

Preparation of platelet additive solution (M-sol)

(Modified SOP at Hokkaido Red Cross Blood Center, Sapporo, Japan)

SOP for M-sol preparation (using bacteria barrier filter integrated bag)

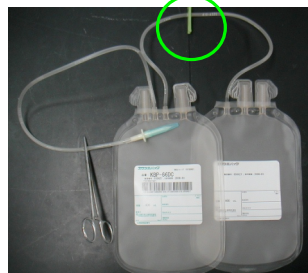
1. Reagents and materials



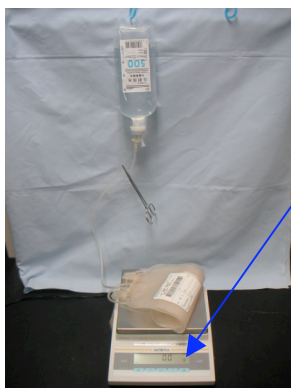
a. Double distilled water for injection (DDW)	1 bottle	f. 300mL single bag (with plastic needle)	1bag
b. Solacet F (acetate Ringer's sol.)	1bag	g. 600mL double bag (600mL connected bag with plastic needle)	1bag
c. Meylon (7% sodium bicarbonate sol.)	1bag	h. Bacteria barrier filter integrated bag	1bag
d. ACD-A solution	1bag	i. 20mL syringe set (attached with needle)	1set
e. 20mEq $MgSO_4$ solution (20mL)	1vial	j. connector (adaptor)	1piece
		Tab for blood outlet of the bag	1piece

2. Preparation of Unit-A (Using 600mL double bag)

- ① Clamp the tube between the connected bags with a tube clamp (as shown in green circle).



- ② Pour 460mL of DDW into the mother bag*



*An air needle may help DDW get into the mother bag easier.

Put both empty bags on a digital scale and press the tare button. Transfer 460g of DDW into the bag. After transfer, seal and cut off the tube with the plastic needle.

- ③ Attach a connector to the mother bag.



- ④ Aspirate all $MgSO_4$ solution into the syringe.



- ⑤ Inject $MgSO_4$ solution into the mother bag through the connector.



Spike the syringe needle into the connector, and inject all the contents.

Disconnect the syringe and mix well.

- ⑥ Transfer 50g of the solution from the mother bag to the satellite bag.



Put the empty satellite bag on a digital scale and press the tare button.

Transfer 50g of the solution from the mother bag to the satellite bag.

Then, seal the tube and separate the mother bag.

Unit-A



Preparation of Unit-A.

3. Preparation of Unit-B (Using 300mL single bag)

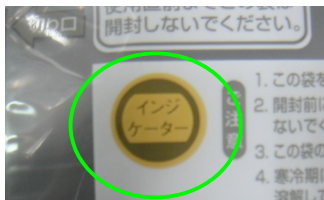
- ① Pour 85g of ACD-A solution into the single bag.



Put empty bag on a digital scale and press tare button. Transfer 85g of the ACD-A solution into the bag.

(Do not seal the tube and cut off the plastic needle)

- ② Check the color of the indicator on the package of Meylon, first, and take the bag out.



The indicator should be yellow.

- ② Spike and transfer 35g of Meylon into the bag.



Pull out the plastic needle of the 300mL bag from the ACD-A solution, and spike it into the Meylon bag.*

*ACD-A bag may be stopped up by tab to prevent leakage.



Put the bag on a digital scale and press the tare button. Then pour 35g of Meylon into the bag.

Do not seal the tube or cut off the plastic needle. Then, stir gently.

(Do not stir vigorously, because it generates CO₂, leading to increase pH!)

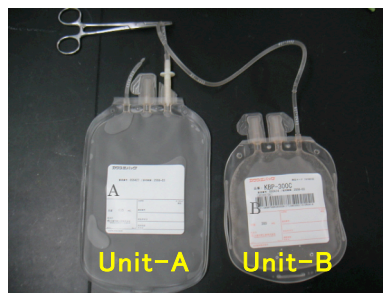
Unit-B



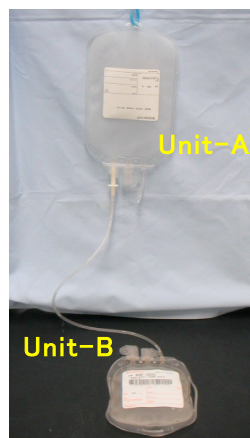
Preparation of Unit-B.

4. Final preparation step

- ① Spike the plastic needle of Unit-B into Unit-A.

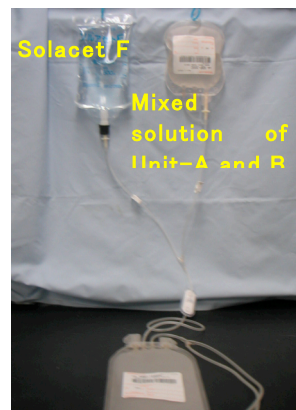


- ② Transfer all contents from Unit-A into Unit-B.



After transfer, seal and cut off the tube.

- ③ Connect the mixed solution prepared in step② and SolacetF with a bacteria barrier filter integrated bag by spiking plastic needles into them.



When the solution is fully transferred into a bag through bacteria barrier filter, seal the tube distal to the filter and cut off the SolacetF and mixed solution bag.

(Longer tube may ease the preparation)

Stir the solution well

but gently.

M-sol



M-sol should be used soon after it is prepared.

* The volume requirement of M-sol is more than 250mL (250g not including bag weight)

Finally, it is desirable to confirm that the pH is neutral (6.4–7.1).

5. M-sol can be stored if it is vacuum-packed in an aluminum envelope.

Put the M-sol bag into aluminum package and vacuum-pack.



Filter-sterilized M-sol

Vacuum-packed M-sol



M-sol can be stored up to one year at room temperature after being vacuum-packed.