

Info shared by Pitbull SA.

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Copper (as mineral).

Copper as a mineral is essential in all higher plants and animals.

Copper is the third most abundant trace mineral in the body.

Copper is carried mostly in the bloodstream on a plasma protein called "ceruloplasmin".

When the copper mineral is first absorbed in the gut it is transported to the liver bound to "albumin".

Copper is found in a variety of enzymes, including the copper centers of cytochrome c oxidase, the Cu-Zn containing enzyme superoxide dismutase, and is the central metal in the oxygen carrying pigment hemocyanin.

Copper and zinc compete for absorption in the digestive tract so that a diet that is excessive in one of these minerals may result in a deficiency in the other.

Biological functions and health benefits of copper.

The body needs copper for normal growth and health.

Copper is needed to help body use iron.

It is also important for nerve function.

For bone growth.

To help body use sugar.

Copper is a component of or a cofactor for enzymes (+-50 different enzymes).

These enzymes need copper to function properly.

Copper is a critical functional component of a number of essential enzymes, known as "cuproenzymes".

Copper is an essential nutrient that plays a role in the production of haemoglobin, essential nutrient that plays a role in the production myelin.

The cuproenzyme - "tyrosinase" is required for the formation of the pigment melanin - an essential component of the natural dark pigment - melanin formed in cells called "melanocytes" and plays a role in the pigmentation of the hair, skin, and eyes.

An essential nutrient that plays a role in the production collagen.

Copper also works with vitamin C to help make a component of connective tissue known as "elastin".

Copper is needed to make adenosine triphosphate (ATP), the energy the body runs on.

Copper may play a role in staving off heart rhythm disorders (arrhythmias) and high blood pressure.

Copper's anti-inflammatory actions may help in reducing arthritis symptoms.

Dietary sources of copper.

Copper is found in various food items:

Organ meats (**especially liver**)

Sea-foods - the best source of copper is **oysters**

Beans

Nuts

Whole-grains

From drinking water from copper pipes

The use of copper cookware

Even fresh produce sprayed with copper-containing chemicals.

Commercial copper supplements - cupric oxide, copper gluconate, copper sulphate, and copper amino acid chelates.

Copper deficiency symptoms.

Deficiency is rare but it does occur under certain circumstances.

Symptoms of possible copper deficiency include anaemia, low body temperature, bone fractures and osteoporosis, prominently dilated veins, low white blood cell count, irregular heartbeat,

increased susceptibility to infections, birth defects, loss of pigment from the skin, and thyroid disorders.

Side effects, precautions, toxicity, and drug interactions.

All copper compounds, unless otherwise known, should be treated as if they were toxic.

Symptoms of acute copper toxicity include abdominal pain, nausea, vomiting, and diarrhea, which help prevent additional ingestion and absorption of copper.

More serious signs of acute copper toxicity include severe liver damage, kidney failure, coma, and death... 5 gm of copper sulphate is potentially lethal for any dog.