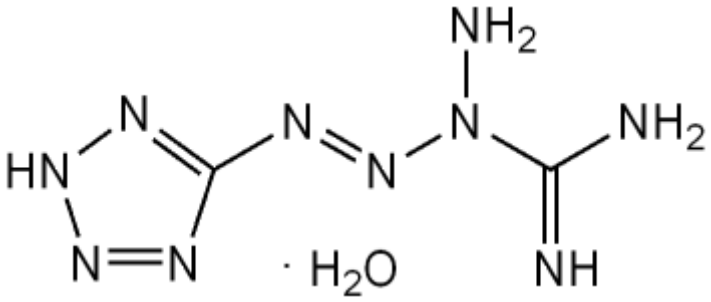
C2H6N10*H2O 188.15 g/mol



Prepare a solution of 34 g of aminoguanidine bicarbonate and 12.5 mL of glacial acetic acid with 2500 mL of water in a 3-liter Florence flask. Gently warm the flask on a steam bath and shake periodically until everything is completely dissolved into solution. The solution should be filtered to remove any impurities that may have not dissolved, then cooled to 30º C by running cold water from the faucet over the flask. It is necessary to filter the solution if there are impurities present. Add 27.6 g of sodium nitrite to the solution while swirling to dissolve it. Set the flask aside at room temperature for 3 or 4 hours then shake it vigorously to start precipitation of the product. Let the flask stand for another 20 hours. After standing, decant as much of the solution off as possible and drown the remaining crystals with water. Decant and drown with water several more times to wash the crystals. Filter the washed crystals to collect them and thoroughly wash again with water. Dry the product at room temperature and store in a sealed glass container to keep out the moisture.

34 grams of aminoguanidine bicarbonate, 2500 ml of water, and 15.7 g of glacial acetic acid are brought together in a 3-liter flask, and the mixture is warmed on the steam bath with occasional shaking until everything has gone into solution. The solution is filtered and cooled to 30° C. 27.6 g of solid sodium nitrite are added. The flask is swirled to make it dissolve, and is set aside at room temperature. After 3 or 4 hours, the flask is shaken to start precipitation of the product. It is allowed to stand for about 20 hours longer (22 to 24 hours altogether). The precipitate of tetrazene is washed several times by decantation, transferred to a filter, and washed thoroughly with water. The product is dried at room temperature.

9.5 g of NaNO2 (sodium “nitrite”) is added to a solution of 13.6 g aminoguanidine bicarbonate in 125 ml water and 50 ml of white vinegar (5% acetic acid). The precipitation of tetrazene starts after a couple of hours of standing and is finished after 24 hours. Yield is 9.5 g which is about 50% of theoretical. The light yellow precipitant is collected by filtration and washed with several small portions of distilled water. The tetrazene filter cake is completely dried at room temperature for several days and then stored in a clean air tight plastic container.