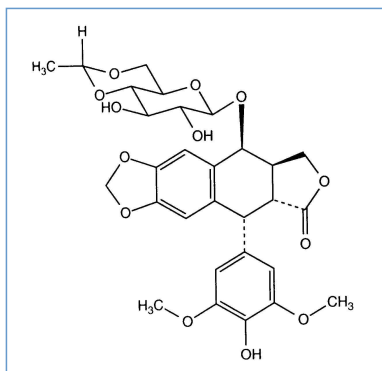


Stabilis



Etoposide



Tradename

Eposin	Belgium, Colombia, Great Britain, Malaysia, Norway, Republic of South Africa, Sweden
Etocris	Argentina, Chile, Peru
Etolon	India
Etomedac	Germany, Luxembourg
Etonolver	Venezuela
Etoposide	France, Greece, Netherlands
Etosid	Egypt, India, Malaysia
Eunades	Brazil
Exitop	Finland, Germany, Sweden
Fytosid	Egypt, India, Malaysia
Lastet	Egypt, Hungary, Iran, Italy, Poland, Turkey, United Arab Emirates
Onkoposid	Germany
Riboposid	Germany
Sedol	Peru
Toposin	Netherlands
Tosuben	Mexico
Vepesid	Australia, Austria, Belgium, Canada, Colombia, Croatia, Denmark, Egypt, Finland, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Republic of South Africa, Saudi Arabia, Slovenia, Spain, Switzerland, Turkey, United States of America
Vepeside	Morocco, Tunisia



Stability in solutions

		0,2 mg/ml	?		7			504
		0,4 mg/ml	20°C-22°C		4			482
		0,2 mg/ml	24°C		22			1613
		0,2 mg/ml	4°C		14			1613
		0,3 mg/ml	24°C		2			1613

		0,3 mg/ml	4°C		7				1613
		0,4 mg/ml	24°C		24				161
		0,4 mg/ml	24°C		24				1613
		0,4 mg/ml	4°C		24				161
		0,4 mg/ml	4°C		2				1613
		10 mg/ml	24°C		5				1613
		10 mg/ml	4°C		7				1613
		12 mg/ml	24°C		7				1613
		12 mg/ml	4°C		14				1613
	RL	0,4 mg/ml	20°C-22°C		4				482
		0.25 mg/ml	8-12°C		21				2167
		0.4 mg/ml	20-23°C		7				2167
		0,157 mg/ml	25°C		48				152
		0,157 mg/ml	4°C		48				152
		0,05 & 0,2 mg/ml	20-25°C		7				1722
		0,05 & 0,2 mg/ml	25°C		8				1520
		0,05 & 0,2 mg/ml	4°C		7				1722
		0,05 & 0,2 mg/ml	4°C		8				1520
		0,4 mg/ml	24°C		24				161
		0,4 mg/ml	4°C		24				161
		0,4 mg/ml	25°C		24				4304
		0,4 mg/ml	33°C		24				4304
		0,6 mg/ml	25°C		8				4304
		0,6 mg/ml	33°C		6				4304
		0,1 mg/ml	25°C		24				4304
		0,1 mg/ml	33°C		24				4304
		0,1 mg/ml	25°C		12				4304
		0,1 mg/ml	33°C		12				4304
		0,4 mg/ml	23-27°C		21				4369
		0,6 mg/ml	23-27°C		21				4369
		0,4 mg/ml	25°C		21				4024
		0,6 mg/ml	25°C		21				4024
		0.25 mg/ml	20°C		5				3670

POF	◆	0,38 mg/ml	25°C		61			4125
POF	◆	0,4 mg/ml	25°C		21			4024
POF	◆	0,6 mg/ml	25°C		21			4024
POF	◆	0,74 mg/ml	25°C		61			4125
POF	◆	1,26 mg/ml	25°C		61			4125
POF	◆	1,75 mg/ml	25°C		28			4125



