

IV Product Preparation Dilution and Stability Guidelines Memorial Hospital Pharmacy Department

Agent	Size/Diluents	Stability Mixed or Opened Vial	Final Concentration /Diluents	Stability CRT/FRG	Comments
Acetylcysteine I.V. (Mucomyst)	6 g/30 ml SW		See Comments	24 hrs/NA	LD: 150mg/kg in 200 ml IV over 1 hr 2 nd Dose: 50mg/kg in 500 ml IV over 4 hrs. 3 rd Dose: 100mg/kg in 1000 ml IV over 16 hrs. Neb solution is stable for 96 hrs in FRI. PI
Acyclovir (Zovirax)	500 mg/10 ml SW 1000 mg/20 ml SW	12hrs	<= 750 mg in 100 ml > 750 mg in 250 ml In D5W or NS	48 hrs/DNR	May cause precipitation if refrigerated; product will re-solubilize at room temperature without loss of potency. Recommended conc. <7mg/ml. (7-10mg/ml for fluid restriction).TR
Allopurinol (Aloprim)	500 mg/25 ml SW	10 hrs (CRT)	≤ 6 mg/ml in D5W or NS	10 hrs/DNR	Do not refrigerate. Swirl, don't shake. TR
Alteplase(TPA)	50 mg/50 ml SW 100mg/100 ml SW 2mg/2 ml SW	8 hrs(CRT)	1mg/ml in syringe 10 mg in 30 to 60 ml syringe 5-10mg in 500 ml in NS	24 hrs/24 hrs	Frozen syringe is stable for 45 days. USP/TR Cathflo is stable at room temp for 120 days per PI
Amikacin (Amikin)			<=1000 mg in 100ml >1000 mg in 250ml In NS or D5W	48 hrs/14 days	Discoloration may occur due to oxidation without loss of potency. USPL Recommended conc range <10 mg/ml.CP
Aminocaproic Acid (Amicar)			1 g per 50ml In NS or D5W	48 hrs/7 days	More than 30gms over a 24 hrs period not advised. Yellow discoloration occurs after 24 hrs at 23°C without loss of potency. Acceptable conc. ranges 10-45 mg/ml, USPL,TR
Aminophylline (Theophylline)			0-250mg /50 ml 251-500 mg/ 100ml in D5W/NS 1mg/ml D5W/500 ml(PRE-MIX)	48hrs/DNR	Do not refrigerate(risk of crystallization), TR
Amiodarone (Cordarone)			150 mg in 100 ml D5W	48 hrs/5 days	DO NOT USE EVACUATED GLASS CONTAINER. PVC BAG IS STABEL ONLY 2 HRS Use in-line filter. NS can be use but only for 2 mg/ml (Amiodarone precipitation in NS due to salting out has been reported at a lower amiodarone hydrochloride concentration.).CP
			250 mg in 250 ml D5W (1mg/ml)	48 hrs/5 days	
			500mg in 250 ml D5W/NS (2mg/ml)	48 hrs/14 days	
Amphotericin B (Fungizone)	50 mg/10 ml SW(use preservative free)	7 days (4°C) 24 hrs (CRT) if protected from light	<0.1mg/ml(peripheral) <0.25mg/ml(central and fluid restriction)* In D5W	24 hrs/24 hrs	Protect from light. Do Not Mix in NS,TR *Uptodate Use in-line filter(minimum 1 micron),
Amphotericin B liposome(Ambisome)	50mg/12 ml SW(preservative free)	14 days(4°C)	1-2 mg/ml in D5W	24 hrs/9 days	Do not use saline containing fluid. May use in line filter(1 mcgm) per Mfg, TR
Amphotericin B Lipid Complex (Abelcet)			Final con. 0.4-2mg/ml Diluents D5W only	30 hrs/8 days	Intact vials protect from light, keep refrigerate. Use 5-micron filter needle. Do not use in-line filter. PI,TR,USPM

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Ampicillin		4 hrs (4°C)	0.5-1g 50 ml NS 2g 100 ml NS	24 hrs/72 hrs	Do not freeze. Heat sensitive. Use immediately if D5W used as diluent(stable: only 4 hrs), CP
