

Arsenic

Description/Chemical Forms:	Sources/Routes of Exposure:	Health Effects:
<p>As is classified as a metalloid, having both metal and non-metal properties, that is naturally found in the Earth's crust.</p> <p>This chemical can occur in two forms:</p> <ul style="list-style-type: none">• <i>Inorganic</i>-As combines with elements other than carbon to produce a toxic carcinogen; found in building materials and contaminated water• <i>Organic</i>- As combines with carbon to produce a form less toxic than the inorganic compound; found in some foods such as fish and shellfish	<p>Sources:</p> <p>All of the arsenic used in the United States is imported since production operations no longer exist. Organic compounds are still used in some cotton pesticides, fertilizers, and animal feed. However, the majority of arsenic is used as a wood preservation to help prevent rotting and decaying, such as in child swing sets and outdoor decks. A phase-out of arsenic-containing preservations occurred in 2003, yet wood treated prior to this date is still in circulation.</p> <p>Main Route of Exposure:</p> <p>Ingestion: arsenic-contaminated ground water, some types of food, especially seafood (less harmful form), shellfish, mushrooms, and poultry</p>	<p>Inorganic arsenic is classified as a Group 1 carcinogen and has been linked to the following adverse health outcomes:</p> <p><i>Acute:</i> fever, cardiac arrhythmia, hepatomegaly, melanosis, anemia, GI irritation</p> <p><i>Chronic:</i> hypopigmentation, jaundice and liver injury, peripheral neuropathy</p> 

Arsenic

Diagnosis/Treatment Options:	Prevention Strategies:	Links for Additional Information:
<p>A testing laboratory may be contacted to determine past exposures through hair, urine, blood, or fingernail samples.</p> <p>Urine tests are the most reliable since they measure over a period of several days but cannot differentiate between inorganic and organic-more complex tests can be used to separate dietary sources.</p> <p>Hair and fingernail samples can span exposure over 6-12 months, yet only chronic, high-level concentrations can be properly measured.</p>	<p>Since arsenic is a naturally occurring element, it is not possible to completely avoid exposure in air, soil, water, and food. However there are still safeguards that can be applied to offer some protection.</p> <p>Recommendations:</p> <ul style="list-style-type: none">• Advise patients that use a private well to regularly check their arsenic levels (MCL=.01 mg/L)• Encourage children to wash their hands after playing on outdoor playgrounds	<p>More information concerning arsenic exposure and health effects can be found at the following sites:</p> <p>http://www.atsdr.cdc.gov/PHS/PHS.asp?id=18&tid=3</p> <p>http://www.cancer.org/cancer/cancercauses/othercarcinogens/intheworkplace/arsenic</p> <p>http://www.epa.gov/ttnatw01/hlthef/arsenic.html</p> <p>http://www.in.gov/isdh/18887.htm</p>