



**SIGMA-ALDRICH**

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## Product Information

### Folic acid

Product Number **F7876**  
Store at Room Temperature

#### Product Description

Molecular Formula:  $C_{19}H_{19}N_7O_6$ .  
Molecular Weight: 441.4  
CAS Number: 59-30-3  
 $pK_a$ : 8.26<sup>1</sup>  
 $\lambda_{max}$ : 368, 283, 256 nm<sup>2</sup>  
Extinction Coefficient:  $E^{mM} = 9.12, 25.1, 26.9$  (0.1 M NaOH)<sup>2</sup>  
Specific Rotation: +23° (0.5 %, 0.1 M NaOH, 25 °C)  
Synonym: pteroylglutamic acid<sup>3</sup>

Folic acid, also known as folate, is a B vitamin that can be found in a variety of fruits and vegetables. It can also be chemically synthesized. Folate, a water-soluble vitamin, helps the body form red blood cells and aids in the formation of genetic material within every body cell.

This product exhibits metal binding properties.<sup>1</sup> The log stability constants for various cations are as follows:

6.0 (Mn<sup>2+</sup>)  
7.9 (Fe<sup>2+</sup>)  
8.1 (Co<sup>2+</sup>)  
9.0 (Ni<sup>2+</sup>)  
7.8 (Cu<sup>2+</sup>)  
7.5 (Zn<sup>2+</sup>)

This product is synthetic and is 100% of the L-isomer.

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble in 1 M NaOH (50 mg/ml). The free acid is only slightly soluble in water (0.01 mg/ml at 0 °C) and is insoluble in aqueous solutions below pH 5. It is soluble in sodium bicarbonate or sodium hydroxide solutions.

#### Storage/Stability

This product is photolabile and is inactivated by UV light.<sup>3</sup> Alkaline solutions are reasonably stable in the dark, but heating will destroy both alkaline and acidic solutions.

#### References

1. Data for Biochemical Research, 3rd ed., Dawson, R. M. C., et al., Oxford University Press (New York, NY: 1986), p. 412.
2. The Merck Index, 11th ed., Entry# 4140.
3. Data for Biochemical Research, 3rd ed., Dawson, R. M. C., et al., Oxford University Press (New York, NY: 1986), p. 134-135.

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