



BROMATE

What is BROMATE?

Bromate is a by-product formed when drinking water is disinfected to kill bacteria and other microorganisms. The disinfection process is called ozonation. Bromate has no taste or color and is not found in nature.

Where can bromate be found and how is it used?

Bromate is not normally found in water. It is found in some public water supply systems that disinfect using the ozonation process.

How can people be exposed to bromate?

Most people are only exposed to bromate if it is in their drinking water. Only water treated by ozonation will contain bromate.

You could be exposed to bromate through:

Drinking water containing bromate.

Eye contact by touching the eyes with water containing bromate. This could happen from washing or showering.

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

Bromate is harmful in high doses. Studies of very low doses in animals showed bromate to cause cancer. These studies also showed bromate to be mutagenic (causing a change in a gene or chromosome). In humans, the effects of low levels of bromate in drinking water are not well understood.

When people accidentally or purposefully swallowed permanent hair wave neutralizing solution containing bromate, they experienced vomiting, stomach pain and diarrhea. Bromate poisoning causes tiredness, loss of reflexes and other problems with the central nervous system. Exposure could cause anemia, which is a lack of red blood cells. These effects can usually be reversed. Later symptoms that could occur within several days of exposure are kidney injury and hearing loss. Death from kidney failure may occur if medical treatment is not successful. If treatment is successful, kidney function usually returns after 5-10 days.

How is bromate poisoning treated?

There is no treatment for bromate poisoning. Doctors can treat the symptoms.

What should I do if exposed to bromate?

No action is needed if you were exposed to bromate in drinking water.

24/7 Emergency Contact Number: 1-888-295-5156

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What factors limit use or exposure to bromate?

If there is bromate in the water supply, you can reduce exposure by using another source for water. It is not clear if commercial home water treatment systems effectively remove bromate.

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

There is no medical test to show if you were exposed to bromate. You can ask your drinking water supplier if the water was treated with ozonation, and if it contains bromate. The Environmental Protection Agency requires that water be tested for bromate.

Technical information for bromate

CAS Number: 15541-45-4

Chemical Formula: BrO_3

Carcinogenicity (EPA): EPA has classified bromate as probable human carcinogen.

MCL (Drinking Water): The MCL for bromate is 0.01 mg/L.

OSHA Standards: There is no OSHA standard for bromate.

NIOSH Standards: There is no NIOSH standard for bromate.

References and Sources

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