

How to Make 7.1% Chlorhexidine Digluconate from 20% Chlorhexidine Digluconate

A solution of 7.1% chlorhexidine digluconate is a topical medicine for umbilical cord care. Health care institutions should source the product from pharmaceutical companies that comply with applicable industry regulations, manufacturing standards, and local regulations. Health care institutions that are not able to access 7.1% chlorhexidine digluconate and are able to regularly source 20% chlorhexidine digluconate and purified water from quality manufacturers may consider diluting 20% chlorhexidine digluconate at pharmacies for use within 24 hours at health care institutions. Instructions on how to dilute are noted below.

Materials Required:

- 20% chlorhexidine digluconate solution*
- Purified water*
- 100-ml and 10-ml graduated cylinders
- 1,000-ml volumetric flask
- 1,000-ml plastic or glass bottle/container
- Label
- Pen

**It is recommended that 20% chlorhexidine digluconate solution and purified water comply with monographs of the United States Pharmacopeia or other equivalent international pharmacopeia.*

Table 1.

20% chlorhexidine digluconate required to make different volumes of the finished solution

Volume of the finished solution (7.1% chlorhexidine digluconate)	20% chlorhexidine digluconate	Purified water
1,000 ml	355 ml	qs 645 ml
500 ml	177.5 ml	qs 500 ml
250 ml	88.8 ml	qs 200 ml
100 ml	35.5 ml	qs 100 ml

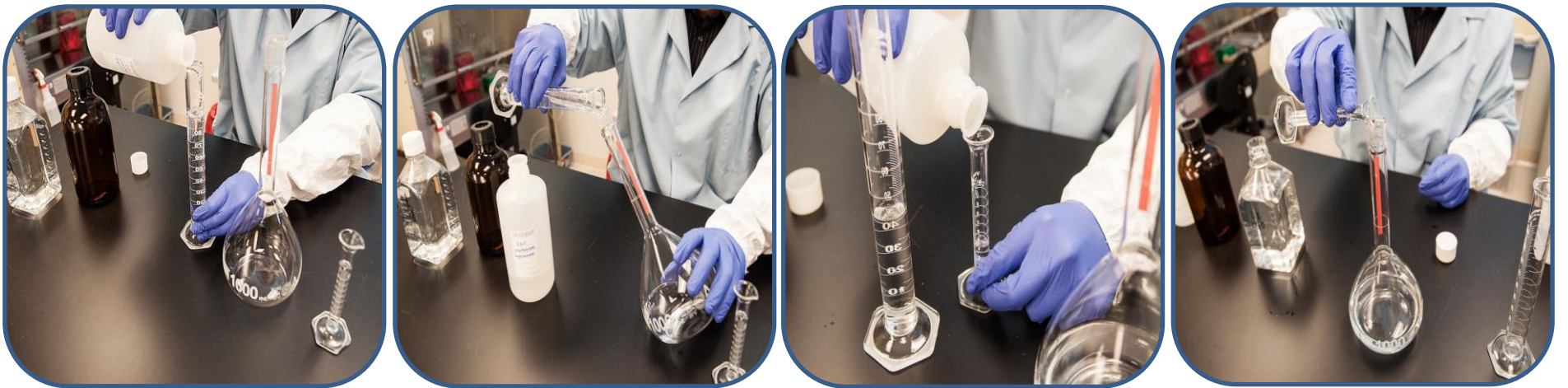
**An appropriately sized nontransparent plastic or glass bottle should be used if mixing to any of the volumes displayed in Table 1.*

**Use the solution within 24 hours.
Mix before each use.
Discard unused contents afterwards.**

Procedure:

The following procedure will make a 1,000-ml solution of 7.1% chlorhexidine digluconate. In order to make other volumes of the 7.1% solution, please refer to Table 1.

- Measure 355 ml of 20% chlorhexidine digluconate solution using both the 100-ml and 10-ml graduated cylinders.
 - Pour the contents of the graduated cylinders into a 1,000-ml volumetric flask.



- Rinse the graduated cylinders with a small amount (30–50 ml for the 100-ml cylinder and 3–5 ml for the 10-ml cylinder) of purified water and add to the volumetric flask. Repeat 2 more times.



- Add purified water to the volumetric flask and dilute to the 1,000-ml volume mark.



4. Shake well to ensure complete mixing.

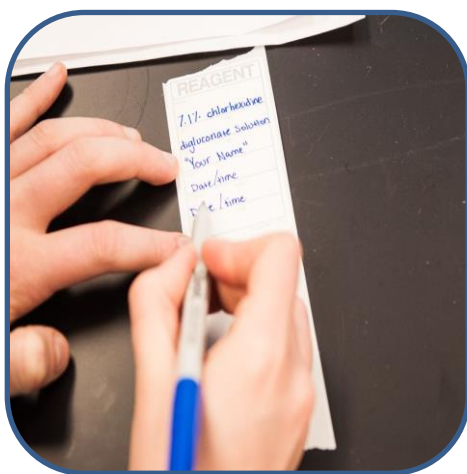
Note: the final diluted solution should be clear with no particulates.



5. Transfer the diluted solution to a 1,000-ml nontransparent plastic or glass container with a tight closure (e.g., an amber-colored glass bottle or a white or opaque plastic bottle).



6. Place label on the bottle and write 7.1% chlorhexidine digluconate solution for umbilical cord care, your name, the date and time the solution was made, and the expiration date and time.



7. Preserve the solution in the tightly sealed container, protected from light, at controlled room temperature. Use the solution within 24 hours. Mix before each use. Discard unused contents afterwards.