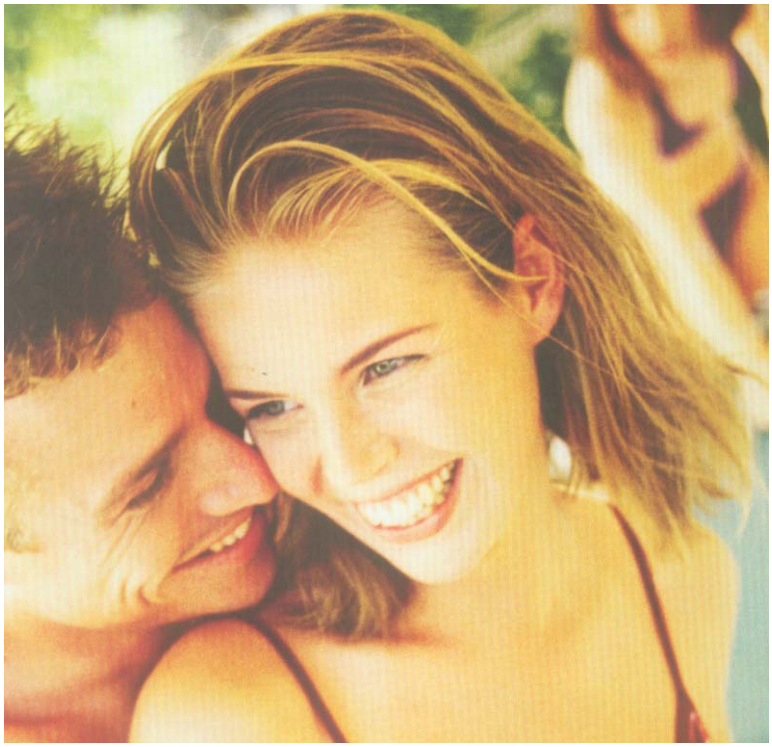
D-Biotin

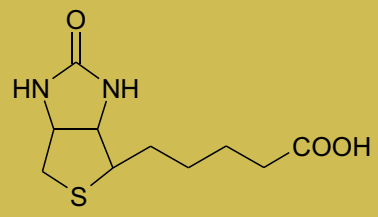


Chemical name:	(3aS, 4S,6aR)-hexahydro-2-oxo-1H-(3,4-d)-imidazole
CAS No.:	58-85-5
EINECS No.:	200-399-3
INCI name:	Biotin
CN Code:	2936 2900
Synonyms:	Vitamin H, Vitamin B7, D(+)-Biotin, Coenzyme R

Producer: Sun Chemical Co., Ltd., Japan

KYOWA
Kyowa Hakko Europe GmbH
Daiichi Fine Chemical Division

SPECIFICATION*

Chemical Structure:	
Empirical formula:	$C_{10}H_{16}N_2O_3S$ Molecular weight: 244.32
Appearance:	practically white, crystalline powder
Melting point:	229° - 232°C (decomposition)
Identification:	conforms
Optical rotation:	$[\alpha]_D^{25}$ +89° ~ +93°
Solubility in water:	Very slightly soluble in water and alcohol. Insoluble in other common organic solvents.
Organic volatile impurities:	conforms
Assay:	not less than 97.5 - 100.5%

*meets the quality requirements of the USP Monograph for Biotin

Origin: chemical synthesis

Storage and packing

Storage: Protect from humidity, light and heat. Store in original container in a dry place and at or below room temperature.

Standard Packing: 1 kg tins
100 g tins

Expiry Date: 3 years after production date in original packing under adequate storage conditions, after expiry date re-tests are performed

Solubility

Slightly soluble in water (0.2g/l, 25°C) - hot water improves solubility -, and in ethanol (0.8g/l, 25°C), insoluble in most other organic solvents
It is possible to dissolve large amounts (up to 1%) of biotin by adding an alkali to biotin in water to dissolve the substance and then to acidify to the required pH with citric acid.

Stability

Do not heat beyond 65°C, sensitive to oxidising agents, UV light, strong acids and alkalis. Aqueous solutions are relatively stable at pH 5-8 at room temperature.

General functions

Biotin is present in small amounts in all living cells.
It has an important function in the cell metabolism as the coenzyme R when carboxyl groups are transferred, for example during the synthesis of fatty acids.
A deficiency of Vitamin H, which is another name for Biotin, may disturb the synthesis of skin lipids. This can cause dermatitis. Other deficiency symptoms comprise hair loss and disturbances of the growth of fingernails.

Thus, Biotin is used from within to promote a healthy and beautiful appearance and to prevent deficiency symptoms such as seborrhoea dermatitis. From outside it is frequently formulated in skin care, hair care and nail care products.

Cosmetics

Biotin was reported to be effective against hair loss and to improve the hair quality. Furthermore it is formulated in order to harden fingernails and to reduce or prevent their brittleness.
So far, most of the underlying literature is referring to oral applications.

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