Stability of mixtures

		0,2 & 0,4 mg/ml	20,5°C-24°C		Cisplatin : 0,2 mg/ml	48		417
		0,2 mg/ml	20°C-23°C		Granisetron hydrochloride : 0,5 mg/ml	4		57
PVC		0,2 & 0,4 mg/ml	20,5°C-24°C		Cisplatin : 0,2 mg/ml	48		417
PVC	◆	0,1 & 0,4 mg/ml	21°C-23°C		Ondansetron hydrochloride : 0,03 & 0,3 mg/ml	48		184
PVC		0,4 mg/ml	20°C		Cytarabine : 0,26 mg/ml Daunorubicin hydrochloride : 0,03 mg/ml	72		643
PP	◆	0,157 mg/ml	25°C		Cytarabine : 0,157 mg/ml Daunorubicin hydrochloride : 0,0157 mg/ml	48		152
PP	◆	0,157 mg/ml	4°C		Cytarabine : 0,157 mg/ml Daunorubicin hydrochloride : 0,0157 mg/ml	48		152
POF		0,250 mg/ml	23°C-25°C		Vincristine sulfate : 0,002 mg/ml Doxorubicin hydrochloride : 0,050 mg/ml	72		1033
POF		0,125 mg/ml	23°C-25°C		Doxorubicin hydrochloride : 0,025 mg/ml Vincristine sulfate : 0,001 mg/ml	96		1033
POF		0,175 mg/ml	23°C-25°C		Vincristine sulfate : 0,0014 mg/ml Doxorubicin hydrochloride : 0,035 mg/ml	96		1033
POF		0,125 mg/ml	25°C		Epirubicin hydrochloride : 0,0375 mg/ml Vindesine sulfate : 0,002 mg/ml	24		4352
POF		0,175 mg/ml	25°C		Vindesine sulfate : 0,0028 mg/ml Epirubicin hydrochloride : 0,0525 mg/ml	24		4352
POF		0,250 mg/ml	25°C		Epirubicin hydrochloride : 0,075 mg/ml Vindesine sulfate : 0,004 mg/ml	24		4352
POF		0,200 mg/ml	31°C-33°C		Doxorubicin hydrochloride : 0,040 mg/ml Vincristine sulfate : 0,0016 mg/ml	72		1033
?		0,2 mg/ml	20°C-23°C		Topotecan : 0,028 mg/ml	4		1026
?	∅	10 mg/ml	25°C		Mitoxantrone dihydrochloride : 1 mg/ml	22		1730
?	∅	0,5 mg/ml	25°C		Mitoxantrone dihydrochloride : 0,05 mg/ml	22		1730



Factors which affect stability

	PVC				140 161 1819 1895 1984
		4°C			4369
		-20°C			4369



Incompatibilities

Etoposide : 0.4 mg/ml Filgrastim : 30 µg/ml		244
Etoposide : 0.4 mg/ml Gallium nitrate : 1 mg/ml		91
Etoposide : 0.4 mg/ml Idarubicin hydrochloride : 1 mg/ml		491



Route of administration



References

	Type	Publication
57	Journal	Mayron D, Gennaro AR. Stability and compatibility of granisetron hydrochloride in IV solutions and oral liquids and during simulated Y-site injection with selected drugs. Am J Health-Syst Pharm 1996 ; 53: 294-304.
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.
140	Journal	Pearson SD, Trissel LA. Leaching of diethylhexyl phthalate from polyvinyl chloride containers by selected drugs and formulation components. Am J Hosp Pharm 1993 ; 50: 1405-1409.
152	Journal	Chevrier R, Sautou V, Pinon V, Demecop F, Chopineau J. Stability and compatibility of a mixture of the anti-cancer drugs etoposide, cytarabine and daunorubicine for infusion. Pharm Acta Helv 1995 ; 70: 141-148.

