

1 Nickel – Patient Information

Your T.R.U.E. TEST results indicate that you have a contact allergy to nickel. This contact allergy may cause your skin to react when it is exposed to this substance, although it may take several days for the symptoms to appear. Typical symptoms include redness, swelling, itching and fluid-filled blisters. Nickel is one of the most common metals in the modern environment, both at work and at home and reportedly causes more dermatitis than all other metals combined. Exposure to both metallic nickel (only after corrosion) and nickel salts may cause sensitization or the elicitation of an allergic response in a previously sensitized individual. The corrosive effects of human sweat, saliva and other body fluids on metallic nickel and nickel alloys being of primary importance.

It is used in metal alloys, nickel plating, metal and chemical manufacturing, and the production of batteries and coins. Nickel is often used to coat other metals to give them a shiny metallic finish. Nickel is found on the surface of common metallic and metal plated items such as; metal jewelry, watchbands, keys, tools, equipment, scissors, kitchen utensils coins and clothing fasteners such as buttons, zippers and snaps and is occasionally found in eye cosmetics. While nickel is found in stainless steel, allergic reactions to products made with stainless steel (for example, dental and surgical instruments) are rare because typically only minimal amounts are released.

Where is nickel found?



At work, you may find nickel in or around:

- Metal alloys
- Welding and cutting
- Copper-nickel tubing for salt water
- Nickel plating
- Machine parts
- Metalworking fluids and oils
- Chemical catalysts
- Batteries
- Aluminum electrical joint compounds
- Dyes
- Equipment
- Insecticides
- Orthodontic and dental appliances



At home, you may find nickel in or around:

- Zippers
- Keys
- Scissors
- Batteries
- Metal utensils
- Hand tools
- Magnets
- Buttons and snaps
- Chrome and brass
- Jewelry
- Metallic powders
- Eyeshadow
- Some white or 14-kt gold jewelry
- Coins
- Watchbands
- Some bronze objects
- Pigments
- Some objects with white or 14-kt gold
- Hair ornaments
- Knitting needles
- Eyeglasses

Dietary exposure to nickel can provoke dermatitis in sensitized individuals. Foods reported to be high in nickel include: legumes; whole grain flour; oats; soybeans; shellfish; fish; asparagus, beans, mushrooms, onions, corn, spinach, tomatoes, peas, pears, all types of nuts, raisins, rhubarb, tea, cocoa, baking powder, cabbage, sprouts, all canned foods or foods cooked in nickel utensils, licorice; chocolate and potatoes. A recent study reported systemic contact dermatitis to nickel was also found in several complementary and alternative remedies (CAR), including preparations advertised to treat asthma, acne, atopic eczema, seborrhea and psoriasis. Herbal remedies, herbal teas and some OTC multi-vitamins have also been listed as sources of potential nickel exposure. Food containing nickel is generally not a problem but if you are severely allergic discuss with your physician about avoiding foods that are rich in nickel.

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How can you avoid nickel?

- Minimize skin contact with nickel. Aluminum, yellow gold, silver and platinum are usually safe alternative metals.
- Avoid wearing jewelry that may contain nickel.
- Look for clothing with non-metallic zippers and fasteners.
- Use scissors, kitchen utensils, combs and other metal items with plastic or wood handles.
- Never wear earrings that are not guaranteed to be safe for nickel.
- Select a watch with a controlled stainless steel back.
- Metallic items that are difficult to avoid contact with such as door keys and doorknobs can be coated with several layers polyurethane lacquer.
- Minimize wet work without protective clothing as moisture increases the penetration of nickel into the skin.
- Only use products that do not list nickel or related chemicals on the label, ingredients list or Material Safety Data Sheet (MSDS). If there is no information, contact the product manufacturer.
- If you think that you contact nickel at work, ask your employer for MSDS or manufacturer information on the product(s). Talk to your employer about using a different product or wearing protective gloves and clothing.
- Inform your healthcare providers that you are allergic to nickel.
- Wear protective gloves made of cotton when handling coins, tools or other metal items. Gloves made of disposable rubber or vinyl are also useful when handling metal objects.
- Jewelry and other metal objects can be easily tested for the presence of nickel with a dimethylglyoxime test (sold as Allertest™ Ni). Available from Allerderm Laboratories, www.allerderm.com.
- Tell your physician, pharmacist, dentist, beautician and hairdresser that you are allergic to nickel.

What should you look for and avoid?*

Avoid products that list any of the following names in the ingredients, MSDS or package insert.

- **Nickel sulfate** (NiSO₄) or nickel soluble salts; nickel (Ni); carbonyl nickel powder; nickel alloys; nickel-plating; elemental nickel; nickel catalyst

You may also react to other metal substances that are present together with nickel:

- Palladium
- Cobalt
- Chrome (or chromate)

What are some products that may contain nickel?*

- Alnox (Standard) Electrical Joint Compound
- Orthodontic appliances
- Metal costume jewelry, piercings, and hair ornaments
- Some jewelry with white gold, 14-karat yellow gold, chrome, bronze, or brass
- Some foods such as legumes, nuts, grains, fish, chocolate, potatoes (canned foods may be higher)
- Metal tools, equipment, utensils and keys
- Coins (U.S. nickels, 1-Euro and 2-Euro)
- Metal fasteners including buttons, zippers, snaps, hooks, rivets, buckles, pins
- Quikcrete® Color-Pak (colorant for cement and concrete)
- Silver jewelry, decorative silver and silver-plated items

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What are some similar products that do NOT contain nickel?*

- Plastic, gold (18k).
- Titanium orthodontic materials and ceramic brackets
- Select foods from a low-nickel diet; avoid canned foods (dietary changes do not help all patients)

*For additional information about products that might contain nickel or a related substance, go to the Household Product Database online (<http://householdproducts.nlm.nih.gov>) at the United States National Library of Medicine. These lists are brief and provide just a few examples. They are not comprehensive. Product formulations also change frequently. Read product labels carefully and talk to your doctor if you have questions. These are general guidelines. Talk to your doctor for more specific instructions.