Ampicillin / Sulbactam (Unasyn)		4 hrs (4°C)	1.5g 50ml NS 3g 100mlNS	32 hrs/72 hrs	Do not freeze. Refrigerate immediately Use immediately if D5W used diluent(stable: only 4 hrs),CP
Aprepitant(Eremend)			125mg in 125 ml NS	24 hrs/NA	PI
Argatroban			100 mg in 100 ml(pre-mixed) or 250 mg in 250 ml In NS or D5W	48 hrs/96 hr	Discard solution if cloudy or precipitate. Protect from sunlight. Reduce dose in liver disease. PI
Ascorbic acid(Vitamin C)	500mg/ml(50ml)	9 days(4°C)	1500mg in NS or D5W 100ml	24 hrs	Protect from sunlight , TR, USPM
Azithromycin (Zithromax)			250-500mg/250 ml In D5W or NS	24 hrs/7 days	Do not exceed 2mg/ml,TR
Aztreonam (Azactam)	1g/10 ml SWFI 2g/10 ml SWFI		1g in 10 ml SWFI 2g in 10 ml SWFI	24 hrs	Upon adding diluent, swirl the contents ; may appear colorless to light yellow and slight pink tint on standing. Potency not affected. 1-2g dilute vial with 10 ml SWFI & give slow IVP over 3 min in per hospital protocol. TR
Bivalirudin (Angiomax)			250mg/50ml(5mg/ml) 250mg/250 ml(1mg/ml) In NS or D5W	24 hrs/NA	PI
Brivaracetam (Briviact)	50 mg/5 ml		25-200 mg/ iv push or in 50 ml NS or D5W	4 hrs/NA	BRIVIACT injection should be administered intravenously over 2 to 15 minute, PI
Bumetanide (Bumex)			25mg in 100 ml(no dilution)	30 hrs/9 days	USPM
Caffeine citrate (Cafcit)			150 mg/100 ml of D5W	24 hrs/NA	PI
Calcium gluconate			0-2g In 50-100ml of NS or D5W 93meq/700mL NS	30 hrs/7 days	No stability information in refrigerator data in file, USPM
Cangrelor (Kengreal)			50mg in 250ml NS	24 hrs	12 hrs only if in D5W per PI
Caspofungin (Cancidas)			50 mg/250 ml NS only 70 mg/250 ml NS only	24 hrs/48hrs	Do not filter, Do not use Dextrose , LR can be use as alternative diluents(same stability), PI
Cefazolin (Ancef / Kefzol)	1g/10 ml SWFI 2g/20 ml SWFI		1-2g in 10-20ml SWFI 1-3 g 50-100 ml In D5W or NS	1-2g syringe(24 hrs) 1g piggy bag (48 hrs /14 days) 2-3g piggy bag (30 hrs /9 days)	Upon adding diluent, swirl the contents gently until solution dissolves; 1-2g dilute vial with 10-20 ml SWFI & give slow IVP over 3 min in per hospital protocol. TR
Cefepime (Maxipime)	1g/10 ml SWFI 2g/20 ml SWFI		1 g in 10 ml SWFI 2 g in 20 ml SWFI	24 hrs	Swirl vial contents gently until solution dissolves; reconstituted solution may be translucent to yellow. 1-2g : dilute vial with 10-20 ml SWFI & give slow IVP over 3 min per hospital protocol.TR

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Cefotaxime (Claforan)			0.5-2g 50-100 ml In D5W or NS	24 hrs/5 days	Stable 10 days in refrigerator after thawing.TR
Cefoxitin (Mefoxin)	1g/10 ml SWFI 2g/20 ml SWFI		1 g in 10 ml SWFI 2 g in 20 ml SWFI	24 hrs	Swirl vial contents gently until solution dissolves; reconstituted solution may be translucent to yellow. 1-2g : dilute vial with 10-20 ml SWFI & give slow IVP over 3 min per hospital protocol.TR
Ceftaroline (Teflaro)	600mg/20 ml SW		200-600mg 100 ml In NS or D5W	6 hrs/24 hrs	PI
Ceftazidime (Fortaz)			0.5-2 g 50-100 ml In D5W or NS	24 hrs/14 days	CAUTION: Generates carbon dioxide upon reconstitution. Must vent during preparation. CP
