

COBALT IN THE ENVIRONMENT



- Cobalt is a naturally occurring element in the earth's crust, at around 20-30 parts per million (mg/kg)
- It is the 32nd most abundant element
- As a consequence cobalt substances are ubiquitously present in the air, soil, atmosphere and water



All natural waters contain trace concentrations of this element, sometimes called "background"

Cobalt is a non-volatile material, rarely found in the atmosphere alone; it is found in the air attached to anthropogenic pollutant particles, with a fraction of the cobalt found in natural dust



Cobalt in soils throughout the world result from a combination of natural and man's activities

Cobalt is an essential metal, needed for the health of ruminant animals, such as cows and sheep. It is also needed by various environmental bacteria and other microscopic forms of life that play an important role in the biodiversity of our world



Top Three Food Groups for Cobalt in Human Diet



Milk and Dairy products: **32%** of the total Cobalt intake



Fish and Crustaceans: **20%** of the total Cobalt intake



Condiments, Sugar and Oils: **16%** of the total Cobalt intake

Atmosphere: anthropogenic sources of Cobalt



- Weathering of local geology
- Volcanic eruptions



- Forest fires
- Seawater spray

Cobalt in European Soils



Average cobalt concentration: 1-20 mg/kg dry weight



Cobalt occurs naturally through:

- Breakdown of organic matter which contains Vitamin B12
- Weathering of local geology into soil particles

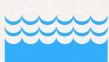


Through mankind's activities:

- Use of Cobalt Salts
- Air transport of particulate emissions
- Application of sewage sludge onto fields

Cobalt in the aquatic environment

- Aquatic environment includes Freshwater Systems (lakes, streams, rivers) and Marine systems (estuaries and oceans)
- All natural waters contain a trace of cobalt as it is a naturally occurring element



Would you like to know more about COBALT?



18 Jeffries Passage Guildford
GU1 4AP UK
Tel: +44 1483 578877
CI@cobaltinstitute.org

www.cobaltinstitute.org

DISCLAIMER: You are solely responsible for evaluating the accuracy and completeness of any content appearing in this Communication. While the Cobalt Institute (CI) has endeavoured to provide accurate and reliable information, it does not make any representations or warranties in relation to the content of this Communication. In particular, the CI does not make any representations or warranties regarding the accuracy, timeliness or completeness of the content of the Communication or in respect of its suitability for any purpose. No action should be taken without seeking independent professional advice. The CI will not be responsible for any loss or damage caused by relying on the content contained in this Communication.