

RHS Pharmacy Overfill/Drug Volume Handling Procedure for Compounded Sterile Preparation

1. Withdraw Drug Volume AND Overfill Volume: A volume of the base solution equal to the sum of the medication's volume, and the standard overfill volume is withdrawn from the manufacturer's container. The drug is then added to the remaining volume in the manufacturer's container. Refer to the table for the standard overfill volume per base solution container.

- All CII Narcotic Epidurals (250 mL) : Fentanyl 2mcg/Maraine 0.125% 250 mL, Fentanyl 5mcg/Maraine 0.075% 250 mL and etc.
- All CII Narcotic PCAs (100 mL) : Fentanyl 10mcg/mL 100 mL, Hydromorphone 0.2mg/mL 100 mL.
- All CII Narcotic PCAs (150 mL) : Morphine 1mg/mL 150 mL, Hydromorphone High dose 1mg/mL 150 mL, Fentanyl High dose 50mcg/mL 150 mL, Morphine High dose 5mg/mL 150 mL.

Manufacturer's Overfill Volume per Container Size.

Manufacturer IV Fluid Volume	Total Volume Range*	Standard Overfill Volume to be withdrawn
100 mL NS bag	105-115 mL	5 mL
150 mL NS bag	160-175 mL	10 mL
250 mL NS bag	260-280 mL	10 mL

*Based on manufacturer allowable overfill chart and RRMC sampling measurement. **The manufacturer's allowable overfill should be reviewed regularly.**

2. Withdraw Drug Volume Only: A volume of the base solution equal to the volume of the medication is withdrawn from the manufacturer's container, without concern for overfill. The medication is then added to the remaining volume in the container.

- Concentration Based Drip : Precedex 400mcg/100 mL, Phenylephrine 20mg/250 mL, Nicardipine 50mg/250 mL, Norepinephrine 8mg/250 mL , Diltiazem 50mg/50 mL, Furosemide 100mg/100 mL, Vasopressin 20unit/100 mL, Labetalol 300mg/300 mL, Midazolam 100mg/100 mL, Lorazepam 100mg/100 mL and etc.
- Manufacturer-specific compounding instruction admixture: Acetylcysteine, Rituximab, Abatacept, Golimumab, Aprepitant, etc.
- Continuous infusion medications where added drug volume is greater than 10% of base solution volume : Sodium Bicarbonate 150meq/1000 mL, etc.

3. Adding to a commercial container (no withdrawal prior to admixture): The medication is added to a manufacturer's base solution container without concern for overfill or drug volume. This is typically used for the intermittent infusion where the entire bag is intended to be infused to a single patient over a short time (e.g.,30-60 minutes).

- Intermittent Infusion: Keppra 750mg/100 mL, Calcium Gluconate 1g/50 mL, Potassium phosphate 30mmol/250 mL, Cefazolin 3g/100 mL, Daptomycin, Vancomycin, most antibiotics bags, etc.

Appendix: *Manufacturer allowable overfill chart and RRMC sampling measurement.

1. RRMC sampling of Manufacturer's Container :

- **Hospira 0.9% Sodium Chloride 150 ml bag Volume with Overfill**

Lot#/Exp date	Description	Bag #1	Bag #2	Bag #3	Average (mL)
Lot #1: 94-028-JT	Actual volume(mL)	170	170	169	169.7
Exp: 10-1-2020	Overfill measured(mL)	20	20	19	19.7
Lot #2: 03-058-JT	Actual volume(ml)	170	171	170	170.3
Exp: 3-1-2021	Overfill measured(ml)	20	21	20	20.3
Lot #3: 92-072-JT	Actual volume(mL)	170	169	170	169.7
Exp: 8-1-2020	Overfill measured(mL)	20	19	20	19.7
Lot #4: 01-077-JT	Actual volume(mL)	170	170	171	170.3
Exp: 1-1-2021	Overfill measured(mL)	20	20	21	20.3
Lot #5: 89-100-JT	Actual volume(mL)	169	168	171	169.3
Exp: 5-1-2020	Overfill measured(mL)	19	18	21	19.3

- **Baxter 0.9% Sodium Chloride 250 mL bag Volume with Overfill**

Lot#/Exp date	Description	Bag #1	Bag #2	Bag #3	Average (mL)
Lot #1: Y306373	Actual volume(mL)	265	270	275	270
Exp: 11-30-2020	Overfill measured(mL)	15	20	25	20
Lot #2: Y308627	Actual volume(mL)	260	265	270	265
Exp: 11-30-2020	Overfill measured(mL)	10	15	20	15

2. Manufacturer Allowable Overfill Chart (2019.03.05 email from manufacturer):

B.Braun			
Product		Excel IV Container	
Container Size	Nominal Fill Volume	Lower Limit (mL)	Upper Limit (mL)
250 mL	270 mL	-7 mL	+6 mL
500 mL	532 mL	-9	+18
1000 mL	1058 mL	-15	+30
Product		E3 IV Container	
Container Size	Nominal Fill Volume	Lower Limit (mL)	Upper Limit (mL)
1000 mL	1027 mL	1022 mL	1032
Product		PAB IV Container	
Fill Volume (mL)	Overfill Specification	Range (mL)	
25 mL fill	29.5 mL	± 4 mL (25.5 - 33.5 mL)	
50 mL fill	57	± 4 mL (53 - 61 mL)	
100 mL fill	109	± 4 mL (105 - 113 mL)	

Baxter	
Product	Baxter Solution
Container Labeled Volume (mL)	Fill Volume Range (mL)
25 mL	28-34 mL (12% - 36%)
50	53-63 (6% - 26%)
100	105-115 (5% - 15%)
150	160-175 (6.7% - 16.7%)
250	265-285 (6% - 14%)
500	530-565
1000	1030-1070

2000	2055-2105
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Fresenius Kabi		
Product		0.9 % Sodium Chloride in Freeflex Bag
Bag Size	Minimum Fill	Maximum Fill
50 mL	57 mL	64 mL
100 mL	108 mL	121 mL
250 mL	260 mL	272 mL
500 mL	519 mL	535 mL
1000 mL	1023 mL	1041 mL
Product		5% Dextrose in Freeflex Bag
Bag Size	Target Fill	Fill Range
100 mL	114.5 mL	108-121 mL
250 mL	270 mL	264-277 mL
500 mL	529 mL	522-535 mL
1000 mL	1,030 mL	1,024-1,035 mL

Pfizer (Hospira); www.pfizerinjectables.com
Per representative, "No data on overfill, but we ensure sufficient overfill to allow delivery of required amount."

Contact information: Baxter: 1 800 933 0303; B.Braun: 1 800 523 9676; Fresenius Kabi: 1 800 551 7176; Pfizer (Hospira): 1 800 438 1985

Per email, manufacturer Allowable Overfill Chart: Hospira Bag Overfill from ICU Medical Communication on December 12, 2019.

Product 7984-37	Target Fill	Fill Range
0.9% Sodium Chloride Injection USP 100ml bag	107 mL	103 to 113 mL