

Procedure

1. Weigh out 1g of sodium bicarbonate with the balance (100g) and place it in the screw bottle.
2. After pouring 4ml of hydrochloric acid (1:3) into the small bottle, secure the bottle in the holder attached to the rubber seal of the screw lid. Then screw the lid onto the large bottle.
- * Fasten the screw lid tightly in order to prevent the gas from leaking.
3. Weigh the screw bottle with the balance.
4. Turn the bottle on its side, bringing the hydrochloric acid (1:3) in the small bottle in contact with the sodium bicarbonate in the screw bottle to cause a reaction.
5. After the reaction is complete, weigh the screw bottle again (as in step 3) and compare the masses before and after the reaction.
6. Next release the generated gas (CO_2) by gently loosening the screw lid and again weigh the bottle with the balance.

(Note) 1.5g of sodium bicarbonate and 6-ml of hydrochloric acid (1:3) are the largest amounts which may be used in one performance of this experiment.

Never exceed this limit because reagents in excess of the limit may cause pressures greater than the pressure tolerance of the bottle, causing the screw lid to be blown off explosively when loosened.

