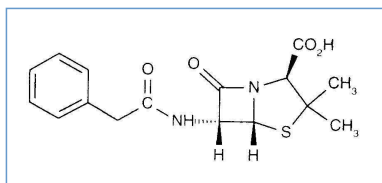


# Stabilis



## Penicillin G sodium



Tradename

Benapen	Brazil
Bencilpenicilina	Chile, Ecuador, Peru
Benpen	Australia, New Zealand
Bensylpenicillin	Sweden
Benzapen	Iran
Benzatec	Republic of South Africa
Benzatron	Brazil
Benzylpenicillin	Denmark, Egypt, Finland, Norway, Sweden
Benzylpenicilline	Tunisia
Biconcillina	Ecuador
Crystapen	Canada, Great Britain, Ireland
Declin	Mexico
Fortepen	Saudi Arabia
Geepenil	Finland
Natrium penicillin G	Netherlands
Novopen	Republic of South Africa
Pebencil	Venezuela
Penbendox	Mexico
Penibiot	Spain
Penicillin	Norway
Penicillina G sodica	Argentina, Chile, Colombia, Ecuador, Portugal
Penilevel	Spain
Sodiopen	Spain
Unicillina	Spain



### Stability in solutions

PVC		0,1 & 0,2 MUI/ml	25°C		3			13
PVC		0,18 MUI/ml	-20°C		30			440
PVC		0.0025 MUI/ml	5°C		21			3648
PVC		0.05 MUI/ml	5°C		21			3648
PVC		?? MUI/ml	5°C		2			1263
PVC		0,04 MUI/ml	-20°C		39			1241

		0.0025 MUI/ml	5°C		21			3648
		0.05 MUI/ml	5°C		21			3648
		0.025 & 0.1 MUI/ml	2-8°C		6			4590
		0.025 & 0.1 MUI/ml	37°C		24			4590
		0,13 MUI/ml	21°C-22°C		13			2056
		0,13 MUI/ml	26°C		12			2056
		0,13 MUI/ml	3-5°C		6			2056
		0,13 MUI/ml	36°C		5			2056



### Factors which affect stability

				3227
				2056
				3702
	6,5 < pH < 7,5			1263



### Compatibility

		Penicillin G sodium Amikacin sulfate		3549
		Penicillin G sodium Amphotericin B		3585
		Penicillin G sodium : 0.5 MUI/ml Caffeine : 10 mg/ml	∅	3964
		Penicillin G sodium Cimetidine hydrochloride		3585
		Penicillin G sodium Ciprofloxacin lactate		3529
		Penicillin G sodium : 500 000 MUI/ml	RL	4603
		Penicillin G sodium Bleomycin sulfate		4154
		Penicillin G sodium : 0.17 MUI/ml Caffeine : 10 mg/ml		4837
		Penicillin G sodium : 0.17 MUI/ml Caffeine citrate : 20 mg/ml		4837
		Penicillin G sodium : 0.5 MUI/ml Cloxacillin sodium : 100 mg/ml		3012
		Penicillin G sodium Cytarabine		3580

		Penicillin G sodium Cytarabine		3585
		Penicillin G sodium : 0,5 MUI/ml Dexmedetomidine : 100 µg/ml		4389
		Penicillin G sodium Dimenhydrinate		2087
		Penicillin G sodium Erythromycin lactobionate		3674
		Penicillin G sodium Flucloxacillin sodium		3585
		Penicillin G sodium Gentamicin sulfate		3643
		Penicillin G sodium Gentamicin sulfate		3520
		Penicillin G sodium Heparin sodium		3540
		Penicillin G sodium Hydroxyzine dihydrochloride		3585
		Penicillin G sodium : 0.5 MUI/ml Levofloxacin : 5 mg/ml		1072
		Penicillin G sodium : 0.5 MUI/ml Meropenem : 50 mg/ml		4319
		Penicillin G sodium Methylprednisolone sodium succinate		3585
		Penicillin G sodium : 0.17 MUI/ml Morphine hydrochloride : 0,2 mg/ml		4831
		Penicillin G sodium : 0,05 MUI/ml Oxytocin : 0,02 UI/ml		1725
		Penicillin G sodium : 0,025 MUI/ml Oxytocin : 0,02 UI/ml		1725
		Penicillin G sodium : 0,025 MUI/ml Oxytocin : 0,02 UI/ml		1725
		Penicillin G sodium : 0,05 MUI/ml Oxytocin : 0,02 UI/ml		1725
		Penicillin G sodium Pantoprazole sodium		2090
		Penicillin G sodium Promethazine hydrochloride		3585
		Penicillin G sodium : 100 MUI/ml Sildenafil citrate : 0,6 mg/ml		4845
		Penicillin G sodium Sildenafil citrate : 0,6 mg/ml		4845
		Penicillin G sodium Trimebutine		3931
		Penicillin G sodium : 0.01 MUI/ml Verapamil hydrochloride : 0.08 mg/ml		1057
		Penicillin G sodium : 0,025 MUI/ml Zidovudine : 4 mg/ml		1725
		Penicillin G sodium : 0,05 MUI/ml Zidovudine : 4 mg/ml		1725
		Penicillin G sodium : 0,05 MUI/ml Zidovudine : 4 mg/ml		1725



