



Copper	
Description	Copper is an essential trace mineral.
Function	Copper is needed for proteins involved in growth, nerve function and energy release and is vital for the formation of some important proteins. It is stored in appreciable amounts in the liver.
Human Requirements	EU RDA: Not established.
Dietary Intake¹	In the UK, the average adult diet provides: for men, 1.82mg daily; for women, 1.31mg.
Food Sources	Good sources include wholegrain products, liver, most seafood, dried beans and peas.
Deficiency Symptoms¹	Deficiency of copper is rare. Marginal deficiency may result in elevated cholesterol levels, impaired glucose tolerance, defects in pigmentation and structure of the hair, and demyelination and degeneration of the nervous system. In infants and children, copper deficiency can lead to skeletal fragility and increased susceptibility to infections, especially those of the respiratory tract.
Precautions / Contra-Indications	Copper should not be used in Wilson's disease (the disorder may be exacerbated) or hepatic and biliary disease. Safe Upper Level: 10mg ²
Pregnancy & Breastfeeding	No problems have been reported with normal intakes.
Adverse Effects¹	With excessive doses (which are unlikely from supplements), the following symptoms can occur: epigastric pain, anorexia, nausea, vomiting and diarrhoea, liver toxicity and jaundice, hypotension, metallic taste.
Interactions¹	Penicillamine, Trientine, Zinc and Iron may reduce absorption of copper and vice versa - give 2hours apart. Vitamin C in large doses (> 1 g daily) may reduce copper status.
References	1. Mason, P. Dietary Supplements. Pharmaceutical Press, London, 2001. 2. Expert Group on Vitamins and Minerals, 2003.