Ceftazidime/Avibactam (Avycaz)	2.5g/10 ml of NS,SW,D5W,LR FV 12 ml Conc 0.20833mg/ml	Use ASAP	2.5g in 50-250ml In NS/D5W/LR	12 hrs/24 hrs+8 hrs	Avycaz dose volume to withdraw from constituted vial 2.5g 12 ml(entire vial) 1.25g 6 ml 0.94g 4.5 ml bags may also be refrigerated at 2 to 8°C for up to 24 hours; and then should be used within 12 hours of subsequent storage at room temperature. PI
Ceftolozane/tazobactam (Zerbaxa)	1.5g/10 ml SW FV 11.4ml Conc 131.57mg/ml	1 hrs	1.5-3g 100ml In D5W or NS	24 hrs/7 days	Per PI
Ceftriaxone (Rocephin)	1g/10 ml SWFI 2g/20 ml SWFI		1g in 10 ml SWFI 2g in 20 ml SWFI	24 hrs	Swirl vial contents gently until solution dissolves; reconstituted solution may be translucent to yellow. 1-2g : dilute vial with 10-20 ml SWFI & give slow IVP over 3 min per hospital protocol.TR
Cefuroxime (Zinacef)			0.75-1.5g 50-100 ml In D5W or NS	48 hrs/14 days	Solution may darken, does not affect potency. USPL/CP
Chlorothiazide(Diuril)	500mg/20 ml SW		500mg/20 ml or 250mg/10 ml In SW	30 hrs/9 days	Data in file, USPM
Chlorpromazine(Thoazine)	25mg/ml		25-50 mg/50ml NS	48 hrs/48 hrs	USPL,CP
Ciprofloxacin			200/400 mg premixed in 100/200 ml D5W	2 days/14 days	Maximum conc. = 2 mg/ml, NS can be used as diluents(same stability).Protect vial from light. USPL, PI Stable after remove overwrap for 14 days/100 ml,30 days/200 ml
Cisatracurium (Nimbex)			0.1-5 mg/ml in D5W or NS	30 hrs/9 days	Medium risk/CP
Clindamycin (Cleocin)			300-900mg/50-100 ml In D5W or NS	2 days/DNR	Crystallization may occur upon refrigeration of vial. Crystals re-solubilize upon warming to room temperature, USPL/CP
Colistimethate sodium (Colistin)	150mg/2 ml SW	48 hrs(CRT) 7 days(4°C)	2.5-5 mg/kg/day in NS or SW 50 ml	24hrs/24 hrs	direct I.V. injection over 3-5 minutes, intermittent infusion over 30 minutes. 150 mg in NS4-8 ml for neb.(SW is not recommended for neb per MedWatch). CP

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Copper chloride	0.4mg/ml(10 ml)		Usually 0.5-1.5mg/ In NS 100 ml	Use immediately	the suggested additive dosage is 0.5 to 1.5 mg copper/day (1.25 to 3.75 mL/day. No stabilities data available.
Co-Trimoxazole (Sulfamethoxazole- Trimethoprim) (Bactrim / Septra)			< 1.07mg/ml as TMP in D5W Do not use NS	2hr when 5ml added to 75ml D5W 4hr when 5ml added to 100ml D5W 6hr when 5ml added to 125ml D5W	Mix immediately prior to use if possible. DO NOT REFRIGERATE. Do NOT use if cloudy or crystallized. Do not use glass bottle if conc > 0.8mg/ml as TMP,CP/TR
Cyclosporine (Sandimmune IV)			0.2-2.5 mg/ml In D5W/NS use VisIV/glass BT	24 hrs/24 hrs	Use of containers and tubing that does not contain DEHP Use 0.45-micron polypropylene filter.CP
Daptomycin (Cubicin)	250mg/5ml NS 500mg/10ml NS	12 hrs (CRT) 48 hrs (4°C)	0-1g/50 ml In NS	30 hrs/7 days	No dextrose. <u>Eur J Hosp Pharm.</u> 2018 Mar; 25(2): 107–110. Study was done in polypropylene bag(non-DHEA bag)
Daptomycin (Cubicin RF)	250mg/5ml SW 500mg/10ml SW	24 hrs (CRT) 72 hrs (4°C)	0-1g/50 ml In NS	19 hrs/72 hrs	Not available in memorial. No dextrose. Un-opened vial is stable for 1 years in room temp.