Penicillin G sodium : 0,025 MUI/ml  
Zidovudine : 4 mg/ml



1725



## Route of administration



## References














































	Type	Publication
13	Journal	Stiles ML, Allen LV. Stability of nafcillin sodium, oxacillin sodium, penicillin G potassium, penicillin G sodium and tobramycin sulfate in polyvinyl chloride drug reservoirs. Am J Health-Syst Pharm 1997 ; 54: 1068-1070.
440	Journal	Stiles ML, Tu YH, Allen LV. Stability of cefazolin sodium, ceftaxime sodium, ceftazidime, and penicillin G sodium in portable pump reservoirs. Am J Hosp Pharm 1989 ; 46: 1408-1412.
1057	Journal	Cutie MR. Compatibility of verapamil hydrochloride injection with commonly used additives. Am J Hosp Pharm 1983 ; 40: 1205-1207.
1072	Journal	Saltzman CL, Tom CM, Mitchell A, Fan JH, Gailey RA. Compatibility of levofloxacin with 34 medications during simulated Y-site administration. Am J Health-Syst Pharm 1999 ; 56: 1458-1459.
1241	Journal	Rayani S, Jamali F. The stability of penicillin G sodium in 5% dextrose in water minibags after freezing. Can J Hosp Pharm 1985 ; 38: 162-163.
1263	Journal	Allwood MC, Brown PW. The effect of buffering on the stability of reconstituted benzylpenicillin injection. Int J Pharm Pract 1992 ; 1: 242-244.
1725	Journal	Oliver C, Law S. Compatibility of oxytocin, zidovudine, and penicillin G. Can J Hosp Pharm 2001 ; 54: 112-113.
2056	Journal	Vella-Brincat JWA, Begg EJ, Gallagher K, Kirkpatrick CMJ, Zhang M, Frampton C, Chambers ST. Stability of benzylpenicillin during continuous home intravenous therapy. J Antimicrob Chemother 2004 ; 53: 675-677.
2087	Journal	Ferreira E, Forest JM, Hildgen P. Compatibility of dimenhydrinate injectable by Y administration. Pharmactuel 2004 ; 37: 17-20.
2090	Journal	Pere H, Chasse V, Forest JM, Hildgen P. Compatibility of injectable pantoprazole in Y-site administration. Pharmactuel 2004 ; 37: 193-196.
3012	Journal	Sullivan T, Forrest J.M, Leclair G. Compatibility of Cloxacillin Sodium with Selected Intravenous Drugs During Simulated Y-Site Administration Hosp Pharm 2015 ; 50, 3: 214-220.
3227	Journal	Simon B, Hancu G, Gy?resi A. Application of capillary electrophoresis to the simultaneous determination and stability study of four extensively used penicillin derivatives Braz J Pharm Sci 2014 ; 50, 3 : 521-527.

