DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

Frequently Asked Questions

SULFATE

What is SULFATE?

Sulfate is a compound found in nature. It occurs naturally in water in various amounts. If a high level of sulfate is in water, the water may have a bitter taste. Sulfates are also found in minerals, soil, rocks, plants and food.

Where can sulfate be found and how is it used?

Sulfate is found in most fresh water supplies. Some regions have higher sulfate levels than others. In foods, sulfate is present as the salts of sodium, calcium, iron, magnesium, manganese, zinc, copper, ammonium, and potassium. Sulfate salts are used in the food industry in a wide variety of products. These include dietary supplements, breads, preserved fruits and vegetables, gelatins, and puddings.

The main industrial use of sulfate is in chemical processing.

How can people be exposed to sulfate?

You could be exposed to sulfate through:

Drinking water containing sulfate.

Eye Contact by touching the eyes with water containing sulfate. This could occur from bathing and washing.

How does sulfate work and how can it affect my health?

Diarrhea is the major effect of exposure to a high level of sulfate in drinking water.
Sulfate is not known to cause cancer. It is also not known to have effects on human reproduction.

How is sulfate poisoning treated?

There is no treatment just for sulfate poisoning. A doctor will treat the symptoms.

What should I do if exposed to sulfate?

Since sulfate is not known to have harmful effects, no action is needed.

What factors limit use or exposure to sulfate?

If water contains a high level of sulfate, it should not be used to mix powdered infant formula or nutrition supplements. Use another supply of drinking water.

Three types of commercial treatment systems will remove sulfate from drinking water: reverse osmosis, distillation or ion exchange. Water softeners, carbon filters and sediment filters do not remove sulfate.

Is there a medical test to show whether I've been exposed to sulfate?

If you believe you were exposed to sulfate, a doctor will suggest tests based on your symptoms.

Technical information for sulfate

CAS Number: 14808-79-8

Chemical Formula: SO_4^{-2}

Carcinogenicity (EPA): Sulfate has not been evaluated in the EPA/IRIS program.

MCL (Drinking Water): There is no MCL for sulfate but there is secondary MCL of 250 mg/L based on aesthetic effects (i.e., taste and odor).

OSHA Standards: There are no OSHA standards for sulfate.

NIOSH Standards: There are no NIOSH standards for sulfate.

References and Sources

American Conference of Governmental Industrial Hygienists (ACGIH). 2003. *Guide to Occupational Exposure Values.* Cincinnati, OH.

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