C_{16}H_{14}N_2O_6S$ = 362.4.

CAS — 131-69-1.



Profile

Phthalylsulfacetamide is a sulfonamide antibacterial. It is poorly absorbed when given orally and has been used for gastrointestinal infections.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Braz.:*** Dimicin†; ***Chile:*** Enterol; Enterol Con Nifuroxacida; Kordinol Compuesto†; ***Mex.:*** Facetin-D.

Phthalylsulfathiazole *(BAN, rINN)*

Ftalilsulfatiazol; Ftalilsulfatiazolas; Ftálilszulfatiazol; Ftalylsulfathiazol; Ftalysulfatiazol; Ftalyylisulfatiatsoli; Phtalylsulfathiazol; Phthalazolum; Phthalylsulfathiazolum; Phthalylsulphathiazole; Sulfaphtalylthiazol. 4′-(1,3-Thiazol-2-ylsulphamoyl)phthalanilic acid.

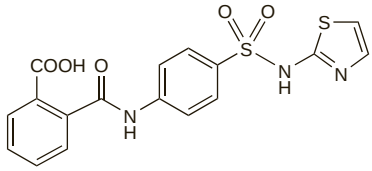
Фталилсульфатиазол

$C_{17}H_{13}N_3O_5S_2$ = 403.4.

CAS — 85-73-4.

ATC — A07AB02.

ATC Vet — QA07AB02.



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

Ph. Eur. 6.2 (Phthalylsulfathiazole). A white or yellowish-white crystalline powder. Practically insoluble in water; slightly soluble in alcohol and in acetone; freely soluble in dimethylformamide. Protect from light.

Profile

Phthalylsulfathiazole is a sulfonamide with properties similar to those of sulfamethoxazole (p.340). It is poorly absorbed, about 95% remaining in the intestine and only about 5% being slowly hydrolysed to sulfathiazole and absorbed.

It is given, with other antibacterials, for its antibacterial action in the gastrointestinal tract in the treatment of infections and for bowel decontamination before surgery.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: ***Arg.:*** Antidiar†; Carbon Tabs; Colistop; Colistoral†; Diarrocalmol; Estreptocarbocaftiazol; Gemipasmol†; Lefa Enteril†; Opocarbon; Opoclor†; ***Braz.:*** Parenterin; Sanadiar†; ***Chile:*** Imecol; Liracol; Testisan; ***Mex.:*** Bontal; Ditayod; Sultroquin†; ***Port.:*** Cloranpectina†; ***Spain:*** Estreptoenterol†; ***Thai.:*** Chlorotracin; Coccila†; Disento; Endothalyl; Mediocin†.

Pipemidic Acid *(BAN, rINN)*

Acide Pipémidique; Ácido pipemídico; Acidum Pipemidicum; Acidum pipemidicum trihydricum; Kyselina pipemidová trihydrát; Pipemidihappo; Pipemidiinihappotrihydraatti; Pipemidinsav-trihidrát; Pipemidinsyratrihydrat; Pipémidique (acide) trihydraté; Pipemido rūgštis trihidratas; Pipemidsyra; Piperamic Acid; I489-RB. 8-Ethyl-5,8-dihydro-5-oxo-2-(piperazin-1-yl)pyrido[2,3-*d*]pyrimidine-6-carboxylic acid.

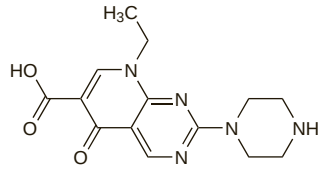
Пипемидовая Кислота

$C_{14}H_{17}N_5O_3$ = 303.3.

CAS — 51940-44-4 (anhydrous pipemidic acid); 72571-82-5 (pipemidic acid trihydrate).

ATC — J01MB04.

ATC Vet — QJ01MB04.