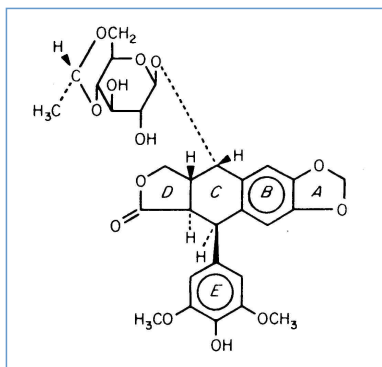
161	Journal	Barthes DM, Rochard EB, Pouliquen IJ, Rabouan SM, Courtois PY. Stability and compatibility of etoposide in 0.9% sodium chloride injection in three containers. Am J Hosp Pharm 1994 ; 51: 2706-2709.
184	Journal	Stewart JT, Warren FW, King DT, Fox JL. Stability of ondansetron hydrochloride and five antineoplastic medications. Am J Health-Syst Pharm 1996 ; 53: 1297-1300.
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.
417	Journal	Stewart CF, Hampton EM. Stability of cisplatin and etoposide in intravenous admixtures. Am J Hosp Pharm 1989 ; 46: 1400-1404.
482	Journal	Beijnen JH, Beijnen-Bandhoe U, Dubbelman AC, Van Gijn R, Underberg WJM. Chemical and physical stability of etoposide and teniposide in commonly used infusion fluids. J Parenter Sci Technol 1991 ; 45: 108-112.
491	Journal	Turowski RC, Durthaler JM. Visual compatibility of idarubicin hydrochloride with selected drugs during simulated Y-site injection. Am J Hosp Pharm 1991 ; 48: 2181-2184.
504	Journal	Hamon M, Plas-Remoissenet D, Kubab-Alajati S. Etude de la stabilité dans des solutions diluées destinées à la perfusion de deux antimétabolites dérivés de la podophyllotoxine : l'étoposide (VP 16), le téniposide (VM 26). Sci Tech Pharm 1987 ; 3: 33-40.
643	Journal	Seargeant LE, Kobrinsky NL, Sus CJ, Nazeravich DR. In vitro stability and compatibility of daunorubicin, cytarabine, and etoposide. Cancer Treat Rep 1987 ; 71: 1189-1192.
1026	Journal	Mayron D, Gennaro AR. Stability and compatibility of topotecan hydrochloride with selected drugs. Am J Health-Syst Pharm 1999 ; 56: 875-881.
1033	Journal	Wolfe JL, Thoma LA, Du C, Goldspiel BR, Gallelli JF, Grimes GJ, Potti GK. Compatibility and stability of vincristine sulfate, doxorubicin hydrochloride, and etoposide in 0.9% sodium chloride injection. Am J Health-Syst Pharm 1999 ; 56: 985-989.
1520	Manufacturer	Etude de stabilité des médicaments en Ecoflac® B Braun 2001
1613	Journal	Lepage R, Walker SE, Godin J. Stability and compatibility of etoposide in normal saline. Can J Hosp Pharm 2000 ; 53: 338-345.
1722	Journal	Gras C, Sautou-Miranda V, Bagel-Boithias S, Brigas F, Chopineau J. Compatibility of etoposide solution with polyvinyl chloride and low density polyethylene containers and its stability in different storage conditions. EJHP 2002 ; 2: 33-40.
1730	Journal	Björkman S, Roth B. Chemical compatibility of mitoxantrone and etoposide (VP-16). Act Pharm Nord 1991 ; 3: 251.
1819	Journal	Demoré B, Vigneron J, Perrin A, Hoffman MA, Hoffman M. Leaching of diethyl hexyl phthalate from polyvinyl chloride bags into intravenous etoposide solution. J Clin Pharm Ther 2002 ; 27: 139-142.
1895	Journal	Bourdeaux D, Sautou-Miranda V, Bagel-Boithias S, Boyer A, Chopineau J. Analysis by liquid chromatography and infrared spectrometry of di(2-ethylhexyl)phthalate released by multilayer infusion tubing. J Pharm Biomed Anal 2004 ; 35: 57-64.

