CAS 7439-98-7

Molybdenum & Molybdenum Compounds

Mo

VERMONT DEPARTMENT OF HEALTH

Summary of Health Effects

Molybdenum trioxide may cause cancer in humans based on animal studies. Molybdenum and molybdenum compounds cause respiratory, kidney, liver, reproductive and developmental problems in animals.

How are molybdenum and molybdenum compounds used?

Molybdenum is a naturally occurring metal used in metal-alloy applications.[1] It is also a trace nutrient in humans found in nuts, grains, legumes, dairy, and meat.[2,3,4]

Toxicity: What are its health effects?

Respiratory, renal, reproductive, and developmental problems were observed in animals exposed to molybdenum compounds.[2,4] Male mice fed high diets of molybdenum had altered testicular tissues, testicular damage, reduced sperm density and motility, and increased alterations in sperm morphology. Significant changes in blood serum chemistry were also observed.[5]

Occupational reports noted symptoms including headache, weakness, dizziness, fatigue, anorexia, muscle and joint pain, and increased blood uric acid-levels, in workers that inhaled molybdenum dusts.[4] Molybdenum was added to the Toxic Substances Control Act work plan due to high environmental persistence and moderate bioaccumulation.[6]

Exposure: How can a person come in contact with it?

A person can come in contact with molybdenum and molybdenum compounds by eating food, drinking water, breathing in contaminated air, or from skin contact.[4]

Molybdenum is a hard metal used to add strength and slow corrosion in metal alloys.[7] Molybdenum is also a trace nutrient, with the intake of nuts, grains, legumes, dairy, and meat accounting for most dietary exposure.[11]

The 2014 National Health and Nutrition Examination Survey (NHANES) found molybdenum in most of the U.S. population with children exhibiting higher urinary molybdenum levels than adults.[12,13]

References

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