(anhydrous pipemidic acid)

Pharmacopoeias. In *Chin., Eur.* (see p.vii), and *Jpn* (all as the trihydrate).

Ph. Eur. 6.2 (Pipemidic Acid Trihydrate). A pale yellow or yellow crystalline powder. Very slightly soluble in water. It dissolves in dilute solutions of acids and of alkali hydroxides. Protect from light.

Profile

Pipemidic acid is a 4-quinolone antibacterial with properties similar to those of nalidixic acid (p.303), but is more active *in vitro* against some bacteria, including *Pseudomonas aeruginosa*. It is used (as the trihydrate) in the treatment of urinary-tract infections in oral doses equivalent to 400 mg of the anhydrous substance twice daily.

Interactions. For the effect of pipemidic acid on the clearance of xanthines, see under Caffeine, p.1117, and Theophylline, p.1143.

Porphyria. Pipemidic acid is considered to be unsafe in patients with porphyria because it has been shown to be porphyrinogenic in *in-vitro* systems.

Preparations

Proprietary Preparations (details are given in Part 3)

Arg.: Finuret; Memento; Priper; ***Austria:*** Deblaston; ***Braz.:*** Balurol; Elofuran; Pipram; Pipurol; Uroxina; ***Chile:*** Nupra†; Purid; Uropimide; ***Fr.:*** Pipram; ***Ger.:*** Deblaston; ***Hong Kong:*** Urotractin; ***Indon.:*** Impresial; Urinter; Urixin; Urotractin; Utrex; ***Ital.:*** Acipem†; Biosoviran; Cistomid; Diperpen; Faremid; Filtrax†; Pipeacid†; Pipedac; Pipefort; Pipemid; Pipram; Pipurin; Urodene; Uropimid; Urosan; Urosetic; Urotractin; ***Jpn:*** Dolcol; ***Malaysia:*** Urixin†; Urotractin†; ***Mex.:*** Uribac†; Uriken†; Unipiser; Uronovag; Uropipemid; ***Neth.:*** Pipram; ***Philipp.:*** Urixin; ***Pol.:*** Palin; Urolin; ***Rus.:*** Palin (Палин); Pimidel (Пимидель); ***S.Afr.:*** Deblaston; Septidron†; ***Singapore:*** Urotractin; ***Spain:*** Galusan; Nuril; Urisan; Uropipedil; ***Thai.:*** Pipedic†; Urotractin.

Multi-ingredient: ***Arg.:*** Priper Plus.

Piperacillin *(BAN, rINN)*

Piperacilin monohydrát; Piperacilina; Piperacilinas; Pipéracilline; Piperacillinum; Piperacillinum Monohydricum; Piperasilliini. (6*R*)-6-[*R*-2-(4-Ethyl-2,3-dioxopiperazine-1-carboxamido)-2-phenylacetamido]penicillanic acid monohydrate; 3-Dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid monohydrate.

Пиперациллин

$C_{23}H_{27}N_5O_7S,H_2O$ = 535.6.

CAS — 61477-96-1 (anhydrous piperacillin); 66258-76-2 (piperacillin monohydrate).

ATC — J01CA12.

ATC Vet — QJ01CA12.

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

Ph. Eur. 6.2 (Piperacillin). A white or almost white powder. Slightly soluble in water and in ethyl acetate; freely soluble in methyl alcohol.

USP 31 (Piperacillin). A white to off-white crystalline powder. Very slightly soluble in water; slightly soluble in ethyl acetate; sparingly soluble in isopropyl alcohol; very soluble in methyl alcohol.

Piperacillin Sodium *(BANM, USAN, rINNM)*

CL-227193; Natrii Piperacillinum; Piperacilin sodná sůl; Piperacilina sódica; Piperacilino natrio druska; Pipéracilline sodique; Piperacillin-nátrium; Piperacillinnatrium natricum; Piperacillinum; Piperacillinum natricum; Piperacylina sodowa; Piperasilin Sodyum; Piperasilliininatrium; T-1220.

