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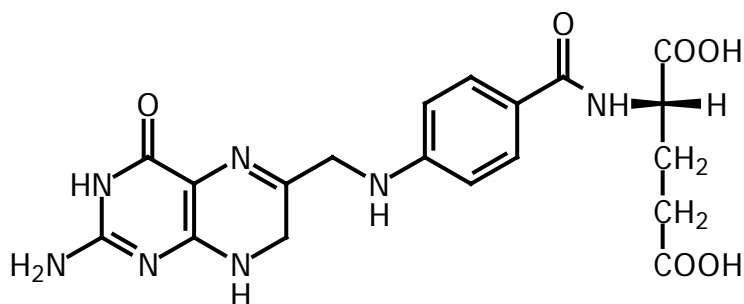
# Schircks Laboratories

## DATA SHEET

### 7,8-DIHYDROFOLIC ACID

Product no. 16.206

CAS No. [4033-27-6]



$C_{19}H_{21}N_7O_6$

MW 443.4

Description	Beige powder										
Biochemical Functions	Folic acid itself is not biologically active. It is converted to dihydrofolic acid which is then in turn converted into tetrahydrofolic acid which is an important coenzyme in the body. This reacts further to form formyl-, methylene-, methenyl- and methyl-tetrahydrofolic acids. These in turn are responsible for the transfer of 1 carbon fragments in nature.										
Solubility	FH <sub>2</sub> is very insoluble in water. It is more soluble at alkaline pHs. Its solubility is about 0.125 g per 100 g of water plus one to two equivalents of ammonia. The pH of a 1 mM solution of FH <sub>2</sub> in water is 7.4. Ultrasonication may be used to improve dissolution.										
Analytical methods	HPLC conditions: <table border="0" style="margin-left: 20px;"> <tr> <td>column:</td> <td>PhaseSep Partisil 10 SAX</td> </tr> <tr> <td>eluant:</td> <td>25 mM Na<sub>2</sub>HPO<sub>4</sub> pH 7.5</td> </tr> <tr> <td>flow rate:</td> <td>1.5 ml/min</td> </tr> <tr> <td>wavelength:</td> <td>254 nm</td> </tr> <tr> <td>solution:</td> <td>10mg / 5 ml degassed buffer for immediate injection</td> </tr> </table>	column:	PhaseSep Partisil 10 SAX	eluant:	25 mM Na <sub>2</sub> HPO <sub>4</sub> pH 7.5	flow rate:	1.5 ml/min	wavelength:	254 nm	solution:	10mg / 5 ml degassed buffer for immediate injection
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Specifications	Purity: HPLC: Typical value 90-95% TLC: FH <sub>2</sub> solutions are too unstable to perform TLC analysis.										
Stability	FH <sub>2</sub> is relatively stable, dry in ampoules at -20°C, but in solution it is unstable. Solutions should be made as concentrated as possible, in oxygen free water, at alkaline pH, if possible and used immediately. FH <sub>2</sub> is oxidized forty times faster at pH 4 than at pH 7.* FH <sub>2</sub> solutions are more stable than FH <sub>4</sub> solutions but they still degrade at a rapid rate. After 20 minutes 1 mM solutions of FH <sub>2</sub> degrade by approximately 4% and after 2 hours they are degraded by 20%.										
Storage	FH <sub>2</sub> is hygroscopic. Keep the powder in ampoules at -20°C or colder. After an ampoule has been opened, the remainder should be stored in a tightly closed vial, in a freezer. Dihydrofolic acid in ampoules can be transported without the use of dry ice. Dry, in ampoules, it is stable for several weeks at room temperature.										
Uses	FH <sub>2</sub> is an important standard for analytical work involving tetrahydrofolic acid. It is sold for laboratory use only.										
Safety Information	There are no special precautions required in handling this product.										
References	Chemical and biochemical studies on the coenzyme tetrahydrofolic acid. Douglas W. Young. Chemistry and Industry, 15 August, (1981), 556-561. The biochemistry of folic acid and related pteridines. R.L. Blakley, Amsterdam: North Holland, 1969. *Dihydrofolate reductase from a methotrexate-resistant strain of Escheridia coli: dihydrofolate monooxygenase activity. Martin Poe, Biochem. and Biophys. Res. Com. <u>54</u> no. 3, 1008, (1973).										

Further data sheets can be found on our website [www.schircks.ch](http://www.schircks.ch)