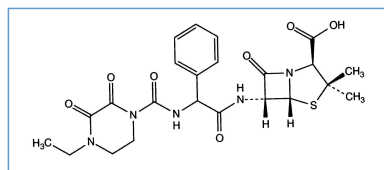


Stabilis



Piperacillin sodium



Tradename

Pentacillin	Japan
Pipcil	Netherlands
Piperac	Argentina
Piperacillin	Australia, Canada, Germany, Poland, United States of America
Piperacilline	France, Greece
Piperital	Italy
Pipertex	France, Italy
Pipracil	Egypt
Pipril	Colombia, Denmark, Greece, United Arab Emirates



Stability in solutions

		40 mg/ml	25°C		48			432
PVC		10 mg/ml	-10°C		71			600
PVC		10 mg/ml	25°C		120			600
PVC		10 mg/ml	5°C		49			600
PVC		80 mg/ml	-20°C		100			1329
PP		20 mg/ml	2-8°C		28			1845
PP		20 mg/ml	25°C		7			1845
EVA		30 & 40 mg/ml	23°C		5			1826
EVA		30 & 40 mg/ml	4°C		21			1826
PP		125 mg/ml	20-25°C		24			4634
PP		40 mg/ml	25°C		5			1718
PP		40 mg/ml	5°C		28			1718
PP		125 mg/ml	20-25°C		48			4634
PI		10 & 80 mg/ml	25°C		24			604
PI		10 & 80 mg/ml	4°C		14			604

		128 mg/ml	25°C		30			2042
		128 mg/ml	37°C		21			2042



Stability of mixtures

		40 mg/ml	25°C		Clindamycin phosphate : 9 mg/ml	48		432
		15 mg/ml	22°C-23°C		Ranitidine hydrochloride : 0,5 mg/ml	4		360
		5 mg/ml	25°C		Magnesium sulfate : 10 & 20 mg/ml	20		630
		20 mg/ml	25°C		Ofloxacin : 2 mg/ml	48		889
		30 mg/ml	23°C		Linezolid : 2 mg/ml	3		1658
		30 mg/ml	4°C		Linezolid : 2 mg/ml	7		1658
		40 mg/ml	25°C		Metronidazole : 5 mg/ml	4		1692



Factors which affect stability

























































				1103
				3590








Compatibility

	Piperacillin sodium : 60 mg/ml Aciclovir sodium : 5 mg/ml	336
	Piperacillin sodium : 40 mg/ml Allopurinol sodium : 3 mg/ml	307
	Piperacillin sodium : 40 mg/ml Amifostine : 10 mg/ml	3
	Piperacillin sodium : 60 mg/ml Amiodarone hydrochloride : 6 mg/ml	1611
	Piperacillin sodium : 40 mg/ml Amphotericin B cholesteryl sulfate complex : 0.83 mg/ml	921
	Piperacillin sodium : 40 mg/ml Aztreonam : 40 mg/ml	99
	Piperacillin sodium : 40 mg/ml Bivalirudin : 5 mg/ml	1713
	Piperacillin sodium : 40 mg/ml Ciprofloxacin lactate : 2 mg/ml	285
	Piperacillin sodium : 40 mg/ml Cisatracurium besylate : 0.1 mg/ml	299

