

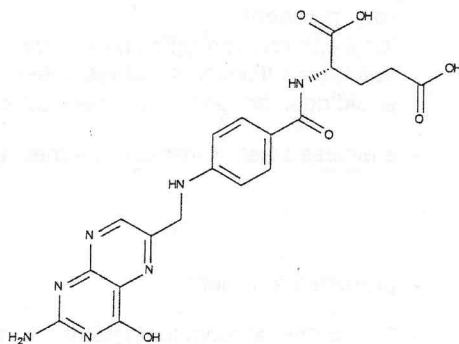
# Folic acid

## 1. Product and Company Identification

Product name	Folic acid	
Product code	04 1782 3	
Company information	Manufacturer:	Local representation:
	F. Hoffmann-La Roche AG	LV0000
	Postfach	LV1111
	CH-4070 Basel	LV2222
	Switzerland	LV3333
		LV4444
Phone	*41-61/688 11 11	LV5555
Fax	*41-61/691 93 91	LV6666
		LV7777

## 2. Composition/Information on ingredients

Characterization	vitamin of the B group
Chemical name	- N-[4-[[[(2-Amino-1,4-dihydro-4-oxo-6-pteridiny)methyl]amino]benzoyl]-L-glutamic acid
Synonyms	- Pteroylglutamic acid (PGA) - Vitamin M - Vitamin Bc - Folacin
CAS number	59-30-3
EINECS number	200 419 0
Roche number	Ro 01-5288/000
Empirical formula	C <sub>19</sub> H <sub>19</sub> N <sub>7</sub> O <sub>6</sub>
Molecular mass	441.40 g/mol



## Folic acid

### 3. Hazards identification

Most important hazards - No particular hazards known.

### 4. First-Aid measures

Eye contact - rinse immediately with tap water for 10 minutes - open eyelids forcibly  
- consult physician

Skin contact - remove contaminated clothes, wash affected skin with water and soap - do not use any solvents

Inhalation - remove the casualty to fresh air and keep him/her calm  
- consult physician

Note to physician - treat symptomatically

### 5. Fire-fighting measures

Suitable extinguishing media - water spray jet, dry powder, foam, carbon dioxide

Specific hazards - consider dust explosion hazard  
- formation of toxic and corrosive combustion gases (ammonia, hydrogen cyanide, nitrogen oxides) possible

Protection of fire-fighters - precipitate gases/vapours/mists with water spray

### 6. Accidental release measures

Methods for cleaning up - collect solids (avoid dust formation) and hand over to waste removal  
- rinse with plenty of water

### 7. Handling and storage

#### Handling

Technical measures - processing in closed systems, if possible superposed by inert gas (e.g. nitrogen)  
- local exhaust ventilation necessary  
- take precautionary measures against electrostatic charging  
- avoid dust formation; consider dust explosion hazard

Suitable materials - stainless steel, aluminium, enamel, dark glass, polyethylene

#### Storage

Storage conditions - protected from light

Validity - 36 months, at room temperature, in the unopened original container, see "best use before" date stated on the label

## Folic acid

Packaging materials - tightly closing; material: dark glass, aluminium, food-approved plastics

### 8. Exposure controls/Personal protection

Engineering Measures - see 7.

#### Monitoring

Threshold value (Roche) air - IOEL: 0.8 mg/m<sup>3</sup>

Analytics - sampling on glass fibre filter and gravimetric or chemical determination

#### Personal protective equipment

Respiratory protection - in case of open handling or accidental release: particle mask or respirator with independent air supply

Hand protection - protective gloves

Eye protection - safety glasses

### 9. Physical and chemical properties

Colour yellow to orange-yellow

Form crystalline powder

Odour almost odourless

Solubility 1.6 mg/l, water (25 °C)  
insoluble, lipophilic solvents  
insoluble, acetone  
insoluble, diethyl ether  
well soluble, acetic acid  
well soluble, pyridine  
well soluble, phenol  
well soluble, alkalis  
well soluble, carbonate solution

Melting temperature 250 °C (decomposition above)

### 10. Stability and reactivity

Stability - solutions are not heat-resistant  
- protected from light, crystalline folic acid is heat-resistant

Conditions to avoid - UV light  
- light

Materials to avoid - acids, bases, reducing agents  
- strong oxidizing agents, metal ions

## Folic acid

### 11. Toxicological information

- Acute toxicity
- LD<sub>50</sub> > 10'000 mg/kg (oral, mouse)
  - LD<sub>50</sub> > 8'000 mg/kg (oral, rat)
  - LD<sub>50</sub> 239 mg/kg (i.v., mouse)
  - LD<sub>50</sub> 500 mg/kg (i.v., rat)
  - LD<sub>50</sub> > 85 mg/kg (i.p., mouse)
- Sensitization
- folic acid allergies are very rare (man)
- Chronic toxicity
- low toxicity (human), oral intake of 15 mg/d had no side effects
- Note
- dosage upon deficiency 1-5 mg daily
  - limit of therapeutic dose: 15 mg/day during one month
  - doses of several milligrams per day may impair the effects of antiepileptic drugs
  - RDA (recommended dietary allowance):  
adults: 0.4 mg (Germany); 0.2 mg (USA)  
pregnant women: 0.8 mg (Germany); 0.4 mg (USA)

### 12. Ecological information

- Inherent biodegradability
- well inherently biodegradable  
82 %, 14 days  
(Zahn-Wellens test, OECD No. 302 B)
- Ecotoxicity
- barely toxic for fish (nominal concentration > 100 mg/l) (rainbow trout)  
LC<sub>0</sub> > 500 mg/l  
(OECD No. 203)
  - barely toxic for planktonic crustaceans (nominal concentration > 100 mg/l) (Daphnia magna)  
NOEC (48 h) 100 mg/l  
(OECD No. 202)
- Air pollution
- observe local/national regulations

### 13. Disposal considerations

- Waste from residues
- incinerate in qualified installation with flue gas scrubbing
  - observe local/national regulations regarding waste disposal

### 14. Transport information

- Note
- not classified by transport regulations

### 15. Regulatory information

- Note
- no classification and labelling according to EU
- Emission limit (Switzerland)
- 50 mg/m<sup>3</sup> at mass-flux  $\geq$  0.5 kg/h (organic, particulate; own classification)
- Water hazard class (Germany)
- 1 (according to official German experts' decision)

## Folic acid

### 16. Other information

- |                       |  |
|-----------------------|--|
| Use                   | - as a preventive vitamin substitute in food and feed stuffs<br>- as a therapeutic vitamin substitute in pharmaceutical specialities |
| Safety-lab number     | - BS-2474<br>- BS-4034   |
| Edition documentation | - changes from previous version in sections 7  |

The information in this safety data sheet is based on current scientific knowledge. It should not be taken as expressing or implying any warranty concerning product characteristics.

