

# Dichloroindophenol

Learn how to make DPIP solution and use it as an indicator for vitamin C.

## Materials

Sodium Bicarbonate (item #888360)  
Dichloroindophenol (item #868600)  
Distilled Water (item #858621)  
Stir Bar  
Amber Bottle  
Magnetic Stir Plate (item #701023)  
Erlenmeyer Flask, 500-mL (item #731030)  
Label

**Don't want to make it yourself?**

Find DPIP solution at Carolina.com

**Item Numbers**

868611, 868613

## Procedure

1. In 200 mL of distilled water, dissolve 84 mL of sodium bicarbonate and 104 mg of sodium salt DPIP (dichloroindophenol).
2. If necessary, filter the solution for undissolved matter.

## Notes

- Also known as DPIP and 2,6-dichlorophenol-indophenol.
- The solution is blue, whereas the sodium salt is dark green.
- It is important to refrigerate this solution.

## Label Information

Dichloroindophenol

Date Prepared: \_\_\_\_\_

Initials of Preparer: \_\_\_\_\_

Health Risk: 2

Flammability: 1

Reactivity: 1

## Applications

DPIP is used as a qualitative indicator for vitamin C, turning from blue to clear. It can also be used to measure the rate of photosynthesis.

## Reference

Brandwein, P. F., and E. Morholt. 1986. *A sourcebook for the biological sciences*, 3rd ed. Orlando, FL: Harcourt Brace Jovanovich, 1986, p. 742.

Cabello, C. M., W. B. Bair, A. S. Bause, and G. T. Wondrak. 2009. Antimelanoma activity of the redox dye DCPIP (2,6-dichlorophenolindophenol) is antagonized by NQO1. *Biochemical Pharmacology* 78 (4):344–54.

VanderJagt, D. J., P. J. Garry, and W. C. Hunt. 1986. Ascorbate in plasma as measured by liquid chromatography and by dichlorophenolindophenol colorimetry. *Clinical Chemistry* 32 (6):1004–6.