		Piperacillin sodium : 40 mg/ml Cisatracurium besylate : 2 & 5 mg/ml		299
		Piperacillin sodium : 40 mg/ml Dexmedetomidine : 4 µg/ml		1712
		Piperacillin sodium : 200 mg/ml Diltiazem hydrochloride : 1 & 5 mg/ml		198
		Piperacillin sodium : 20 mg/ml Diltiazem hydrochloride : 5 mg/ml		198
		Piperacillin sodium : 40 mg/ml Doxorubicin hydrochloride liposome peg : 0.4 mg/ml		251
		Piperacillin sodium : 12 mg/ml Enalaprilate : 0.05 mg/ml		1315
		Piperacillin sodium : 30 mg/ml Esmolol hydrochloride : 10 mg/ml		384
		Piperacillin sodium : 40 mg/ml Etoposide phosphate : 5 mg/ml		1410
		Piperacillin sodium : 40 mg/ml Famotidine : 2 mg/ml		215
		Piperacillin sodium : 40 mg/ml Famotidine		397
		Piperacillin sodium : 40 mg/ml Fenoldopam mesylate : 80 µg/ml		1803
		Piperacillin sodium : 40 mg/ml Filgrastim : 30 µg/ml		244
		Piperacillin sodium : 40 mg/ml Fludarabine phosphate : 1 mg/ml		492
		Piperacillin sodium : 100 mg/ml Gallium nitrate : 1 mg/ml		91
		Piperacillin sodium : 40 mg/ml Heparin sodium : 10 & 5000 UI/ml		2037
		Piperacillin sodium : 200 mg/ml	RL	4603
		Piperacillin sodium : 200 mg/ml Caffeine : 10 mg/ml	∅	3964
		Piperacillin sodium : 300 mg/ml Cloxacillin sodium : 100 mg/ml		3012
		Piperacillin sodium		3590
		Piperacillin sodium Amikacin sulfate		3549
		Piperacillin sodium Ciprofloxacin lactate		3529
		Piperacillin sodium : 40 mg/ml		301
		Piperacillin sodium : 200 mg/ml		999
		Piperacillin sodium : 40 mg/ml Ciprofloxacin lactate : 1 mg/ml		500
		Piperacillin sodium Clindamycin phosphate		3526
		Piperacillin sodium : 40 mg/ml Clindamycin phosphate : 9 mg/ml		432
		Piperacillin sodium Dimenhydrinate		2087

		Piperacillin sodium : 2 mg/ml		1103
		Piperacillin sodium : 40 mg/ml Docetaxel : 0.9 mg/ml		1754
		Piperacillin sodium : 80 mg/ml Enalaprilate : 0.025 mg/ml		1703
		Piperacillin sodium Erythromycin lactobionate		3674
		Piperacillin sodium : 80 mg/ml Fluconazole : 2 mg/ml		256
		Piperacillin sodium : 80 mg/ml Foscarnet sodium : 24 mg/ml		73
		Piperacillin sodium : 40 mg/ml Gemcitabine hydrochloride : 10 mg/ml		1423
		Piperacillin sodium Gentamicin sulfate		3643
		Piperacillin sodium Gentamicin sulfate		3520
		Piperacillin sodium : 60 mg/ml Heparin sodium : 50 UI/ml		317
		Piperacillin sodium : 40 mg/ml		1415
		Piperacillin sodium : 80 mg/ml Fluconazole : 2 mg/ml		496
		Piperacillin sodium : 10 mg/ml		4440
		Piperacillin sodium : 40 mg/ml Granisetron hydrochloride : 0.05 mg/ml		182
		Piperacillin sodium : 40 mg/ml Hetastarch : 60 mg/ml		1721
		Piperacillin sodium : 60 mg/ml Hydromorphone hydrochloride : 0.2 mg/ml		405
		Piperacillin sodium : 200 mg/ml Ketamine hydrochloride : 50 mg/ml		2109
		Piperacillin sodium : 200 mg/ml Ketamine hydrochloride : 50 mg/ml		4389
		Piperacillin sodium : 10 mg/ml Labetalol hydrochloride : 1 mg/ml		386
		Piperacillin sodium : 40 mg/ml Lansoprazole : 0.55 mg/ml		1625
		Piperacillin sodium : 40 mg/ml Linezolid : 2 mg/ml		1925
		Piperacillin sodium : 30 mg/ml Linezolid : 2 mg/ml		1658
		Piperacillin sodium : 150 mg/ml Lorazepam : 0.33 mg/ml		186
		Piperacillin sodium : 60 mg/ml Magnesium sulfate : 16.67 >> 100 mg/ml		1047
		Piperacillin sodium : 5 mg/ml Magnesium sulfate : 10 & 20 mg/ml		630
		Piperacillin sodium : 40 mg/ml Melphalan : 0.1 mg/ml		169
		Piperacillin sodium : 200 mg/ml Meropenem : 50 mg/ml		4319

