

Nickel (Ni)

Definition

Nickel (Ni) is a hard, silvery-white metal whose strength, ductility and resistance to heat and corrosion make it extremely useful for the development of a wide variety of materials. Most Ni is used to make stainless steel and another percentage is used to make non-iron alloys, including military, aerospace and industrial equipment. Ni alloys are used to make coins, jewelry, to color ceramics, batteries and electronics.

Where Does Ni Come From?

Ni is an essential element for healthy plant life and trace amounts are naturally found in most vegetables, fruits, nuts, and in slightly greater amounts in chocolate and wine.

How Might I Be Exposed To Ni?

By eating or drinking contaminated food or water. Chocolate and fats are known to contain high quantities. Plants are known to accumulate the metal and as a result, its uptake from vegetables will be eminent. Smokers have a higher Ni uptake through their lungs. By skin contact with soil or contaminated water, as well as by handling coins or touching jewelry containing Ni.

Potential Health Effects

Skin effects are most common in people sensitive to Ni. The most frequent reaction is a skin rash (“nickel itch”) at the site of contact, which may be followed by skin ulceration. Its fumes are respiratory irritants and may cause pneumonitis. Chronic effects such as rhinitis, sinusitis, nasal septal perforations and asthma have been reported in refineries and plating workers. The inhalation route is associated with cancer and the tumors are local to the respiratory tract (nasal and lung).

How can I reduce the risk of Exposure to Ni?

Ni has several sources of exposure, therefore, those sources should be avoided, including jewelry that contains Ni, clothing with metal buttons, snaps, rivets and zippers and beauty products that contain the metal. Particularly if a child has a known Ni-allergy, foods that contain the metal should be avoided. Those include chocolate, nuts, soy products, black tea, seeds, and commercial salad dressings. Don't use stainless steel pots and pans to cook foods that contain acidic ingredients like tomato, vinegar, or lemon. Teens and young adults allergic to Ni should use extra caution if they are considering getting tattoos, since some inks contain Ni.



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