

Stability data for medications in the Easyflow® elastomeric pumps.

The following table summarizes the drug stability studies in the **Easyflow® Elastomeric Infusion Pump of Adriamed (Standard, DFO, R, RC Versions)**, extendable to the **Neopump®**, a trade variant of Easyflow® Elastomeric Pump.

The analysis to determine the stability of the drugs over time has been performed by external laboratories by liquid chromatography–mass spectrometry (LC–MS), an analytical chemistry technique that combines the physical separation capabilities of high-performance liquid chromatography with the mass analysis capabilities of mass spectrometry.

While liquid chromatography separates mixtures with multiple components, mass spectrometry provides structural identity of the individual components with high molecular specificity and detection sensitivity.

This technique is superior to UV-HPLC in term of sensitivity and because it allows the identification of possible impurities present in the sample.

Complete reports are available upon request.

Drug stability table (Rev. 9 - 20.12.2023)

Medication	Concentration	Diluent	4°C (var <5%)	25°C (var <5%)	32°C (var <5%)
Acupan	0.2 mg / ml (20 mg / 100 ml)	NS		24 h	24 h
	0.8 mg / ml (40 mg / 50 ml)	NS		24 h	24 h
Acyclovir	10 mg / ml (1 g / 100 ml)	NS		24 h	24 h
Amikacine	2 mg / ml (0.5 g / 240 ml)	NS		24 h	24 h
	5 mg / ml (0.5 g / 100 ml)	NS		24 h	24 h
Amoxicilline	10 mg / ml (2.4 g / 240 ml)	NS		24 h	24 h
	20 mg / ml (4.9 g / 240 ml)	NS		6 h	6 h
Amoxicilline + Clavulanic acid	10 mg / ml (1 g / 100 ml)	NS	24 h	12 h	
	12 mg / ml (3 g / 240 ml)	NS	24 h	12 h	
Ampicilline	5 mg / ml (0.5 g / 100 ml)	NS	24 h	24 h	24 h
	20 mg / ml (5 g / 240 ml)	NS	24 h	24 h	24 h
Carboplatin	0.5 mg / ml (0.5 g / 100 ml)	D5W	28 days	28 days	28 days
	10 mg / ml (1 g / 100 ml)	D5W	28 days	28 days	28 days
Céfazoline	1 mg / ml (0,250 g / 240 ml)	NS		24 h	24 h
	2 mg / ml (0,5 g / 240 ml)	NS		24 h	24 h
Céfazoline	25 mg / ml (6 g / 240 ml)	NS		24 h	24 h
Céfépime	20 mg / ml (2 g / 100 ml)	NS		24 h	24 h
Céfotaxime	25 mg / ml (6 g / 240 ml)	NS		24 h	24 h
Céfotaxime	10 mg / ml (1 g / 100 ml)	NS		24 h	24 h
	20 mg / ml (2 g / 100 ml)	NS		24 h	24 h
Ceftazidime	20 mg / ml (2 g / 100 ml)	NS	7 days	7 days	24 h
	25 mg / ml (6 g / 240 ml)	NS	7 days	7 days	24 h
Céftriaxone	10 mg / ml (1 g / 100 ml)	NS	14 days	24 h	24 h
	16 mg / ml (4 g / 240 ml)	NS	14 days	24 h	24 h
Céftriaxone	20 mg / ml	NS	14 days		
Ciprofloxacine	1 mg / ml (0.1 g / 100 ml)	NS		24 h	24 h
	2 mg / ml (0.2 g / 100 ml)	NS		24 h	24 h
Ciprofloxacine	200 mg / 100 ml	NS	12 days	12 days	
Cisplatine	1 mg / ml (0.3 g / 300 ml)	NS		4 days	
Cisplatine	1 mg / ml	NS		25 days	
Colistimethat-Na	0.015 mIU / mL	NS	7 days		