		Piperacillin sodium : 40 mg/ml Metronidazole : 5 mg/ml	∅	1692
		Piperacillin sodium : 150 mg/ml Midazolam hydrochloride : 5 mg/ml	∅	186
		Piperacillin sodium : 60 mg/ml Morphine sulfate : 1 mg/ml	◆	405
		Piperacillin sodium N-acetylcysteine : 200 mg/ml	∅	3766
		Piperacillin sodium : 200 mg/ml Naloxone hydrochloride : 0.4 mg/ml	∅	3408
		Piperacillin sodium : 12 mg/ml Nicardipine hydrochloride : 0.1 mg/ml	▲◆	1490
		Piperacillin sodium : 20 mg/ml Ofloxacin : 2 mg/ml	∅	889
		Piperacillin sodium : 40 mg/ml Ondansetron hydrochloride : 1 mg/ml	▲	334
		Piperacillin sodium Pantoprazole sodium		2090
		Piperacillin sodium : 60 mg/ml Pethidine hydrochloride : 10 mg/ml	◆	405
		Piperacillin sodium : 50 mg/ml Phloroglucinol : 2,5 mg/ml		3791
		Piperacillin sodium : 40 mg/ml Propofol : 10 mg/ml	∅	300
		Piperacillin sodium : 40 mg/ml Remifentanyl hydrochloride : 25 & 250 µg/ml	▲	59
		Piperacillin sodium : 200 mg/ml Salbutamol sulfate : 1 mg/ml	∅	3216
		Piperacillin sodium : 40 mg/ml Sargramostim : 10 µg/ml	▲	335
		Piperacillin sodium Sodium bicarbonate		3590
		Piperacillin sodium : 80 mg/ml Tacrolimus : 1000 µg/ml	▲	479
		Piperacillin sodium : 40 mg/ml Teniposide : 0.1 mg/ml	◆	905
		Piperacillin sodium : 60 mg/ml Theophylline : 4 mg/ml	∅	317
		Piperacillin sodium : 200 mg/ml Thiopental sodium : 25 mg/ml	▲	3767
		Piperacillin sodium : 40 mg/ml Thiotepa : 1 mg/ml	◆	249
		Piperacillin sodium Tobramycin sulfate		1168
		Piperacillin sodium : 10 >> 250 mg/ml Vancomycin hydrochloride : 20 mg/ml	◆	1674
		Piperacillin sodium : 1 >> 200 mg/ml Vancomycin hydrochloride : 2 mg/ml	◆	1674
		Piperacillin sodium : 1 mg/ml Vancomycin hydrochloride : 20 mg/ml	◆	1674
		Piperacillin sodium : 40 mg/ml Verapamil hydrochloride : 2.5 mg/ml	▲◆	371

		Piperacillin sodium : 40 mg/ml Vinorelbine tartrate : 1 mg/ml		84
		Piperacillin sodium : 4 mg/ml Zidovudine : 4 mg/ml		337