Натрий Пиперациллин

$C_{23}H_{26}N_5NaO_7S$ = 539.5.

CAS — 59703-84-3.

ATC — J01CA12.

ATC Vet — QJ01CA12.

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

Ph. Eur. 6.2 (Piperacillin Sodium). A white or almost white, hygroscopic powder. Freely soluble in water and in methyl alcohol; practically insoluble in ethyl acetate. A 10% solution in water has a pH of 5.0 to 7.0. Store in airtight containers.

USP 31 (Piperacillin Sodium). A white to off-white solid. Freely soluble in water and in alcohol. pH of a 40% solution in water is between 5.5 and 7.5. Store in airtight containers.

Incompatibility. Piperacillin sodium has been reported to be incompatible with aminoglycosides and sodium bicarbonate.

Stability. References.

1. Zhang Y, Trissel LA. Stability of piperacillin and ticarcillin in AutoDose Infusion System bags. *Ann Pharmacother* 2001; **35:** 1360–3.

Adverse Effects and Precautions

As for Carbenicillin Sodium, p.216.

Prolongation of bleeding time has been less frequent and less severe with piperacillin than with carbenicillin.

Effects on the blood. References.

1. Scheetz MH, *et al.* Systematic review of piperacillin-induced neutropenia. *Drug Safety* 2007; **30:** 295–306.

Hypersensitivity. In the mid 1980s there were reports of a relatively high incidence of adverse reactions to piperacillin, especially fever, in patients with cystic fibrosis.[1-3] However, the manufacturers[4] considered such patients to be particularly prone to allergy and cited reactions with other semisynthetic penicillins including carbenicillin and azlocillin.

Similar apparent hypersensitivity reactions have been reported in patients taking high doses of piperacillin and other ureidopenicillins, over long periods for other indications,[5] and with other penicillins in patients with cystic fibrosis,[6] although piperacillin does appear to be most frequently implicated.[6]

1. Stead RJ, *et al.* Adverse reactions to piperacillin in cystic fibrosis. *Lancet* 1984; **i:** 857–8.
2. Strandvik B. Adverse reactions to piperacillin in patients with cystic fibrosis. *Lancet* 1984; **i:** 1362.
3. Stead RJ, *et al.* Adverse reactions to piperacillin in adults with cystic fibrosis. *Thorax* 1985; **40:** 184–6.
4. Brock PG, Roach M. Adverse reactions to piperacillin in cystic fibrosis. *Lancet* 1984; **i:** 1070–1.
5. Lang R, *et al.* Adverse reactions to prolonged treatment with high doses of carbenicillin and ureidopenicillins. *Rev Infect Dis* 1991; **13:** 68–72.
6. Pleasants RA, *et al.* Allergic reactions to parenteral beta-lactam antibiotics in patients with cystic fibrosis. *Chest* 1994; **106:** 1124–8.

Sodium content. Each g of piperacillin sodium contains about 1.85 mmol of sodium. As piperacillin sodium has a lower sodium content than carbenicillin sodium, hypernatraemia and hypokalaemia are less likely to occur.

Interactions

As for Benzylpenicillin, p.214.

Neuromuscular blockers. Piperacillin and other ureidopenicillins are reported to prolong the action of competitive muscle relaxants such as *vecuronium* (see Atracurium, p.1903).

Antimicrobial Action

Piperacillin has a similar antimicrobial action to carbenicillin (p.216) and ticarcillin (p.352), but is active against a wider range of Gram-negative organisms, including *Klebsiella pneumoniae*. It is also generally more active *in vitro*, especially against *Pseudomonas aeruginosa* and the Enterobacteriaceae, against Gram-positive *Enterococcus faecalis*, and possibly against *Bacteroides fragilis*. There is, however, an inoculum effect, i.e. minimum inhibitory concentrations of piperacillin increase with the size of the inoculum.