Deferoxamine (Desferal)		24 hrs(CRT)	5-73mg/ml In NS(preferred) D5W(see comment)	48 hrs/14 days	Max Rate = 15mg/kg/hr (dry weight). OK to use D5W as diluents but no data for REFRIGERATE. STABLE 48 HR IN CRT CP
Desmopressin (DDAVP)			5-20 mcg in NS 50 ml	use immediately	Mix and use immediately. IV dose has 10 times diuretic effect of intranasal DDAVP
Dexamethasone			0-10 mg IVP 11-80 mg in 50 ml in NS	48 hrs/14 days	Protect from freezing and light. D5W can be used as alternative diluents but less stability data.CP
Dexmedetomidine (Precedex)			Standard drip = 400 mcg in 100 ml NS (4 mcg/ml) Max conc 20 mcg/ml	48 hrs/14 days (4 mcg/ml NS only) 48 hrs/NA (5-20mcg/ml)	Mfg recommends NS as diluents but stable in D5W per PI. OK to make upto 20 mcg/ml NS but stability is only 48 hrs in CRT.CP
Dialysate with Calcium gluconate			Usual conc 2.5 to 5 meq/L	48 hrs/14days	If seal is opened between compartment, use within 24 hrs.
Diltiazem (Cardiazem)			Standard drip=100mg/100ml or 125mg/125ml in NS/ D5W	48 hrs/14 days	USPL,CP
Dobutamine			Standard drip = 250 mg in D5W 250 ml (1mg/ml) Max conc.=5mg/ml	48 hrs/ 14 days	Premixed by Abbott stable 14 days after over wrap removed NS can be used as diluents (stability 24 hrs.) CP
Dopamine			Standard drip = 800 mg in D5W 500 ml(1.6mg/ml) Max conc. = 3.2mg/ml	48 hrs/ 7 days	Premix by Abbott stable 7 days after over wrap removed NS can be used as diluents (stability 48 hrs.) CP

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Dornase (Pulmozyme)			5 mg in 30 ml SW per syringe		Mfg does not recommend mix with other drug per PI. Use ASAP after mixing with other med
Doripenem (Doribax)	500 mg/10 ml In SW or NS	1 hr	0.5-1g 100 ml in NS	12 hrs/72 hrs	Stable 4/48 hrs. In D5W.CP
Doxycycline (Vibramycin)	100 mg/10 ml in SW	Discard unused portion	100 mg/100 ml 200 mg/250 ml In D5W/NS	48 hrs/7 days	USPL.CP
Epinephrine			Standard drip = 2 mg in D5W 250 ml (8 mcg/ml) Max conc.= 64mcg/ml	24 hrs/48 hrs	NS can be used as diluent (stability 24 hrs.),CP
Ertapenem (Invanz)	1 gm/10 ml SW or NS	Use immediately	0-1g/ 50 ml NS not D5W	6 hrs/24 hrs	Use within 4 hrs of removal from refrigeration. PI
Erythromycin	500 mg/10 ml SW 1 gm/20 ml SW	14 days(4°C) 24hrs (CRT)	0-500 mg/100 ml 501-1000 mg/250 ml NS IVPB not D5W	24 hrs/14 days	Reconstitute only with preservative-free water.CP
Esmolol (Brevibloc)			Standard drip = 2500 mg/ 250 ml NS (10 mg/ml)	Mfr. Exp. Date	Use within 24 hrs. after open overwrap. No long term stability data per Mfg
Esomeprazole (Nexium)	40 mg/ 5ml NS	12 hrs (CRT)	Standard drip = 40 mg/50 ml NS or D5W (0.8 mg/ml)	48 hrs/120 hrs	Mfg informs 12 hrs. stability per PI but stable over 48/120 hrs. per TR
Fenoldopam (Corlopan)			Standard drip = 10 mg/250 ml NS or D5W (40mcg/ml) Max conc. 160 mg/ml	48 hrs/72 hrs	Dosing range: 0.1-1.6 mcg/kg/hr, protected from light USPL/CP
Fomepizole (Antizol)			1g in 100 -250 ml NS or D5W	24 hrs/24 hrs	Per PI
Fentanyl			PCA 1500mcg/30ml (50mcg/ml) Drip 2500mcg/ 250 ml in NS (10mcg/ml)	PCA or Drip 48 hrs/14 days	D5W can be used as diluents but less stability data USPL/CP
