



Suburban Property Inspections

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SELENIUM FACT SHEET

Brief Overview:

Category:	Metals
Acceptable Level:	0.05 mg/L MCL, Primary Drinking Water Standard
Source:	Natural occurring, Industry
Effect:	Short and Long-term Health Effects
Follow up:	Test for Selenium and other metals
Treatment:	Activated Alumina; Coagulation/Filtration; Lime Softening; Reverse Osmosis

Details:

Source: Selenium is a metal found in natural deposits as ores containing other elements. The greatest use of selenium compounds is in electronic and photocopier components, but they are also widely used in glass, pigments, rubber, metal alloys, textiles, petroleum, medical therapeutic agents, and photographic emulsions.

Production in 1985 was reported to be 429,515 pounds. Selenium compounds are released to the air during the combustion of coal and petroleum fuels, and during the smelting and refining of other metals.

From 1987 to 1993, according to the Toxics Release Inventory selenium releases to land and water totalled over 1 million lbs. These releases were primarily from copper smelting industries. The largest releases occurred in Utah. The largest direct releases to water occurred in Indiana.

The toxicity of selenium depends on whether it is in the biologically active oxidized form, which occurs in alkaline soils. These conditions can cause plant uptake of the metal to be increased. It is known that selenium accumulates in living tissues.

Effect: Short-term: Selenium is an essential nutrient at low levels. However, EPA has found selenium to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: hair and fingernail changes; damage to the peripheral nervous system; fatigue and irritability.

Long-term: Selenium has the potential to cause the following effects from a lifetime exposure at levels above the MCL: hair and fingernail loss; damage to kidney and liver tissue, and the nervous and circulatory systems.

Follow up: Treat and re-test for metals.

Treatment: Activated Alumina; Coagulation/Filtration; Lime Softening; Reverse Osmosis

Following installation of this system, the consumer should have the treated water tested for selenium to verify selenium reduction is being achieved and the system is functioning properly.

For more information visit the USEPA web site:

For further technical assistance, call Suburban Property Inspections at 1-866-866-6700, or call the U. S. Environmental Protection Agency Safe Drinking Water Hotline at 1-800-426-4791.



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