Combinations of piperacillin and aminoglycosides have been shown to be synergistic *in vitro* against *Ps. aeruginosa* and Enterobacteriaceae. The effect of using piperacillin with other beta lactams has been less predictable. The activity of piperacillin against some organisms, resistant because of the production of beta-lactamases, may be restored by tazobactam, a beta-lactamase inhibitor. Such organisms include beta-lactamase-producing strains of staphylococci, *Escherichia coli*, *Haemophilus influenzae*, and *Bacteroides* spp.; the activity of piperacillin against *Ps. aeruginosa* is not enhanced by tazobactam.

Resistance has developed in *Ps. aeruginosa* during treatment with piperacillin, especially when used alone. There may be some cross-resistance with other antipseudomonal penicillins.

◊ References.

1. Higashitani F, *et al.* Inhibition of β-lactamases by tazobactam and in-vitro antibacterial activity of tazobactam combined with piperacillin. *J Antimicrob Chemother* 1990; **25:** 567–74.
2. Mehtar S, *et al.* The in-vitro activity of piperacillin/tazobactam, ciprofloxacin, ceftazidime and imipenem against multiple resistant Gram-negative bacteria. *J Antimicrob Chemother* 1990; **25:** 915–19.
3. Kempers J, MacLaren DM. Piperacillin/tazobactam and ticarcillin/clavulanic acid against resistant Enterobacteriaceae. *J Antimicrob Chemother* 1990; **26:** 598–9.

4. Kadima TA, Weiner JH. Mechanism of suppression of piperacillin resistance in enterobacteria by tazobactam. *Antimicrob Agents Chemother* 1997; **41:** 2177–83.
5. Klepser ME, *et al.* Comparison of the bactericidal activities of piperacillin-tazobactam, ticarcillin-clavulanate, and ampicillin-sulbactam against clinical isolates of Bacteroides fragilis, Enterococcus faecalis, Escherichia coli, and Pseudomonas aeruginosa. *Antimicrob Agents Chemother* 1997; **41:** 435–9.
6. Peterson LR. Antibiotic policy and prescribing strategies for therapy of extended-spectrum beta-lactamase-producing Enterobacteriaceae: the role of piperacillin-tazobactam. *Clin Microbiol Infect* 2008; **14** (suppl 1): 181–4. Correction. *ibid.*; (suppl 5): 21–4.

Pharmacokinetics

Piperacillin is not absorbed from the gastrointestinal tract. It is well absorbed after intramuscular use, with peak plasma concentrations of 30 to 40 micrograms/mL 30 to 50 minutes after a dose of 2 g. The pharmacokinetics of piperacillin are reported to be nonlinear and dose-dependent. The plasma half-life is about 1 hour, but is prolonged in neonates. In patients with severe renal impairment there may be a threefold increase in half-life; in those with end-stage renal failure half-lives of 4 to 6 hours have been reported, and in those with both renal and hepatic impairment much longer half-lives may result. About 20% of piperacillin in the circulation is bound to plasma proteins.

Piperacillin is widely distributed in body tissues and fluids. It crosses the placenta into the fetal circulation and small amounts are distributed into breast milk. There is little diffusion into the CSF except when the meninges are inflamed.

About 60 to 80% of a dose is excreted unchanged in the urine by glomerular filtration and tubular secretion within 24 hours, achieving high concentrations. High concentrations are also found in the bile and up to 20% of a dose may be excreted by this route.

Plasma concentrations are enhanced by probenecid.

Piperacillin is removed by haemodialysis.

Piperacillin with tazobactam. The pharmacokinetics of piperacillin do not appear to be altered by tazobactam, but piperacillin reduces the renal clearance of tazobactam.