Ferric gluconate complex (Ferrlect)			125-250 MG/100 ml NS	24 hrs/7 days	DO NOT USE DEXTROSE reference in file
Fluconazole (Diflucan)			2mg/ml in NS(pre-mixed)	48 hrs/14 days	USPL/CP Premixed by Hospira stable 30 days after over wrap removed
Folic acid			1mg/0.2 ml syringe	30 hrs/9 days	USPM
Fosaprepitant (Emmend)	150 mg	5 ml NS	150mg/150 ml NS	24/24	PI
Fosphenytoin (Cerebryx)		Stable for 48hrs in CRT	500-1000 mgPE/50 ml In NS or D5W	48 hrs/14 days	USPL/CP
Furosemide			100 mg/100 ml In NS	30 hrs/ 9 days	Keep from light, refrigeration may cause precipitin which dose not influence effect. D5W can be used as diluents(24 hrs), USPM/TR
Ganciclovir	500 mg/10 ml SWPF	12 hrs in (CRT) DNR*	Max conc. 10mg/ml In D5W or NS	48 hrs/14 days	*Possibility of precipitation/CP

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Gentamicin			All doses in 100 ml In NS or D5W	30 hrs/ 9 days	USPM/CP Premixed by Hopira stable 30 days after over wrap removed
Glucagon	1mg/1 ml of SW		10 mg/100ml in D5W	Use immediately	USE IMMEDIATELY (Mfg dose not recommended IV infusion: no stability data)
Heparin			50-100 units/ml In D5W or NS	48 hrs/14 days	USPL/CP
Hydrocortisone (Solu-Cortef)		3 days(CRT)*	200mg in NS250 ml	30 hrs/9 days	2-60 mg/ml conc. Is stable only for 4 hrs, Ok with D5W but less stable data(use with 24 hrs) CP
Heme			313 mg in 43 ml of SW	USE IMMEDIATELY	Infuse over 10 to 15 minutes using a 0.45 micron or smaller filter. Administer through a large vein or central line to prevent phlebitis
Hydromorphone			1mg/ml or 10 mg/ml In NS/D5W	30 hrs/9 days	USPM/CP
Ibuprofen			2- 4mg/ml in NS or D5w	24 hrs in CRT	PI
Insulin(regular)			250 units/250 ml of NS	48 hrs/14 days	Diabetes Metab Syndr Obes. 2013; 6: 389–392.
Iron Sucrose (Venofer)			1-2 mg/ml in NS	48 hrs/ 7 days	Do Not Mix in D5W, PI
Iron Dextran (InFeD/Dexferrum)			Total dose infusion in NS 250-500 ml (unlabeled use) Daily dose in NS 100 ml	Use immediately	Dextrose results in a greater incidence of pain and phlebitis Mfr does not have any stability data→ use immediately
Isoproterenol(Isuprel)	1mg/5ml		Standard drip 1mg/250 ml in D5W (Max conc : 5mg/250ml)	48 hrs/10 days	NS can be used as diluents(24 hrs) Need to protect from light Reference in file, USPL
ketamine	50mg/ml 10 ml vial 30mg/3 ml syringe		0.2-2mg/ml in NS or D5W	30 hrs/9 days (in NS)	Stable in D5W but there is no duration information.CP
Labetalol (Normodyne/Trandate)			Standard drip = 300 mg/240 ml (1 mg/ml) In D5W Max conc. 3.75 mg/ml	48 hrs/72 hrs	NS can be alternative diluent but stable only 24hrs/24hrs To make max conc.:375mg(75 ml)+25 ml of D5W→100ml(final volume) USPL,CP
Lacosamide(Vimpat)			0-400mg in NS/D5W 50 ml	4 hrs/NA	PI
Leucovorin	10-20mg/ml in SW	see comment*	0-20mg/ml in NS or D5W	30 hrs/4 days	*Use immediately if mixed in preservative free water but is stable for 7 days in bacteriostatic water at CRT per Mfg. USPM
Levofloxacin (Levaquin)			250mg/50 ml 500mg/100 ml 750 mg/150ml	48 hrs/6* or 14** days	Premixed stable 7 days(500 or 750 mg), 6 days(250 mg) after over wrap removed, USPL(*w/o light protection,**need light protection)