Drug stability table

Medication	Concentration Doses	Diluent	4°C (var <5%)	25°C (var <5%)	32°C (var <5%)
Cyclophosphamide	8 mg / ml (0.5 g / 60 ml)	NS		6 days	
Cytarabine (NS)	0.5 mg / ml (0.05 g / 100 ml)	NS	3 days	24 h	
Cytarabine (NS)	1.0 mg / ml (0.1 g / 100 ml)	NS	3 days	24 h	
Cytarabine (D5W)	0.5 mg / ml (0.05 g / 100 ml)	D5W	3 days	24 h	
	1.0 mg / ml (0.1 g / 100 ml)	D5W	3 days	24 h	
Daptomycin	9.0 mg / ml	NS	7 days		
Deferoxamine	100 mg / ml (5 g / 50 ml)	NS	42 days	24 h	24 h
Doxorubicin	0.345 mg / ml	NS		5 days	
	0.670 mg / ml	NS		5 days	
Ertapenem	10 mg / ml (1 g / 100 ml)	NS		12 h	12 h
	20 mg / ml (2 g / 100 ml)	NS		1 h	1 h
Fluconazole	1 mg / ml (0.1 g / 100 ml)	NS		24 h	24 h
	2 mg / ml (0.2 g / 100 ml)	NS		24 h	24 h
Fluoro-uracile	25 mg / ml (2,5 g / 100 ml)	NS	10 days	5 days - 10 days	5 days
	50 mg / ml (5 g / 100 ml)	NS	10 days	5 days - 10 days	5 days
Fluoro-uracile	25 mg / ml (2,5 g / 100 ml)	NS	30 days	30 days	30 days
Fluoro-uracile	25 mg / ml (2,5 g / 100 ml)	D5W	30 days	30 days	30 days
Fluoro-uracile + Sodium Levofolinate	5 mg / ml (5FU) - 2 mg / ml	NS		5 days	
Fluoro-uracile + Sodium Levofolinate	42 mg / ml (5FU) - 8 mg / ml	NS		5 days	
Fluoro-uracile + Sodium Levofolinate	50 mg / ml (5FU) - 8 mg / ml	NS		5 days	
Fosfomicine	2 mg / ml (2 g / 100 ml)	NS		24 h	24 h
	8 mg / ml (8 g / 100 ml)	NS		24 h	24 h
Fosfomicine	30 mg / ml	NS		5 days	
Furosemide	0.2 mg / ml (20 mg / 100 ml)	NS		24 h	24 h
	0.4 mg / ml (40 mg / 100 ml)	NS		24 h	24 h
Gemcitabine	4.5 mg / ml (0.45 g / 100 ml)	NS		24 h	24 h
	9.0 mg / ml (0.9 g / 100 ml)	NS		24 h	24 h
Gentamicine	5 mg / ml (0,5 g / 100 ml)	NS		24 h	24 h
	8 mg / ml (2 g / 240 ml)	NS		24 h	24 h
Glucose Solution	na	-		14 days	14 days
Ifosfamide + Mesna	16.2 + 3.2 g / L	NS	10 days	10 days	
Imipenem + Cilastatine	5 mg / ml (0.5 g + 0.5 g / 100)	NS		1 h	1 h
	8 mg / ml (2 g + 2 g / 240 ml)	NS		1 h	1 h
Ketoprofen	80 mg / ml (4.8 g / 60 ml)	NS		10 days	
Ketorolac	30 mg / ml (1.8 g / 60 ml)	NS		10 days	
Maxipime	20 mg / ml (2 g / 100 ml)	NS		96 h	
Meropenem	20 mg / ml (2 g / 100 ml)	NS		12 h / 4 days	6 h
	25 mg / ml (6 g / 240 ml)	NS		12 h / 4 days	6 h
Meropenem	4 mg / ml	NS	7 days		
Meropenem	10 mg / ml	NS	4 days		

Drug stability table

Medication	Concentration Doses	Diluent	4°C (var <5%)	25°C (var <5%)	32°C (var <5%)
Methylprednisolone	5 mg / ml (0.5 g / 100 ml)	NS		24 h	24 h
	8 mg / ml (2 g / 240 ml)	NS		24 h	24 h
Metoclopramide	0.05 mg / ml (0.5 mg / 100 ml)	NS		48 h	48 h
	0.1 mg / ml (1 mg / 100 ml)	NS		48 h	48 h
Metotrexato	1 g / L	NS	14 days	14 days	
	2 g / L	NS	14 days	14 days	
Morphine	20 mg / ml (1 g / 50 ml)	NS		30 days	
Ondansetron	0.4 mg / ml (4 mg / 100 ml)	NS		24 h	24 h
	0.8 mg / ml (8 mg / 100 ml)	NS		24 h	24 h
Oxacilline	5 mg / ml (0.5 g / 100 ml)	NS		24 h	24 h
	8 mg / ml (2 g / 250 ml)	NS		12 h	12 h
Oxaliplatin	1 mg / ml (0.1 g / 100 ml)	NS	28 days	28 days	
	50 mg / ml (5 g / 1000 ml)	NS	28 days	28 days	
Paclitaxel	0.565 g / L	NS	5 days	5 days	14 days
Pipéracilline	10 mg / ml (1 g / 100 ml)	NS		24 h	24 h
	33 mg / ml (8 g / 240 ml)	NS		24 h	24 h
Pipéracilline + Tazobactam	45 mg / ml (4 g + 0,5 g / 100)	NS		24 h	24 h
	80 mg / ml (16 g + 2 g / 240)	NS		24 h	24 h
Pipéracilline + Tazobactam	4.0 mg / ml + 5 mg / ml	NS	7 days	7 days	
Rifampicine	0.5 mg / ml (0.5 g / 100 ml)	NS		24 h	24 h
	3.0 mg / ml (0.3 g / 100 ml)	NS		6 h	6 h
Ropivacaine	2.0 mg / ml (1.2 g / 60 ml)	NS		10 days	
Saline solution	na	-		14 days	14 days
Tobramycine	1.0 mg / ml (0.1 g / 100 ml)	NS		24 h	24 h
	7.5 mg / ml (0.75 g / 100 ml)	NS		24 h	24 h
Tobramycine	4.0 mg / ml	NS	10 days		
Trabectedin	0.012 mg / ml	NS	24 h	48 h	
Tramadol	50 mg / ml (3 g / 60 ml)	NS		10 days	
Vancomycine	5.0 mg / ml (0.5 g / 100 ml)	NS		24 h	24 h
	8.0 mg / ml (2 g / 240 ml)	NS		24 h	24 h
Vancomycine	4.0 mg / ml	NS	14 days	14 days	

Source references:

1. NHS, « A Standard Protocol, for Deriving and Assessment of Stability» (5th edition, September 2019)
2. Handbook on injectable drugs, 16th edition. By L.A. Trissel 2011.

Stability studies done with Easyflow[®] Elastomeric Infusion Pump of Adriamed (Standard, DFO, R, RC Versions) extendable to the Neopump[®] and Neopump[®] R, trade versions of Easyflow[®] Elastomeric Pumps.