Route of administration



References

	Type	Publication
3	Journal	Trissel LA, Martinez JF. Compatibility of amifostine with selected drugs during simulated Y-site administration. Am J Health-Syst Pharm 1995 ; 52: 2208-2212.
59	Journal	Trissel LA, Gilbert DL, Martinez JF, Kim MC. Compatibility of remifentanyl hydrochloride with selected drugs during simulated Y-site administration. Am J Health-Syst Pharm 1997 ; 54: 2192-2196.
73	Journal	Lor E, Takagi J. Visual compatibility of foscarnet with other injectable drugs. Am J Hosp Pharm 1990 ; 47: 157-159.
84	Journal	Trissel LA, Martinez JF. Visual, turbidimetric, and particle-content assessment of compatibility of vinorelbine tartrate with selected drugs during simulated Y-site injection. Am J Hosp Pharm 1994 ; 51: 495-499.
91	Journal	Lober CA, Dollard PA. Visual compatibility of gallium nitrate with selected drugs during Y-site injection. Am J Hosp Pharm 1993 ; 50: 1208-1210.
99	Journal	Trissel LA, Martinez JF. Compatibility of aztreonam with selected drugs during simulated Y-site administration. Am J Health-Syst Pharm 1995 ; 52: 1086-1090.
169	Journal	Trissel LA, Martinez JF. Physical compatibility of melphalan with selected drugs during simulated Y-site administration. Am J Hosp Pharm 1993 ; 50: 2359-2363.
182	Journal	Trissel LA, Gilbert DL, Martinez JF. Compatibility of granisetron hydrochloride with selected drugs during simulated Y-site administration. Am J Health-Syst Pharm 1997 ; 54: 56-60.
186	Journal	Swart EL, Mooren RAG, Van Loenen AC. Compatibility of midazolam hydrochloride and lorazepam with selected drugs during simulated Y-site administration. Am J Health-Syst Pharm 1995 ; 52: 2020-2022.
198	Journal	Gayed AA, Kheshary PR, Hinkle RL. Visual compatibility of diltiazem injection with various diluents and medications during simulated Y-site injection. Am J Health-Syst Pharm 1995 ; 52: 516-520.
215	Journal	Keyi X, Gagnon N, Bisson C, Desmarais M, LeBel M. Stability of famotidine in polyvinyl chloride minibags and polypropylene syringes and compatibility of famotidine with selected drugs. Ann Pharmacotherapy 1993 ; 27: 422-426.

244	Journal	Trissel LA, Martinez JF. Compatibility of filgrastim with selected drugs during simulated Y-site administration. Am J Hosp Pharm 1994 ; 51: 1907-1913.
249	Journal	Trissel LA, Martinez JF. Compatibility of thiotepa (lyophilized) with selected drugs during simulated Y-site administration. Am J Health-Syst Pharm 1996 ; 53: 1041-1045.
251	Journal	Trissel LA, Gilbert DL, Martinez JF. Compatibility of doxorubicin hydrochloride liposome injection with selected other drugs during simulated Y-site administration. Am J Health-Syst Pharm 1997 ; 54: 2708-2713.
256	Journal	Inagaki K, Takagi J, Lor E, Lee KJ, Nii L, Gill MA. Stability of fluconazole in commonly used intravenous antibiotic solutions. Am J Hosp Pharm 1993 ; 50: 1206-1208.
285	Journal	Elmore RL, Contois ME, Kelly J, Noe A, Poirier A. Stability and compatibility of admixtures of intravenous ciprofloxacin and selected drugs. Clin Ther 1996 ; 18: 246-255.
299	Journal	Trissel LA, Martinez JF, Gilbert DL. Compatibility of cisatracurium besylate with selected drugs during simulated Y-site administration. Am J Health-Syst Pharm 1997 ; 54: 1735-1741.
300	Journal	Trissel LA, Gilbert DL, Martinez JF. Compatibility of propofol injectable emulsion with selected drugs during simulated Y-site administration. Am J Health-Syst Pharm 1997 ; 54: 1287-1292.
301	Journal	Trissel LA, Gilbert DL, Martinez JF, Baker MB, Walter WV, Mirtallo JM. Compatibility of parenteral nutrient solutions with selected drugs during simulated Y-site administration. Am J Health-Syst Pharm 1997 ; 54: 1295-1300.
307	Journal	Trissel LA, Martinez JF. Compatibility of allopurinol sodium with selected drugs during simulated Y-site administration. Am J Hosp Pharm 1994 ; 51: 1792-1799.
317	Journal	Kershaw BP, Monnier HL, Mason JH. Visual compatibility of premixed theophylline or heparin with selected drugs for IV administration. Am J Hosp Pharm 1993 ; 50: 1360-1362.
334	Journal	Trissel LA, Tramonte SM, Grilley BJ. Visual compatibility of ondansetron hydrochloride with selected drugs during simulated Y-site injection. Am J Hosp Pharm 1991 ; 48: 988-992.
335	Journal	Trissel LA, Bready BB, Kwan JW, Santiago NM. Visual compatibility of sargramostim with selected antineoplastic agents, anti-infectives, or other drugs during simulated Y-site injection. Am J Hosp Pharm 1992 ; 49: 402-406.
336	Journal	Forman JK, Lachs JR, Souney PF. Visual compatibility of acyclovir sodium with commonly used intravenous drugs during simulated Y-site injection. Am J Hosp Pharm 1987 ; 44: 1408-1409.
337	Journal	Bashaw ED, Amantea MA, Minor JR, Galleli JF. Visual compatibility of zidovudine with other drugs during simulated Y-site administration. Am J Hosp Pharm 1988 ; 45: 2532-2533.
360	Journal	Inagaki K, Gill MA, Okamoto MP, Takagi J. Stability of ranitidine hydrochloride with aztreonam, ceftazidime, or piperacillin sodium during simulated Y-site administration. Am J Hosp Pharm 1992 ; 49: 2769-2772.
371	Journal	Thompson DF, Stiles ML, Allen LV, Tu YH. Compatibility of verapamil hydrochloride with penicillin admixtures during simulated Y-site injection. Am J Hosp Pharm 1988 ; 45: 142-145.