Levetiracetam (Keppra)			0.5-1.5g in 100ml NS	30 hrs/ 9 days	premixed Keppra bag(NS) is available. 24 hrs in D5W per PI
Lidocaine			2 gm/500 ml NS Premix Upto 200mg/100ml NS/D5W	48 hrs /14 days	If mixed in out of IV room, use within 12 hrs.CP

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Lorazepam(Ativan)		60 days(CRT)	50mg in D5W in 250ml (conc 0.2mg/ml)	24 hrs/DNR	Use VISIV bag or glass container. CP DO NOT CHAGE CONCENTRATION
Magnesium sulfate			Recommended Conc.<3.7g/100ml in NS or D5W	48 hrs/14 days	Max infusion rate is 150 mg/min. USPL/CP Premixed by Hospira stable 30 days after over wrap removed
Meropenem (Merrem)	500mg/10ml SWFI 1gm/20ml SWFI	12 hrs(4°C) 2 hrs (CRT)	500mg in 10 ml SWFI 1-2g 100ml NS	1-2g/NS100ml (4 hrs/24 hrs)	Swirl vial contents gently until dissolves; clear color Dilute 0.5 g vial with 10 ml SWFI & give slow IVP over 3 min per protocol DO NOT USE D5W FOR 3 HRS INFUSION (Stable only 1 hr)CP
Methocarbamol			<=750mg/50 ml 751-1500 mg/100 ml in D5W or NS (Max conc:15mg/ml)	48 hrs/DNR	Do not refrigerate after dilution. May also be administered undiluted IF dose < 500 mg. USPL/CP
Methylprednisolone (Solu-Medrol)			251-1000mg in 50 ml > 1000 mg in 100 ml In NS	48 hrs /48 hrs	0-250 mg IV push, over 250mg IVPB D5W can be alternative diluents but less stable(8 hrs in CRT)CP
Methyldopate			250-500 mg in 50 ml 501-1000 mg in 100 ml D5W or NS	24 hrs/24 hrs	Administer over 30-60 minutes CP
Metoclopramide (Reglan)			11-20 mg in 50ml In D5W or NS	24 hrs/24 hrs	CP
Metronidazole (Flagyl)			250 mg/50 ml 500mg/100 ml in NS (Conc:5mg/ml)	48 hrs/DNR	Refrigeration may result in crystal formation but may re-dissolve on warming to CRT. USPL Premixed by Hospira stable 30 days after over wrap removed
Micafungin (Mycaminne)		24 hrs(CRT)	50-150 mg/100ml In NS or D5W	48 hrs/ 10 days	Protect from light (stable only for 12 hrs under light). Flush line with saline pre-dose. DO NOT SHAKE (Gently swirl to dissolve) PI, data in file
Midazolam (Versed)			100mg/100ml In NS or D5w (Max 3 mg/ml)	30 hrs/9 days	USPM, CP
Milrinone (Primacor)			Standard drip = 20 mg in 100 ml D5W(0.2mg/ml) Max conc. 0.4mg/ml	48 hrs/14 days	NS can be alternative diluent (same stability) Stable 30 days after removed from overwrap. USPL/CP
Minocycline	100mg/5ml SW		100-200 mg/100-1000 ml In D5W or NS	4hrs/24 hrs	PI
Morphine			Standard drip = 100 mg in 100 ml NS/D5W	30 hrs/9 days	USPM/CP
Multivitamins (M.V.I Adult)	Mix contents of Vial 1 and Vial 2	24 hrs (4°C)	Dilute in at least 500ml, preferably in 1L NS, D5W	24 hrs/24 hrs	Store in refrigerator, protect from light, PI
Mycophenolate (Cellcept)	500 mg vial		1-6 mg/ml in D5W	30 hrs/7 days	Infuse over at least 2 hours – Never administer by rapid or bolus IV inj. Incompatible with other solutions (only D5W), CP

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Nafcillin Sodium			2g/50-100 ml or 10-12g /250-500 ml In D5w	30 hrs/9 days	USPM/CP D5W is prefer due to Na content
Naloxone(Narcan)			Standard drip=4mg/250 ml in NS Max conc 133 mcg/ml	24 hrs/24 hrs	CP. Am J Health-Syst Pharm: 1998. 55: 2630-4.
