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Lab 4. Empirical Formula Determination

Purpose:

To determine the empirical formula for a tin-oxygenated product.

Procedure:

1. Clean and dry an evaporating dish and a watch glass cover. To dry them, heat strongly for 2-3 minutes using a burner. Us forceps or tongs to handle the dish and cover throughout the experiment.
2. Place about 2g of granulated tin in the dish, cover with the watch glass and mass.
3. In the fume hood, add 5ml of 8M nitric acid and replace the watch glass.
4. After the chemical reaction had stopped, heat the dish over a low flame. An excessive amount of popping and spattering indicates that you are heating too rapidly. Continue to heat slowly until the contents are nearly dry.
5. When the popping and spattering no longer occur, remove the evaporating dish from the heat source. Remove the watch glass, taking care not o lose any of the product. Do not clean the watch glass until all the measurements have been made. Break up the solid with a stir rod.
6. Place the dish onto wire gauze. Heat carefully with a hot flame until the solid becomes a pale yellow. Remove the dish from the heat source and let it cool.
7. After the dish has cooled, replace the watch glass and re-mass. Reheat the dish for 2-3 and allow to cool. Re-mass, if the mass does not agree within 0.02g, reheat and re-mass until the last 2 measurements agree.
8. Discard the slid material into the designated container.

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