

## NA52: Nickel Sulfate Hexahydrate

### CAS#: 10101-97-0

#### Patient Information

Your patch test result indicates that you have a contact allergy to nickel sulfate hexahydrate. 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.

#### Where is nickel sulfate hexahydrate found?

Nickel is found in inexpensive costume jewelry, earrings, watches and watchbands, buttons on jeans, needles, zippers, lighters, batteries, coins, keys, buckles, eyeglasses frames, orthodontic, and orthopedic devices. Nickel may also be found in metal equipment, furniture, tools, washing machines, razors, scissors, paper clips, cooking utensils and appliances, silverware, and handles. Dietary exposure to nickel can provoke dermatitis in sensitized individuals and foods reported to be high in nickel include legumes, nuts, whole grain flour, oats, soybeans, shellfish, fish, licorice, chocolate, and potatoes. Additionally, herbal remedies, herbal teas, and some OTC multi-vitamins contain high levels of nickel and have the potential to provoke a reaction when ingested in sufficient quantities. Exposure to some medical devices such as nickel-containing infusion cannulas, mitral-valve prostheses, and intravenous catheters have also been reported to cause nickel-related reactions. Nickel-containing dental restorations and appliances have also been reported to cause elicitation of an allergic response in sensitized individuals.

#### How can you avoid contact with nickel sulfate hexahydrate?

Avoid products that list any of the following names in the ingredients:

- Nickel sulfate (NiSO<sub>4</sub>)
- nickel (Ni)
- nickel alloys
- elemental nickel
- nickel soluble salts
- carbonyl nickel powder
- nickel-plating
- nickel catalyst

#### What are some products that may contain nickel sulfate hexahydrate?

- Belt Buckles
- Clothing Fasteners:
  - Buckles
  - Rivets
  - Zippers
  - Buttons
  - Pins
  - Hooks
  - Snaps
- Complementary and Alternative Remedies (CAR):
  - Asthma, acne, atopic eczema, seborrhea, and psoriasis treatments
  - Herbal remedies
  - Herbal teas
  - Multi-vitamins

- Construction Materials
- Foods (canned foods may be higher):
  - Chocolate
  - Legumes
  - Fish
  - Nuts
  - Grains
  - Potatoes
- Jewelry:
  - Earrings
  - Some jewelry with white gold, 14-carat yellow gold, chrome, bronze, or brass
  - Hair ornaments
  - Metal costume jewelry
- Household Items:
  - Appliances
  - Eyeglasses frames
  - Lighters
  - Razors
  - Coins (U.S. nickels, 1-Euro and 2-Euro)
  - Batteries
  - Handles
  - Needles
  - Scissors
  - Cooking utensils
  - Keys
  - Paper clips
  - Silverware
  - Washing machines
- Medical Devices:
  - Intravenous catheters
  - Mitral-valve prostheses
  - Joint replacements
  - Infusion cannulas
- Metal Equipment, Furniture, and Tools
- Orthodontic and Orthopedic Devices:
  - Orthodontic appliances
- Watches and Watchbands

The most common cause of nickel sensitization in women is ear piercing and direct contact with nickel-containing jewelry. Both the piercing procedure and subsequent jewelry use may contribute to sensitization. Despite attempts to prohibit the sale of nickel-containing jewelry, eyeglass frames or clothing accessories in some countries, nickel allergy is increasing in both men and women (reportedly doubling every ten years). Approximately 24% of U.S. adults ages 15-50 have one or more body piercings. This factor coupled with ubiquitous exposure to nickel indicates that nickel allergy will continue to be a significant source of allergic contact dermatitis.

Perspiration is a factor in nickel dermatitis and patients often report that their dermatitis is worse in hotter times of the year. A nickel object worn against perspiring skin may cause an itchy or prickling sensation within 15-20 minutes with an eruption appearing in 45 minutes to an hour. This same person may be able to wear the same object for hours with no reaction in cooler temperatures when the skin is cool and not perspiring. Other factors such as friction and pressure combined with the presence of sweat determine whether a nickel-plated object will produce dermatitis in a sensitized individual.

If you have a contact allergy to nickel, it's important to avoid products that contain this metal. Nickel detection dimethylglyoxime products such as Reveal and Conceal provide a safe and effective way to test objects for the presence of nickel.

A dietary reduction of nickel may be suggested by your physician.

Visit [MySkinAllergy.com](http://MySkinAllergy.com).

\*For additional information about products that might contain **nickel sulfate hexahydrate**, go to the Household Product Database online ([householdproducts.nlm.nih.gov](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 any questions. These are general guidelines. Talk to your doctor for more specific instructions.