Neostigmine			0.5-2 mg/syringe	48 hrs/14 days	0.5 to 2 mg slow IV injection. Repeat as required; the total dose rarely should exceed 5 mg. USPL
Nicardipine (Cardene)			0.1mg/ml, 0.2mg/ml in D5W(pre-mixed) Max conc. = 0.5mg/ml	48 hrs/ 7 days	Also, compatible w/ NS, (Protect from light), USPL, CP (max conc is central line only) Premixed stable 7 days after open cardboard carton
Nitroglycerin			100-400 mcg/ml in D5W or NS	48 hrs/14 days	Do not use PVC container , TR#1156-1157, USPL 100 mcg/ml 20cc in syringe is stable for 9 days per USPM
Nitroprusside (Nipride)			0.2-0.4mg/ml in D5W or NS	48 hrs/NA	Protect from light. Dilute with preservative free SWFI, D5W, NS Mfg does not recommended NS as diluents but NS still can be alternative diluents, 0.8mg/ml is stable for 24 hrs only.USPL CP
Norepinephrine (Levophed)			Standard drip = 4mg in 250 ml D5W/NS Max conc. 64 mcg/ml	30 hrs/ 9 days	USPM/CP
Octreotide (Sandostatin)		14 days in CRT	500 mcg/250 ml in NS(2 mcg/ml) Max conc 250 mcg/ml	48 hrs/NA	D5W is stable for 24 hrs CP
Ondansetron (Zofran)			9-16 mg/50 ml in NS or D5W	48 hrs/14 days	*USPL/CP Premixed by Hospira stable 30 days after over wrap removed
Oritavancin (Orbactiv)	400 mg/40 ml SW		1200 mg/1000 ml D5W (final volume is 1000 ml)	6 hrs/12 hrs	No not use NS. Need to remove 120 ml from bag to make 1.2 mg/ml
Oxacillin			1-2 g/100 ml 12g/500 ml in NS or D5W	30 hrs/7 days	PI/CP
Pamidronate	30 mg /10 ml SW 90 mg /10 ml SW	24 hr (4°C)	30-90 mg dose in 250-1000 ml D5W	48 hrs/14 days	Do not mix with calcium containing solutions, including D5LR or LR NS can be use diluents but stable only 24 hrs . CP, USPL
Pantoprazole (Protonix)			200 mg in NS or D5W 250-500 ml	30 hrs/9 days	Does not require filtration. USPM/CP
Penicillin G (Potassium) (Sodium)	5 MU/ 8.2 ml SW 20 MU/ 33 ml SW (0.5 MU/ML)	7 days (4°C)	2-4 MU/50 ml 4.1-8 MU/100 ml >8.1 MU/250-500 ml in D5W	24 hrs/ 7 days	(1.7mEq K+/ MU Potassium) (2 mEq Na+/MU Sodium) NS can be used as diluent but higher content of Na/CP
Phenylephrine (Neo-synephrine)			Standard drip = 10 mg in 250 ml NS/D5W(40 mcg/ml) Conc. range 40-200 mcg/ml	48 hrs/48 hrs	USPL/CP
Phenytoin (Dilantin)			101-250mg in 50ml 251-500mg in100ml	2 hrs/NA	Mix immediately prior to use. Administer with 0.22 micron filter. Do not use Dextrose, Do not refrigerate. CP

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Agent	Size/Diluents	Stability Mixed or Opened Vial	Final Concentration /Diluents	Stability CRT/FRG	Comments
			501-1000mg in 250ml NS		
Phytonadione(Vit K) (Aqua-Mephyton)			1-20 mg/50ml in D5W or NS	24 hrs/24 hrs	Protect from light. CP
Potassium chloride			1-40 meq/100-1000 ml in D5W or NS	48 hrs/14 days	Premixed by Hospira stable 30 days after over wrap removed USPL/CP
Potassium phosphate			1-20 mM/100 or 250 ml 21-40 mM/250 or 500 ml in NS or D5W	48 hrs/48 hrs	Do not use with LR CP
Piperacillin /Tazobactam (Zosyn)	2.25gm/10ml SW 3.375 m/15 ml SW 4.5 gm/20ml SW	24 hrs(CRT) 48 hrs(4°C)	2.25-4.5g In 50-100ml NS or D5W	48 hrs/14 days	Stable 14 days in refrigerator after thawing. CP, USPL
Procainamide			4mg/ml in NS only	24 hrs/24 hrs	CP