384	Journal	Colucci RD, Cobuzzi LE, Halpern NA. Visual compatibility of esmolol hydrochloride and various injectable drugs during simulated Y-site injection. Am J Hosp Pharm 1988 ; 45: 630-632.
386	Journal	Colucci RD, Cobuzzi LE, Halpern NA. Visual compatibility of labetalol hydrochloride injection with various injectable drugs during simulated Y-site injection. Am J Hosp Pharm 1988 ; 45: 1357-1358.
397	Journal	Fong PA, Ward J. Visual compatibility of intravenous famotidine with selected drugs. Am J Hosp Pharm 1989 ; 46: 125-126.
405	Journal	Nieves-Cordero AL, Luciw HM, Souney PF. Compatibility of narcotic analgesic solutions with various antibiotics during simulated Y-site injection. Am J Hosp Pharm 1985 ; 42: 1108-1109.
432	Journal	Marble DA, Bosso JA, Townsend RJ. Stability of clindamycin phosphate with aztreonam, ceftazidime sodium, ceftriaxone sodium, or piperacillin sodium in two intravenous solutions. Am J Hosp Pharm 1986 ; 43: 1732-1736.
479	Journal	Min DI, Brown T, HWang GC. Visual compatibility of tacrolimus with commonly used drugs during simulated Y-site injection. Am J Hosp Pharm 1992 ; 49: 2964-2966.
492	Journal	Trissel LA, Parks NPT, Santiago NM. Visual compatibility of fludarabine phosphate with antineoplastic drugs, anti-infectives, and other selected drugs during simulated Y-site injection. Am J Hosp Pharm 1991 ; 48: 2186-2189.
496	Journal	Lor E, Sheybani T, Takagi J. Visual compatibility of fluconazole with commonly used injectable drugs during simulated Y-site administration. Am J Hosp Pharm 1991 ; 48: 744-746.
500	Journal	Tucker DR, Sieradzan R. Visual compatibility of ciprofloxacin lactate with five broad-spectrum antimicrobial agents during simulated Y-site injection. Am J Hosp Pharm 1988 ; 45: 1910-1911.
600	Journal	Das Gupta V, Davis DD, Stewart KR. Stability of piperacillin sodium in dextrose 5% and sodium chloride 0.9% injections. Am J IV Ther Clin Nut 1984 ; 11: 14-15, 18-19.
604	Manufacturer	Stabilité des médicaments dans l'Intermate® SV50, 100, 200 Baxter 1998
630	Journal	Das Gupta V, Stewart KR. Stability of metronidazole and ten antibiotics when mixed with magnesium sulphate solutions. J Clin Hosp Pharm 1985 ; 10: 67-72.
889	Journal	Janknegt R, Stratermans T, Cilissen J, Lohman JJHM, Hooymans PM. Ofloxacin intravenous. Compatibility with other antibacterial agents. Pharm Weekbl [Sci] 1991 ; 13: 207-209.
905	Journal	Trissel LA, Martinez JF. Screening teniposide for Y-site physical incompatibilities. Hosp Pharm 1994 ; 29: 1010-1017.
921	Journal	Trissel LA, Gilbert DL, Martinez JF. Incompatibility and compatibility of amphotericin B cholesteryl sulfate complex with selected other drugs during simulated Y-site administration. Hosp Pharm 1998 ; 33: 284-292.
999	Journal	Watson D. Piggyback compatibility of antibiotics with pediatric parenteral nutrition solution. JPEN 1985 ; 9: 220-224.


































