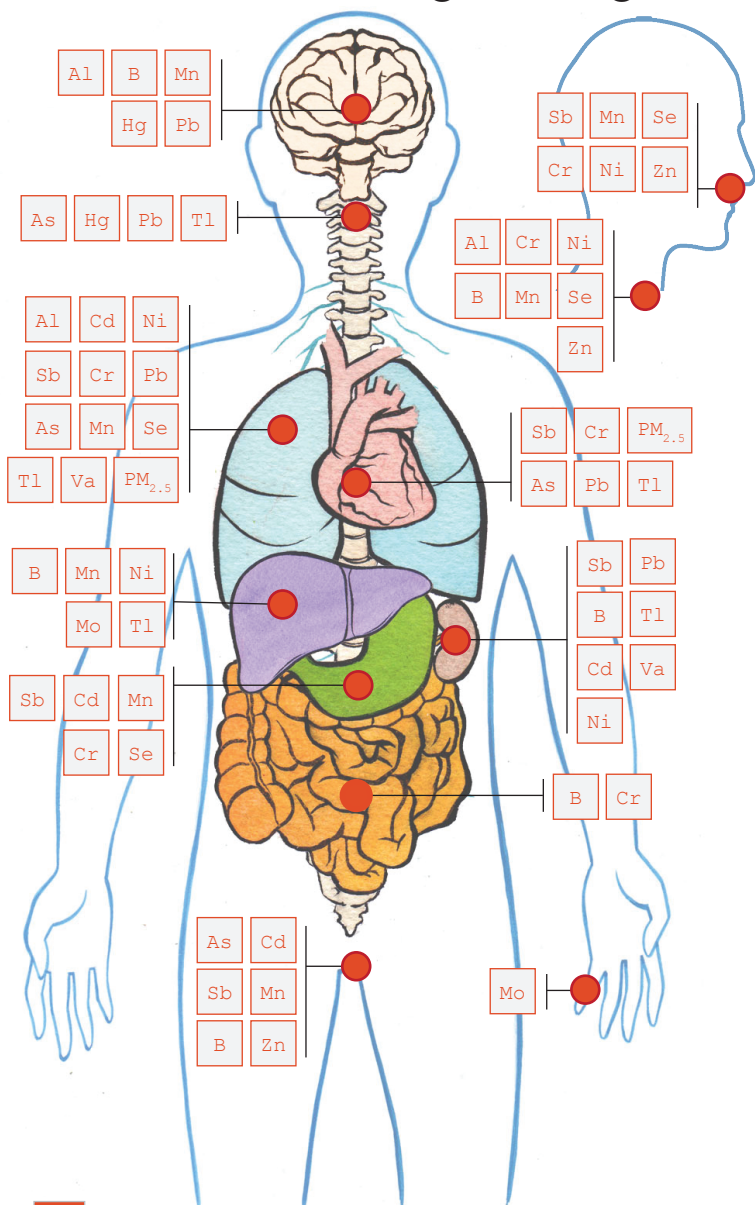


Harm to Human Health from Breathing and Ingesting Coal Ash Toxicants



Al ALUMINUM Long-term exposure to dust can cause scarring of lungs (pulmonary fibrosis) with symptoms of cough and shortness of breath. May be linked to dementia.

Sb ANTIMONY Long-term inhalation can cause a hole in the septum dividing the inner nose and lead to permanent lung damage. May harm female fertility and damage liver, kidneys and heart.

As ARSENIC Ingestion can lead to nervous system damage, cardiovascular harm, and urinary tract cancers. Inhalation and absorption through skin can cause lung cancer and skin cancer, respectively.

B BORON Inhalation can lead over the short term to eye, nose, and throat irritation. Ingestion of large amounts can result in damage to the testes, intestines, liver, kidneys, and brain, and eventually lead to death.

Cd CADMIUM May cause lung and prostate cancer and damage the reproductive system. Inhalation can irritate lungs. Ingestion can cause nausea, vomiting, diarrhea and abdominal pain.

Cr CHROMIUM Ingestion can cause stomach and intestinal ulcers, anemia, and stomach cancer. Frequent inhalation can cause asthma, wheezing, and lung cancer. Inhalation can also irritate the nose and throat, resulting in asthma-like symptoms and damage the nose's septum.

Pb LEAD Exposure can result in brain swelling, kidney disease, cardiovascular problems, nervous system damage, and death. It is accepted that there is no safe level of lead exposure, particularly for children.

Mn MANGANESE Long-term exposure can cause permanent brain damage. Inhalation irritates nose, throat and lungs, causing coughing, wheezing and shortness of breath. May cause harm to the liver and testes and decrease fertility in males.

Hg MERCURY Impacts include nervous system damage and developmental harm, such as reduced IQ. Poses particular risk to children, infants and fetuses.

Mo MOLYBDENUM Ingestion causes gout (joint pain) and increased blood uric acid levels and is linked to high blood pressure and liver disease. Slowed growth, low birth weight and infertility found in animals.

Ni NICKEL Inhalation can irritate and damage the nose, throat and lungs. Acute exposure can cause headache, dizziness, nausea and vomiting. A probable carcinogen for lung cancer. Can cause chronic bronchitis and scarring of the lungs. Long-term exposure may harm liver and kidneys.

PM_{2.5} PM2.5 Particles less than 2.5mm can lodge deep in the lungs and cause premature death, as well as lung and heart disease, decreased lung function, asthma attacks, heart attacks and cardiac arrhythmia.

Se SELENIUM Inhalation can irritate the nose, throat, and lungs, causing coughing, wheezing, and shortness of breath. Can also cause nausea, diarrhea, abdominal pain, and headache. Repeated exposure can cause irritability, fatigue, dental cavities, loss of nails and hair, and depression.

Tl THALLIUM Ingestion causes nervous system damage and lung, heart, liver and kidney problems. Main ingredient in rat poison.

Va VANADIUM Lung irritant. Long-term exposure can cause asthma attacks with shortness of breath, wheezing, cough, and chest tightness. May damage the kidneys. Repeated high exposure may cause anemia.

Zn ZINC Inhalation can irritate the nose and throat, and cause wheezing and coughing. Appears to affect the male reproductive system, including sperm count.

SOURCE: AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR), U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES. TOXICOLOGICAL PROFILES. WWW.ATSDR.CDC.GOV/TOXPROFILES

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