

TECHNICAL BULLETIN

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Author: Katelyn Wanka
Subject: PeCOD® Standard Recipe

In an effort to serve you better, MANTECH has released PeCOD standard recipes for sorbitol and glucose. Note that solutions should be kept refrigerated when not in use. Discard any unused standard after one week due to stability.

Sorbitol Standards Recipe

12,000ppm Sorbitol COD Stock or Red Range Solution:

1. In a weigh boat, weigh out 10.508g of sorbitol on a tared, high-resolution balance.
2. Add ~500mL of deionized (DI) water to a 1L volumetric flask, then add the sorbitol, rinsing down the weigh boat of all residual sorbitol.
3. Swirl by hand for a minute until all sorbitol is dissolved, or add a stir bar and place on a stir plate to mix.
4. Once the sorbitol is completely dissolved, fill to the mark with DI water. Remember to remove the stir bar before doing this, if applicable.
5. Pour into the 1L stock solution bottle.

Advanced Blue, Green and Yellow Standards:

1. Add ~500mL of DI water to a 1L volumetric flask.
2. Using a pipette or volumetric flask, measure out the appropriate amount of 12,000ppm sorbitol COD stock solution as indicated in **Table 1**, and then add to the flask.

Table 1: Volume of stock solution required to prepare PeCOD Standards

Concentration	Total Volume Prepared	Volume of stock solution to be added
20ppm	1L	1.67mL
120ppm	1L	10mL
1,200ppm	1L	100mL

3. Stir to mix, then fill to the mark with DI water.
4. Transfer to a clean 1L bottle and mix thoroughly. Refrigerate when not in use. Discard unused solution after one week.

Glucose Standards Recipe

12,000ppm Glucose COD Stock or Red Range Solution:

6. In a weigh boat, weigh out 11.260g of glucose on a tared, high-resolution balance.
7. Add ~500mL of deionized (DI) water to a 1L volumetric flask, then add the glucose, rinsing down the weigh boat of all residual glucose.
8. Swirl by hand for a minute until all glucose is dissolved, or add a stir bar and place on a stir plate to mix.
9. Once the glucose is completely dissolved, fill to the mark with DI water. Remember to remove the stir bar before doing this, if applicable.
10. Pour into the 1L stock solution bottle.

Advanced Blue, Green and Yellow Standards:

5. Add ~500mL of DI water to a 1L volumetric flask.
6. Using a pipette or volumetric flask, measure out the appropriate amount of 12,000ppm glucose COD stock solution as indicated in **Table 1**, and then add to the flask.

Table 1: Volume of stock solution required to prepare PeCOD Standards

Concentration	Total Volume Prepared	Volume of stock solution to be added
20ppm	1L	1.67mL
120ppm	1L	10mL
1200ppm	1L	100mL

7. Stir to mix, then fill to the mark with DI water.
8. Transfer to a clean 1L bottle and mix thoroughly. Refrigerate when not in use. Discard unused solution after one week.