1047	Journal	Souney PF, Colucci RD, Mariani G, Campbell D. Compatibility of magnesium sulfate solutions with various antibiotics during simulated Y-site injection. Am J Hosp Pharm 1984 ; 41: 323-324.
1103	Journal	Fox AS, Boyer KM, Sweeney HM. Antibiotic stability in a pediatric parenteral alimentation solution. J Pediatr 1988 ; 112: 813-817.
1168	Journal	Konishi H, Goto M, Nakamoto Y, Yamamoto I, Yamashina H. Tobramycin inactivation by carbenicillin, ticarcillin and piperacillin. Antimicrob Agents Chemother 1983 ; 23: 653-657.
1315	Journal	Halpern NA, Colucci RD, Alicea M, Greenstein R. Visual compatibility of enalaprilat with commonly used critical care medications during simulated Y-site injection. Int J Pharm Clin Pharmacol Ther Tox 1989 ; 27: 294-297.
1329	Journal	Brown AF, Harvey DA, Hoddinott DJ, Britton. Freeze-thaw stability of antibiotics used in an IV additive service. Br J Parent Ther 1986 ; march/april: 42-44.
1410	Journal	Trissel LA, Martinez JF, Simmons M. Compatibility of etoposide phosphate with selected drugs during simulated Y-site injection. J Am Pharm Assoc 1999 ; 39: 141-145.
1415	Journal	Trissel L.A, Gilbert D.L, Martinez J.F, Baker M.B, Walter W.V, Mirtallo J.M. Compatibility of medications with 3-in-1 parenteral nutrition admixtures. JPEN 1999 ; 23: 67-74.
1423	Journal	Trissel LA, Martinez JF, Gilbert DL. Compatibility of gemcitabine hydrochloride with 107 selected drugs during simulated Y-site injection. J Am Pharm Assoc 1999 ; 39: 514-518.
1490	Journal	Halpern NA, Colucci RD, Alicea M, Greenstein R. The compatibility of nicardipine hydrochloride injection with various ICU medications during simulated Y-site injection. Int J Pharm Clin Pharmacol Ther Tox 1989 ; 27: 250-254.
1611	Journal	Chalmers JR, Bobek MB, Militello MA. Visual compatibility of amiodarone hydrochloride injection with various intravenous drugs. Am J Health-Syst Pharm 2001 ; 58: 504-506.
1625	Journal	Trissel LA, Saenz C, Williams YW, Ingram D. Incompatibilities of lansoprazole injection with other drugs during simulated Y-site coadministration. Int J Pharm Compound 2001 ; 5: 314-321.
1658	Journal	Zhang Y, Xu QA, Trissel LA, Willimas KY. Compatibility and stability of linezolid injection admixed with aztreonam or piperacillin sodium. J Am Pharm Assoc 2000 ; 40: 520-524.
1674	Journal	Trissel LA, Gilbert DL, Martinez JF. Concentration dependency of vancomycin hydrochloride compatibility with beta-lactam antibiotics during simulated Y-site administration. Hosp Pharm 1998 ; 33: 1515-1522.
1692	Journal	Messerschmidt W. Pharmazeutische kompatibilität von piperacillin mit metronidazol. Krankenhauspharmazie 1998 ; 19: 226-228.
1703	Journal	Schuster F, Bernard R. Kompatibilität von enalaprilat i.v. mit ausgewählten arzneimitteln. Krankenhauspharmazie 1995 ; 16: 101-103.
1712	Journal	Trissel LA, Saenz CA. Compatibility screening of Precedex during simulated Y-site administration with other drugs. Int J Pharm Compound 2002 ; 6: 230-233.
1713	Journal	Trissel LA, Saenz CA. Compatibility screening of bivalirudin during simulated Y-site administration with other drugs. Int J Pharm Compound 2002 ; 6: 311-315.

