Vanadium – college essay

Vanadium is a metal that has an atomic mass of 50. 9414 g. mol 1 and an atomic number of 23. It is a soft white substance that can be found with many different minerals. Vanadium has 4 energy levels, the first energy level contains two protons, the second contains 8 protons, the third contains 11 protons and the fourth contains 2 protons. Vanadium is a metal that is commonly found in jet engines, high speed airframes, and ferrovanadium, a steel additive.

Vanadium is toxic to humans and animals. Vanadium is present in foods such as buckwheat, soy beans, apples, eggs, olive oil, and sunflower oil. Exposure to vanadium can cause pneumonia, bronchitis, inflammation of the stomach and intestines, cardiac and vascular diseases, damage to the nervous system, bleeding of the liver and kidneys, skin rashes, severe trembling and paralyses, noses bleeds and throat pains, weakening, sickness and headaches, dizziness, and behavioral changes.

Symptoms of overexposure to vanadium are conjunctivitis, nasopharyngitis, cough, labored breathing, rapid heartbeat, lung changes, chronic bronchitis, skin pallor, greenish black tongue, and allergic skin rash. Vanadium can also be found underwater in algae, plants, Invertebrates, and fish. In shellfish vanadium bioaccumulates causes concentrations of 105 to106 times greater than the concentration found in seawater.

In animals vanadium can cause breathing disorders, paralyses, failure of the liver and kidneys, and can harm the reproductive system in both male and female animals. Vanadium can also cause DNA alterations. Vanadium also has other common forms such as Vanadium Oxide and Vanadium Pentoxide.

Vanadium Oxide is more toxic than Vanadium. Vanadium Oxide is most commonly found in sulfuric acid. Vanadium Pentoxide is created when you weld vanadium in its pure state. The gases from Vanadium Pentoxide can cause bronchitis, pneumonia and in rare cases death.