◊ References.
1. Heikkilä A, Erkkola R. Pharmacokinetics of piperacillin during pregnancy. *J Antimicrob Chemother* 1991; **28:** 419–23.
2. Wise R, *et al.* Pharmacokinetics and tissue penetration of tazobactam administered alone and with piperacillin. *Antimicrob Agents Chemother* 1991; **35:** 1081–4.
3. Johnson CA, *et al.* Single-dose pharmacokinetics of piperacillin and tazobactam in patients with renal disease. *Clin Pharmacol Ther* 1992; **51:** 32–41.
4. Dupon M, *et al.* Plasma levels of piperacillin and vancomycin used as prophylaxis in liver transplant patients. *Eur J Clin Pharmacol* 1993; **45:** 529–34.
5. Sörgel F, Kinzig M. The chemistry, pharmacokinetics and tissue distribution of piperacillin/tazobactam. *J Antimicrob Chemother* 1993; **31** (suppl A): 39–60.
6. Reed MD, *et al.* Single-dose pharmacokinetics of piperacillin and tazobactam in infants and children. *Antimicrob Agents Chemother* 1994; **38:** 2817–26.
7. Bourget P, *et al.* Clinical pharmacokinetics of piperacillin-tazobactam combination in patients with major burns and signs of infection. *Antimicrob Agents Chemother* 1996; **40:** 139–45.
8. Occhipinti DJ, *et al.* Pharmacokinetics and pharmacodynamics of two multiple-dose piperacillin-tazobactam regimens. *Antimicrob Agents Chemother* 1997; **41:** 2511–17.

Uses and Administration

Piperacillin is a ureidopenicillin that is used similarly to ticarcillin (p.353) for the treatment of infections caused by *Pseudomonas aeruginosa*, and also infections due to other susceptible bacteria. It has been used particularly in immunocompromised patients (neutropenic patients) and for biliary-tract infections (cholangitis). Other indications have included uncomplicated gonorrhoea due to penicillin-sensitive gonococci, and urinary-tract infections. It has also been used for surgical infection prophylaxis. For details of these infections and their treatment, see under Choice of Antibacterial, p.162. For the treatment of serious infections piperacillin is commonly used with an aminoglycoside, but they should be given separately because of possible incompatibility.

Administration and dosage. Piperacillin is given by injection as the sodium salt. Doses are expressed in terms of the equivalent amount of piperacillin; 1.04 g of piperacillin sodium is equivalent to about 1 g of piperacillin. Doses should generally be reduced in moderate to severe renal impairment.

Piperacillin may be given by slow intravenous injection over 3 to 5 minutes, by intravenous infusion over 20 to 30 minutes, or by deep intramuscular injection. Single doses of more than 2 g for adults or 500 mg for children should not be given by the intramuscular route.

For the treatment of serious or complicated infections, adults may be given piperacillin 200 to 300 mg/kg daily in divided doses intravenously; the usual dose is 3 to 4 g every 4 or 6 hours. In life-threatening infections, particularly those caused by *Pseudomonas* or *Klebsiella* spp., it should be given in a dose of not less than 16 g daily. The usual maximum daily dose is 24 g, although this has been exceeded.

For mild or uncomplicated infections, 100 to 125 mg/kg daily may be given to adults; usual doses are 2 g every 6 or 8 hours, or 4 g every 12 hours, intravenously, or 2 g every 8 or 12 hours intramuscularly.

Uncomplicated gonorrhoea may be treated by a single intramuscular dose of 2 g. Probenecid 1 g may be given orally 30 minutes before the injection.

For the prophylaxis of infection during surgery, 2 g just before the procedure, or when the umbilical cord is clamped in caesarean section, followed by at least 2 doses of 2 g at intervals of 4 or 6 hours within 24 hours of the procedure, may be given.

The intravenous route is preferred for infants and children. Those aged 1 month to 12 years may be given 100 to 300 mg/kg daily in 3 or 4 divided doses. Neonates less than 7 days old or weighing less than 2 kg may be given 150 mg/kg daily in 3 divided doses. Those more than 7 days old and weighing more than 2 kg may be given 300 mg/kg daily in 3 or 4 divided doses.