1718	Journal	Das Gupta V, Ling J. Stability of piperacillin sodium after reconstitution in 0.9% sodium chloride injection and storage in polypropylene syringes for pediatric use. Int J Pharm Compound 2001 ; 5: 230-231.
1721	Journal	Trissel LA, Williams KY, Baker MB. Compatibility screening of Hextend during simulated Y-site administration with other drugs. Int J Pharm Compound 2001 ; 5: 69-72.
1754	Journal	Trissel LA, Gilbert DL, Wolkin AC. Compatibility of docetaxel with selected drugs during simulated Y-site administration. Int J Pharm Compound 1999 ; 3: 241-244.
1803	Journal	Trissel, LA, Saenz CA, Ogundele OB, Ingram D, Baker MB. Compatibility of fenoldopam mesylate with other drugs during simulated Y-site administration. Am J Health-Syst Pharm 2003 ; 60: 80-85.
1826	Journal	Zhang Y, Trissel LA. Stability of piperacillin and ticarcillin in autodose infusion system bags. Ann Pharmacotherapy 2001 ; 35: 1360-1363.
1845	Journal	Müller HJ, Haker I. The stability of amoxicillin, ampicillin, benzylpenicillin, flucloxacillin, mezlocillin and piperacillin in isotonic saline solutions when stored in an innovative infusion container (Freeflex container). EJHP 2003 ; 6: 106-111.
1925	Journal	Trissel LA , Williams KY, Gilbert DL. Compatibility screening of linezolid injection during simulated Y-site administration with other drugs and infusion solutions. J Am Pharm Assoc 2000 ; 40: 515-519.
2037	Journal	Robinson JL, Tawfik G, Saxinger L, Stang L, Etches W, Lee B. Stability of heparin and physical compatibility of heparin/antibiotic solutions ... J Antimicrob Chemother 2005 ; 56: 951-953.
2042	Journal	Viaene E, Chanteux H, Servais H, Mingeot-Leclercq MP, Tulkens PM. Comparative stability studies of antipseudomonal β -lactams for potential administration through portable elastomeric pumps (home therapy for cystic fibrosis patients) and motor-operated syringes (intensive care units). Antimicrob Agents Chemother 2002 ; 46: 2327-2332.
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.
2109	Journal	Pelletier E, Forest JM, Hildgen P. Compatibilité de la kétamine injectable lors de l'administration en dérivé avec d'autres médicaments usuels. Pharmactuel 2006 ; 39: 71-75.
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.
3216	Journal	Legris ME, Valiquette ME, Lavoie A, Forest JM, Leclair G. Compatibilité physique par évaluation visuelle du salbutamol injectable lors de son administration en Y. Pharmactuel 2011 ; 44, 1 : 14-18
3408	Journal	Tollec S, Touzin K, Pelletier E, Forest J.M. Evaluation visuelle de la compatibilité physique de la naloxone avec d'autres médicaments intraveineux usuels. Pharmactuel 2013 ; 46, 1 : 16-21.
3520	Manufacturer	Cidomycin - Summary of product Characteristics. Sanofi 2011
3526	Manufacturer	Clindamycin (Dalacin®) - Summary of Product Characteristics Pharmacia 2010

