directions

dl 7/2020
1/4 tsp (~1.25 gm) KI in 100 ml is ~1%

How to Make Ozone Test Strips

Updated April 24, 2017 *By Michael Merry*

Ozone in air can be detected with strips of a specially prepared paper, "Schoenbein" paper, that is coated with potassium iodide (KI) and corn starch. Water is added to the strips immediately before use. Schoenbein test strips turn blue-purple in the presence of ozone, the color being a rough indicator of ozone concentration. Iodine gas (I2) is generated when the potassium iodide (KI) is oxidized by ozone (O3). The color is produced as the iodine reacts with the corn starch. Following are the chemical reactions involved: 2KI + O3 + H2O > 2KOH + O2 + I2 (H2O is water, KOH is potassium hydroxide, O2 is ordinary oxygen). I2 + starch > blue-purple color

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1!

Measure 3.4 fl oz. (100 ml) distilled water and add it to the beaker or glass container.

2!

Add 1 1/4 tsp. corn starch to the container.

1.25 tsp corn starch weighs ~.5 gm, in 100 ml = 0.5%

3 Heat the mixture on the hot plate, w t thickens and clears.

Remove the container from the hot

4! Add 1/4 tsp. potassium iodide, while stirring. Allow the solution to cool and thicken to a paste.

5 Spread a coffee filter paper on the glass plate, then use the brush to apply paste evenly to both sides of the paper. Be careful.

6 Place the glass plate on the hot plate, set to "warm" and allow the paper to dry thoroughly. The paper will dry faster in a microwave oven set at low power for about 45 seconds. If you use a microwave, be sure the glass plate is microwave-safe.

7 Seal the strips, immediately, in the plastic bag or food container. Store them in a dark place.

Things You'll Need

Tips

Warnings