

This fact sheet answers the most frequently asked health questions (FAQs) about selenium hexafluoride. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Selenium hexafluoride is a corrosive gas. Significant exposure may occur only if you work with selenium hexafluoride. It is unlikely that the general population will be exposed to this substance. Exposure to selenium hexafluoride can cause irritation of the respiratory airway, skin and eyes. Exposure to high levels can cause severe skin and eye damage and accumulation of fluid in the lungs, and even death. Selenium hexafluoride has not been found in any of the 1,585 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is selenium hexafluoride?

Selenium hexafluoride is a corrosive, colorless gas at room temperature. Selenium hexafluoride is only slightly soluble in water. It does not occur naturally in the environment.

Selenium hexafluoride is used as a gaseous electrical insulator.

What happens to selenium hexafluoride when it enters the environment?

When released to air, selenium hexafluoride will react with moisture, forming other compounds which are removed from the atmosphere by rainfall.

Selenium hexafluoride is slightly soluble in water. It reacts slowly with water to form other compounds. It may also evaporate from water.

Because it is a gas, it is rarely found in soil. If released to soil, selenium hexafluoride will react with moisture forming other compounds or evaporate from the soil.

Selenium hexafluoride does not accumulate in the food chain.

How might I be exposed to selenium hexafluoride?

The general population is unlikely to be exposed to selenium hexafluoride.

Workers that use selenium hexafluoride as a gaseous electric insulator or use selenium hexafluoride to produce other selenium containing compounds may be exposed to this gas.

How can selenium hexafluoride affect my health?

Exposure to low levels of selenium hexafluoride gas can cause irritation of the respiratory airway, skin, and eye. Exposure to high levels can lead to severe skin and eye damage, accumulation of fluid in the lungs, and eventually death.

ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>

Exposure to the liquified gas can cause severe skin injury or frostbite and also severe eye damage and blindness.

Long-term exposure to low concentrations of selenium hexafluoride may cause effects similar to exposure to other selenium or fluoride compounds, such as pale appearance, nervousness, depression, gastrointestinal problems, lack of appetite, weight loss, and dental defects.

There is no information on whether exposure to selenium hexafluoride may affect the reproductive system in humans or in animals.

How likely is selenium hexafluoride to cause cancer?

The Department of Health and Human Services (DHHS), the International Agency for Research on Cancer (IARC), and the EPA have not classified selenium hexafluoride as to its carcinogenicity to humans. There are no studies of carcinogenicity of selenium hexafluoride in animals.

How can selenium hexafluoride affect children?

There are no studies on the health effects of children exposed to selenium hexafluoride. It is likely that the health effects seen in children exposed to this chemical will be similar to the effects seen in adults. In general, children may be more vulnerable to corrosive agents because of the smaller diameter of their airways.

We do not know if exposure to selenium hexafluoride will result in birth defects or other developmental effects in people. There are no developmental studies in laboratory animals.

How can families reduce the risk of exposure to selenium hexafluoride?

Most families will not be exposed to selenium hexafluoride.

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

There are no tests to determine whether you have been exposed to selenium hexafluoride. If you suspect exposure, a chest x-ray be an appropriate way to determine whether your lungs have been damaged.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) has set an exposure limit of 0.05 parts of selenium hexafluoride per million parts of workroom air (0.05 ppm) for an 8-hour work shift, 40 hour work week.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is <http://www.atsdr.cdc.gov/toxfaq.html>. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