1984	Journal	Bagel-Boithias S, Sautou-Miranda V, Bourdeaux D, Tramier V, Boyer A, Chopineau J. Leaching of diethylhexyl phtalate from multilayer tubing into etoposide infusion solutions. Am J Health-Syst Pharm 2005 ; 62: 182-188.
2167	Journal	Joel SP, Clark PI, Slevin ML. Stability of the iv and oral formulations of etoposide in solution. Cancer Chemother Pharmacol 1995 ; 37, 1: 117-124.
3670	Journal	Sewell G, Massimini M. Studies on the stability and compatibility of cytotoxic drug infusion with the Tevadaptor system. EJOP 2014 ; 8, 3: 26-30.
4024	Poster	Sadou Yaye H, Rieber Z, Hassani L, Hoffmann-Martinot C, Babiard M, Aouti H, Bellanger A, Tilleul P. Pénurie mondiale d'Etopophos et conséquences pratiques : Intérêt des études de stabilité dans le choix d'un générique. SFPO Congress 2017 - Nantes 2017
4125	Journal	D'Huart E, Vigneron J, Lider P, Demor? B. Physicochemical stability of etoposide diluted at range concentrations between 0.38 and 1.75 mg/mL in polyolefin bags. EJHP 2018
4304	Journal	Klasen K, Kessari R, Mercier L, Valade C, Grill J, Desmaris R, Paci A. Stability of Etoposide Solutions in Disposable Infusion Devices for Day Hospital Cancer Practices. Drugs R D 2014 ; 14:13?23.
4352	Journal	Li J, Yao C, Xu Y, Ping P, Yin H, Sun Y. In vitro compatibility and stability of admixtures containing etoposide, epirubicin hydrochloride and vindesine sulphate in a single infusion bag. J Clin Pharm Ther 2019 ; 44: 875-882.
4369	Journal	Sadou Yayé H, Hassani L, Secrétan PH, Babiard M, Aouati H, Bellanger A, Tilleul P, Yagoubi N, Do B, Rietveld I. Physical and chemical stability of a generic etoposide formulation as an alternative to etoposide phosphate J Pharm Biomed Anal 2020 ;178:112896

Stabilis



Etoposide



Stability of pharmaceutical preparations

		20 mg Vepeside®	NaCl 0.9% >>2 ml	2-8°C		31		1992
		20 mg Vepeside®	NaCl 0.9% >>2 ml	20-25°C		31		1992
		50 mg VePesid®	NaCl 0.9% >> 5 ml	22°C		22		2482




















































References

Type	Publication
1992 Journal	Drouard, Vigneron J, May I. Traitement par étoposide oral : présentation adaptée à une meilleure observance pédiatrique hospitalière. J Pharm Clin 1999 ; 18, 3: 251-257.
2482 Journal	McLeod HL, Relling MV. Stability of etoposide solution for oral use Am J Hosp Pharm 1992 ; 49: 2784-2785.



Dictionary

 Anticancer drug	 Injection
 Tradename	 Stability in solutions
 Container	 Molecule
 Concentration	 Temperature
 Storage	 Length of time
 Biosimilar	 Conflicting data
 References	 Glass
 NaCl 0,9% or Glucose 5%	 Not specified
 Day	 Light
 Sodium chloride 0,9%	 Protect from light
 Hour	RL Ringer's lactate solution
 Polyvinyl chloride	 Polypropylene
 Glucose 5%	 With or without light
 Polyethylene	 Elastomer
 Polyolefine	 Stability of mixtures
 Solvent	 Compound
 NaCl 0,45% Glucose 5%	 Not specified
 None	 Factors which affect stability
 Induces	 Leaching
 Precipitation	 Incompatibilities
 Route of administration	 Intravenous infusion
 References	 Oral solution
 Stability of pharmaceutical preparations	 Origine
 Excipient	 Syringe
 Medicine bottle for injection	 Dictionary