3520	Manufacturer	Cidomycin - Summary of product Characteristics. Sanofi 2011
3529	Manufacturer	Ciprofloxacin – Summary of Product Characteristics Hospira 2013
3540	Manufacturer	Heparin sodium - Summary of Product Characteristics. Wockhardt 2010
3549	Manufacturer	Amikacine B Braun - Résumé des caractéristiques du produit. B Braun 2012
3580	Manufacturer	Cytarabine Accord - Résumé des caractéristiques du produit Accord Healthcare France 2016
3585	Manufacturer	Benzylpenicillin sodium - Summary of Product Characteristics Genus Pharmaceuticals 2008
3643	Manufacturer	Gentamicin sulphate (Cidomycin®) - Summary of Product Characteristics Sanofi 2015
3648	Journal	Hossain M.A, Friciu M, Aubin S, Leclair G. Stability of penicillin G sodium diluted with 0.9% sodium chloride injection or 5% dextrose injection and stored in polyvinyl chloride bag containers and elastomeric pump containers. Am J Health-Syst Pharm 2014 ; 71:669-673.
3674	Manufacturer	Erythromycin lactobionate - Summary of Product Characteristics PanPharma 2016
3702	Journal	McDougall D.A.J, McWhinney. Stability of buffered benzylpenicillin solutions for outpatient parenteral antimicrobial therapy. J Pharm Pract and Res 2014 ; 44, 1: 26-28.
3931	Manufacturer	Trimébutine (Débridat®) - Résumé des caractéristiques du produit Pfizer Laboratoire 2016
3964	Journal	Audet M.A, Forest E, Friciu M, Forest J.M, Leclair G. Compatibilité du citrate de caféine injectable avec plusieurs autres médicaments. Pharmactuel 2017 ; 50,1 : 27-33.
4154	Manufacturer	Bleomycin sulfate- Summary of Product Characteristics Accord Health Care 2018
4319	Journal	Lessard J-J, Caron E, Schérer H, Forest J-M, Leclair G. Compatibility of Y-site Injection of Meropenem Trihydrate With 101 Other Injectable Drugs. Hosp Pharm 2020 ; 55, 5: 332-337.
4389	Journal	Côté K, Correal F, Metras M.E, Friciu M, Forest J.M, Leclair G. Compatibilité physique des médicaments administrés en Y aux soins intensifs, en particulier la dexmédétomidine, le lévosiimendan et la kétamine. Pharmactuel 2019 ;52,4:206-213
4590	Journal	Smith E.K, McWhinney MPhil B.C. Stability of buffered benzylpenicillin and flucloxacillin for a paediatric outpatient parenteral antibiotic therapy service. J Pediatr Pharmacol Ther 2021 ; 51: 231-237.
4603	Journal	Vallée M, Barthélémy I, Friciu M, Pelletier E, Forest J.M, Benoit F, Leclair G. Compatibility of Lactated Ringer’s Injection With 94 Selected Intravenous Drugs During Simulated Y-site Administration. Hosp Pharm 2021 ; 56, 4: 228-234.
4831	Journal	Nezvalova-Henriksen K, Huseby Holm T, Nilsson N, Kjønneksen I, Tho I. Frequently acquired drugs in neonatal intensive care and their physical compatibility. Acta Paediatr 2022 ;111:2307–2314. □□
4837	Journal	De Silva, D.T.N Petrovski M, Strunk T, Mukadam N, Page Sharp N, Moore B.R, Batty K.T. Physicochemical compatibility of caffeine citrate and caffeine base injections with parenteral medications used in neonatal intensive care settings. Eur J Clin Pharmacol 2024 ; 80:1079–1087.

4845	Journal	De Silva D.T.N, Strunk T, Petrovski M, Page-Sharp M, Moore B.R, Batty K.T. The Physicochemical Compatibility of Sildenafil Injection with Parenteral Medications Used in Neonatal Intensive Care Settings. Pharmaceutics 2024 ;1 6, 419.
------	---------	--



# Dictionary

 Antibiotic	 injection
 Tradename	 Stability in solutions
 Container	 Molecule
 Concentration	 Temperature
 Storage	 Duration of stability
 Biosimilar	 conflicting data
 References	 Polyvinyl chloride
 Water for Injection	 Not specified
 Day	 Protect from light
 NaCl 0,9% or Glucose 5%	 Sodium chloride 0,9%
 Glucose 5%	 Polyisoprene elastomer
 NaCl 0.9% citrate buffer 0.3% pH7	 Hour
 Not specified	 Factors which affect stability
 Increase	 Induces
 Reduced stability	 Degradation
 Enhanced stability	 Compatibility
 Compound	 Solvent
 Chemical instability	 Incompatible
 Unspecified incompatibility	 Compatible
 None	<b>RL</b> Ringer's lactate solution
 Immediate precipitation	 Route of administration
 Intravenous infusion	 Intramuscular
 Subcutaneous	 Intrapleural
 Intra-articular	 References
 Dictionary	