3529	Manufacturer	Ciprofloxacin – Summary of Product Characteristics Hospira 2013
3549	Manufacturer	Amikacine B Braun - Résumé des caractéristiques du produit. B Braun 2012
3590	Manufacturer	Piperacilline - Résumé des caractéristiques du produit Dakota Pharm 2011
3643	Manufacturer	Gentamicin sulphate (Cidomycin®) - Summary of Product Characteristics Sanofi 2015
3674	Manufacturer	Erythromycin lactobionate - Summary of Product Characteristics PanPharma 2016
3766	Journal	Forrest J.M, Hildgen P. Compatibilité de l'acétylcystéine injectable lors de son administration en Y avec d'autres médicaments usuels Pharmactuel 2014 ; 47, 3 : 161-165.
3767	Journal	Legris M.E, Lavoie A, Forrest J.M, Hildgen P. Compatibilité par évaluation visuelle du thiopental injectable lors de son administration en Y avec des médicaments usuels. Pharmactuel 2014 ; 47, 3 : 167-172.
3791	Poster	Sadou Yaye H, Burtet E, Hamel C, Aljhni R, Gard C, Tilleul P. Étude de la compatibilité physico-chimique du phloroglucinol injectable durant les mélanges au sein des tubulures en Y. Apifh Congress, Paris November 2014 2014
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.
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 lévოსимendan et la kétamine. Pharmactuel 2019 ;52,4:206-213
4440	Journal	Omotani S, Aoe M, Esaki S, Nagai K, Hatsuda Y, Mukai J, Teramachi H, Myotoku M. Compatibility of Intravenous Fat Emulsion with Antibiotics for Secondary Piggyback Infusion. Ann Nutr Metab 2018 ; 73: 227-233.
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.
4634	Journal	Loeuille G, D'&Huart E, Vigneron J, Nisse YE, Beiler B, Polo C, Ayari G, Sacrez M, Demoré B, Charmillon A. Stability studies of 16 Antibiotics for Continuous Infusion in Intensive Care Units and for Performing Outpatient Parenteral Antimicrobial Therapy. Antibiotics 2022 ;11,4: 458



Dictionary

 Antibiotic	 injection
 Tradename	 Stability in solutions
 Container	 Molecule
 Concentration	 Temperature
 Storage	 Duration of stability
 Biosimilar	 conflicting data
 References	 Glass
 NaCl 0,9% or Glucose 5%	 Light
 Hour	 Polyvinyl chloride
 Protect from light	 Day
 Not specified	 Sodium chloride 0,9%
 Polypropylene	 Ethylene vinyl acetate
 Polypropylen Syringe	 Glucose 5%
 Polyisoprene elastomer	 Elastomer (unspecified)
 Water for Injection	 Stability of mixtures
 Solvent	 Compound
 None	 Polyolefine
 Not specified	 Factors which affect stability
 Parenteral nutrition (binary mixture)	 Induces
 Degradation	 NaHCO ₃
 Compatibility	 Compatible
 Immediate precipitation	 Incompatible
 Precipitation after 24 hours	 Immediate turbidity
RL Ringer's lactate solution	 Subvisual incompatibility
 Unspecified incompatibility	 Chemical instability
 Parenteral nutrition (with lipids)	 specific solvent
 Turbidity in 30 minutes	 Precipitation after 4 hours
 Route of administration	 Intravenous
 Intravenous infusion	 Intramuscular
 References	 Dictionary