Piperacillin with tazobactam. Piperacillin has also been used with tazobactam (p.344), a beta-lactamase inhibitor, to widen its antibacterial spectrum to organisms usually resistant because of the production of beta-lactamases. The combination is given intravenously in a ratio of piperacillin (as the sodium salt) 8 parts to 1 part of tazobactam (as the sodium salt). Doses, calculated on piperacillin content, are similar to those of piperacillin alone.

◊ References.
1. Greenwood D, Finch RG, eds. Piperacillin/tazobactam: a new β-lactam/β-lactamase inhibitor combination. *J Antimicrob Chemother* 1993; **31** (suppl A): 1–124.
2. Schoonover LL, *et al.* Piperacillin/tazobactam: a new beta-lactam/beta-lactamase inhibitor combination. *Ann Pharmacother* 1995; **29:** 501–14.
3. Perry CM, Markham A. Piperacillin/tazobactam: an updated review of its use in the treatment of bacterial infections. *Drugs* 1999; **57:** 805–43.
4. Kotapati S, *et al.* The clinical and economic benefits of administering piperacillin-tazobactam by continuous infusion. *Intensive Crit Care Nurs* 2005; **21:** 87–93.
5. Gin A, *et al.* Piperacillin-tazobactam: a beta-lactam/beta-lactamase inhibitor combination. *Expert Rev Anti Infect Ther* 2007; **5:** 365–83.

Preparations

BP 2008: Piperacillin Intravenous Infusion;
USP 31: Piperacillin for Injection.

Proprietary Preparations (details are given in Part 3)
Arg.: Algiseptico†; Piperac†; ***Austral.:*** Pipril†; ***Austria:*** Pipril; ***Belg.:*** Pipcil†; ***Canad.:*** Pipracil†; ***Cz.:*** Pipraks†; Pipril†; ***Denm.:*** Ivacin†; ***Ger.:*** Pipera†; Pipril†; ***Gr.:*** Pipril; Zobactam; Zoracilin; ***Hong Kong:*** Pipracil†; ***Hung.:*** Pipril†; ***India:*** Pipracil; ***Irl.:*** Pipril†; ***Israel:*** Picillin†; Pipracin; Pipril†; ***Ital.:*** Avocin†; Biopiper†; Cilpier; Dipenil; Ecosette; Eril†; Farecillin; Peracil; Perasint; Picillin; Piperital; Pipersal; Pipertex; Reparcillin; Semipenil; Sintoplus; Viracillina†; ***Jpn:*** Pentcillin; ***Malaysia:*** Pipracil†; ***NZ:*** Pipril†; ***Switz.:*** Pipril†; ***Thai.:*** Peracin; Pipracil†; ***Turk.:*** Pipraks; ***USA:*** Pipracil†.

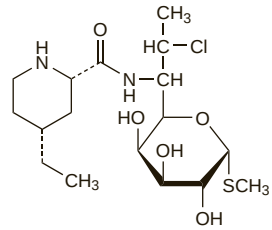
Multi-ingredient: ***Arg.:*** Pipetexina; Tazonam; ***Austral.:*** Tazocin; ***Austria:*** Tazonam; ***Belg.:*** Tazocin; ***Braz.:*** Tazocin; Tazoxil†; Tazpen†; ***Canad.:*** Tazocin; ***Chile:*** Tazonam; ***Cz.:*** Tazocin; ***Denm.:*** Tazocin; ***Fin.:*** Tazocin; ***Fr.:*** Tazocilline; ***Ger.:*** Tazobac; ***Gr.:*** Bactalin; Gramenox; Oliten; Tazepen; Tazidron; Tazobion; Tazocin; Tazorex; ***Hong Kong:*** Tazocin; ***Hung.:*** Tazocin; ***India:*** Tazact; Tazofast; Tazopen; Zosyn; ***Indon.:*** Tazocin; ***Irl.:*** Tazocin; ***Israel:*** Tazocin; ***Ital.:*** Tazobac; Tazocin; ***Malaysia:*** Tazocin; ***Mex.:*** Tasovak; Tazocin; ***Neth.:*** Tazocin; ***Norw.:*** Tazocin; ***NZ:*** Tazocin; ***Philipp.:*** Tazocin; ***Pol.:*** Tazocin; ***Port.:*** Tazobac; ***S.Afr.:*** Tazobax; Tazocin; ***Singapore:*** Tazocin; ***Spain:*** Tazocel; ***Swed.:*** Tazocin; ***Switz.:*** Tazobac; ***Thai.:*** Tazocin; ***Turk.:*** Tazocin; ***UK:*** Tazocin; ***USA:*** Zosyn; ***Venez.:*** Tazopril; Tazpen.