Prochlorperazine (compazine)			11-40mg in NS or D5W (50-1000 ml)	24 hrs/24 hrs	Protect from light. May give IV slow push if less than 10 mg CP
Quinupristin/Dalfo- pristin(Synercid)	500 mg/ 5ml in SW or D5W	30 min (4. 4°C)	250ml D5W IVPB desired conc.: 2mg/ml	5 hrs/54 hrs	Incompatible with NS. Send each dose with D5W 50 ml flush bag. PI
Remdesivir	100 mg/19 ml SW	4hrs/24hrs	100-200 mg/250 ml NS	24 hrs/48 hrs	PI
Rifampin (Rifadin)	600mg/10ml SWFI	24hrs (CRT)	0-600mg in 100-500 ml	4 hrs/NA in D5W 24 hrs/NA in NS	Protect from light/heat 100 ml infuse over 30 min or 500 ml infuse over 3 hrs per PI
Rocronium (Zemuron)		60 days(CRT)	1-5 mg/ml in NS or D5W	24 hrs/NA	LD 0.6-1.2mg/kg MD 8-12mcg/kg/min per PI
Sodium Bicarbonate			1) 50 meq/L 2) 51-150 meq/L 3) 182 meq/ 1182ml (conc:154 meq/ml) IN SW/D5W (standard infusion)	1)48 hrs/7 days 2-3)30 hrs/7 days	NS is stable for 24 hrs Data in file, USPM
Sodium Phosphate			1-20 mM/100 or 250 ml 21-40 mM/250 or 500 ml in NS or D5W	24 hrs/24 hrs	Do not use with LR CP
Thiamine			100-300mg/50ml In D5W or NS	24 hrs/24 hrs	CP
Tigecycline (Tygacil)	5.3 ml of NS or D5W	6 hrs(CRT)	50-100mg in 100ML NS or D5W	24 hrs/48 hrs	Max Conc.= 1 mg/ml PI
Tobramycin		4 days(4°C) 24 hours(CRT)	All doses in 100 ml NS or D5W	30 hrs/9 days	USPM/CP Premixed by Hospira stable 30 days after over wrap removed

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Agent	Size/Diluents	Stability Mixed or Opened Vial	Final Concentration /Diluents	Stability CRT/FRG	Comments
Tranexamic acid	1g/10ml		All dose in NS 100 ml	30 hrs/9 days	Int J Pharm Compd. Sep-Oct 2014;18(5):432-7. USPM 24 hrs stability in D5W
Vabomere (meropenem/vabobactam)	2g vial(1+1g)/ In 20ml NS(TV 21.3ml)	Immediately further dilute	Conc range 4-16mg/ml in NS (fluid volume range 70-1000ml)	4 hrs/22 hrs	VABOMERE solution for administration by 3-hour infusion is only compatible with 0.9% NS, USP.
Valproate Sodium (Depacon)			0-1g in 50 ml/>1g in 100ml D5W or NS	2 days/NA	Maximum infusion rate = 20 mg/min USPL/CP
Vancomycin (Vancocin)	1 gm/20 ml SW	9 days (4°C)	<5 mg/ml D5W/NS IVPB	30 hrs/9 days	Compounded oral vancomycin liquid is stable for 75 days in FRI USPM,TR#1550, date in file
Vasopressin (Pitressin)			20 units in 50 ml D5W or NS (0.4units/ml)	18 hrs/24hrs	Clinical Pharmacology
Vecuronium (Norcuron)	10mg/10ml SW	24hrs SW(4°C)	Standard drip: 50mg/500ml in D5W/NS (Conc. 1 mg/ml)	24 hrs/ 24 hrs	Compatible with D5W, NS,LR PI,
Voriconazole (VFEND I.V.)	200 mg/19 ml SW	24 hr (4°C)	Further dilution in D5W or NS to 0.5-5 mg/ml is required	30 hrs/ 9 days	Vial contains vacuum to ease reconstitution process. CP, USPM
Zoledronic Acid (Zometa/Reclast)	4mg/5 ml for Zometa 5mg/6.25 ml for Reclast	9 days(4°C) (for Reclast)	Further dilute in D5W/NS 100 ml for infusion	30 hrs/9 days(Zometa) Use immediately (Reclast)	Do not mix with calcium containing solutions such as D5LR or LR. PI

AddEase Binary Connector with PAB container is stable 70 days and AddEase Binary Connector with EXCEL container is stable for 30 days in room temperature per manufacturer.
ADD-Vantage ADDaptor Connector 72 hrs per manufacturer

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