

## Biotin USP

### Description

Biotin USP is occurring in nature, and it is also named vitamin H or skin vitamin. It is dextrorotatory. The evo rotatory biotin and its other diastereomers are not biologically effective. Vitamin H is a member of the water-soluble B-group. It is important for nearly all organisms and therefore it is widespread in plants and animal cells. Natural sources with a relatively high biotin content include peanuts, blackberries, strawberries, apples, and leafy green vegetables. Humans cannot produce biotin by themselves. The natural, clockwise biotin is mainly functioning as a co-factor for enzymes. It takes part in carboxylation, which is very important for the gluconeogenesis and the synthesis of fatty acids. The main use of biotin is as nutrient for humans and in animal feed, where it is known to increase the growth of hair and horn.

Biotin belongs to a prosthetic group of enzymes and therefore takes part in many carboxylase reactions. These mechanisms are important for the decomposition of amino acids and are essential for the biosynthesis of fatty acids. Biotin is also present in the cell core, influencing epigenetic regulation of genes and supports the formation of special proteins (e.g. serum albumin) out of amino acids. Deficiency of biotin causes skin red-ness, scaly skin, skin inflammation and a disturbed production of tallow. It also may cause weak growth of hair, hair loss and fragile nails.

### Efficacy

- enhances hair growth
- reduces hair loss
- strengthens fragile nails
- reduces erythema
- reduces inflammations
- reduces wrinkles and fine lines

### Appearance

white or almost white crystalline powder

### INCI

Biotin

### Registration

CAS-No.....58-85-5

EC-No.....200-399-3

### Preservatives / Stabilizers

none

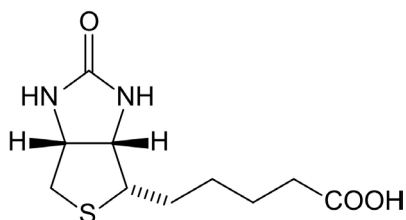


Nature needs no cosmetics,  
but cosmetics need nature

## Biotin USP

### Characteristics

specific rotation.....+89° - +93°  
purity (assay).....97.5 % - 102.0 %



©www.wikipedia.org

molecular formula.....C<sub>10</sub>H<sub>16</sub>N<sub>2</sub>O<sub>3</sub>S  
molecular weight.....244.31 g/mol<sup>-1</sup>  
synonym:  
vitamin H, coenzyme R, vitamin B7

### Application

daily cosmetic products  
creams and lotions  
face masks  
gels and ampoules  
hair care  
nail polish  
food supplements

### Application concentration

skin care formulations.....0.005 - 0.01 %  
hair care products.....0.003 - 0.006 %

### Incorporation

Biotin USP is soluble in phenethyl alcohol up to 0.06 % if heated up to 50°C. It is also soluble in hot water (80°C) and in glycerin up to 0.06 % if gently heated.

Biotin USP is only slightly soluble in ethanol.

### Toxicology

non hazardous in normal use concentration

### Storage & Shelf life

Biotin USP should be stored in closed containers in a dry and light protected place at 10 - 25°C. The exposure to UV-rays should be avoided.

In closed original containers the shelf life is 48 months.