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Work Instructions – Calibrant

1. Calibrant Preparation

1. Add 500 mL of DI water to a 1L volumetric flask.
2. Weigh out the appropriate amount of sorbitol as indicated in table 1-3 and then add to the flask.

Table 1: Weight of sorbitol required to prepare 1L BLUE RANGE calibrant

Total Volume Prepared	Weight of sorbitol required
1L	0.0175 g

Table 2: Weight of sorbitol required to prepare 1L GREEN RANGE calibrant

Total Volume Prepared	Weight of sorbitol required
1L	0.1051 g

Table 3: Weight of sorbitol required to prepare 1L YELLOW RANGE calibrant

Total Volume Prepared	Weight of sorbitol required
1L	1.051g

3. Place a stir bar in the flask and let mix for at least 30 minutes, or until fully dissolved.
4. Once the sorbitol is completely dissolved, fill to the mark with DI water. Remember to remove the stir bar before doing this.
5. Ensure the solution is thoroughly mixed before taking an aliquot for testing.
6. Pour solution into a 1L storage bottle.

2. Check Standard Preparation

1. Repeat steps 1-6 using table 5, for the desired check standard range.

Table 5: Weight of sorbitol required to prepare 1L of Check Standard solutions

Check Standards	Weight of sorbitol required
10 ppm - blue range	0.00876 g
60 ppm – green range	0.05354 g
200 ppm – yellow range	0.1751 g
600 ppm – yellow range	0.5254 g

Note:

Sigma-Aldrich: Sigma-Aldrich is a separate standard that can be used for quality control testing. It allows for verification that the system in use produces trusted values. The Sigma-Aldrich standard has a part number QC1130-20ML (this is the Sigma Aldrich company's part number as we have not assigned one for MANTECH use).

The expected stability of the solutions is approximately 2-4 weeks. After this time a fresh solution should be prepared.