Carolina™ Solution Sheets

Lime Water

Learn how to make lime water and use it to detect carbon dioxide.

Materials

Distilled Water (item #858621)
Calcium Hydroxide (item #861283)
Glass Bottle (item #716292)
Stir Bar
Magnetic Stir Plate (item #701023)
Erlenmeyer Flask, 1,000-mL (item #731031)
Label

Don't want to make it yourself?
Find lime water at Carolina.com

Item Numbers
872441, 872443

Procedure

1. Add an excess of calcium hydroxide to 1 L of distilled water.
2. Cork the container, shake well, and allow it to stand for a 24-hour period. This will allow the precipitate to settle.
3. Filter off the supernatant fluid and keep well stoppered.

Notes

- The lime water should remain clear after the above process is conducted.

Label Information

Lime Water

Caution: Causes severe skin burns and eye damage
Date Prepared: _____
Initials of Preparer: _____
Health Risk: 0
Flammability: 0
Reactivity: 0

Applications

Lime water is used to detect the presence of carbon dioxide, indicated by the presence of a milky calcium carbonate precipitate.

$CO_2 + H_2O \rightarrow H_2CO_3$

$Ca(OH)_2 + H_2CO_3 \rightarrow CaCO_3 + 2H_2O$

Reference

Brandwein, P. F., and E. Morholt. 1986. *A sourcebook for the biological sciences*, 3rd ed. Orlando, FL: Harcourt Brace Jovanovich, 1986, p. 743.