Pirlimycin Hydrochloride *(USAN, rINNM)*

Hidrocloruro de pirlimicina; Pirlimycine, Chlorhydrate de; Pirlimycinhydroklorid; Pirlimycini Hydrochloridum; Pirlimysiinihydrokloridi; U-57930E. Methyl 7-chloro-6,7,8-trideoxy-6-(*cis*-4-ethyl-L-pipecolamido)-1-thio-L-*threo*-α-D-*galacto*-octopyranoside monohydrochloride monohydrate.

Пирлимицина Гидрохлорид

$C_{17}H_{31}ClN_2O_5S,HCl,H_2O$ = 465.4.
CAS — 79548-73-5 (pirlimycin); 77495-92-2 (pirlimycin hydrochloride).



(pirlimycin)

Profile

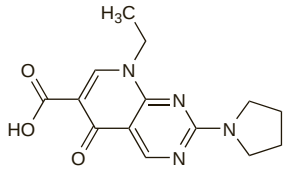
Pirlimycin is a lincosamide antibacterial used in veterinary medicine.

Piromidic Acid *(rINN)*

Acide Piromidique; Ácido piromídico; Acidum Piromidicum; PD-93; Piromidihappo; Piromidsyra. 8-Ethyl-5,8-dihydro-5-oxo-2-(pyrrolidin-1-yl)pyrido[2,3-*d*]pyrimidine-6-carboxylic acid.

Пиромидовая Кислота

$C_{14}H_{16}N_4O_3$ = 288.3.
CAS — 19562-30-2.
ATC — J01MB03.
ATC Vet — QJ01MB03.



Profile

Piromidic acid is a 4-quinolone antibacterial with properties similar to those of nalidixic acid (p.303). It has been used in the treatment of susceptible infections. There have been a number of reports of acute renal failure associated with piromidic acid.

Preparations

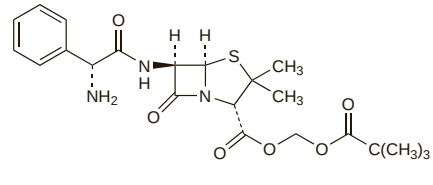
Proprietary Preparations (details are given in Part 3)
Ital.: Enteromix†.

Pivampicillin *(BAN, rINN)*

MK-191; Pivampicilin; Pivampicilina; Pivampicilinas; Pivampicilline; Pivampicillinum; Pivampisilliini. Pivaloyloxymethyl (6*R*)-6-(α-D-phenylglycylamino)penicillanate.

Пивампициллин

$C_{22}H_{29}N_3O_6S$ = 463.5.
CAS — 33817-20-8.
ATC — J01CA02.
ATC Vet — QJ01CA02.



Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Pivampicillin). A white or almost white crystalline powder. Practically insoluble in water; soluble in dehydrated alcohol; freely soluble in methyl alcohol. It dissolves in dilute acids. Store in airtight containers.