



METHYL ISOBUTYL KETONE

What is METHYL ISOBUTYL KETONE?

Methyl isobutyl ketone (MIBK) is a colorless liquid with an odor similar to mothballs. MIBK is also known as 4-methyl-2-pentanone, hexone and isopropylacetone. While it is usually in liquid form, MIBK can change into a gas. MIBK will dissolve in water, alcohols, benzenes and ethers.

Where is MIBK found and how is it used?

MIBK occurs naturally in oranges, grapes and vinegar. MIBK is used as a solvent in factories that produce paints, rubber products, chemicals and machinery. As a solvent, it is used in pesticide application. Pharmaceutical companies that produce prescription drugs also use MIBK. MIBK strengthens and preserves flavors and fragrances. Consumer products containing MIBK include aerosol paints, coatings used in construction, and automobile and machinery paints and primers.

MIBK is used in home products like hard surface cleaners, dyes and tints, laundry starches, paints and varnish products. MIBK is also used in insecticides that control garden insects, greases and oil used as lubricants, automotive chemicals, pet flea and tick products, shoe polish, wood office furniture, and clear finishes, undercoats and primers.

How can people be exposed to MIBK

MIBK is sent into the environment from factory releases or waste products. It can also enter the environment from an accidental spill during transport or storage. MIBK can be released during the disposal of consumer products.

You could be exposed to MIBK through:

Drinking water containing MIBK, but most people can smell MIBK's mothball odor. The water will taste bad.

Breathing MIBK at workplaces where it is produced or used as part of paints, adhesives and pesticides.

How does MIBK work and how can it affect my health?

Exposure to low levels of MIBK causes headaches, weakness, dizziness, sleepiness, and sleeplessness. Skin contact irritates and burns the eyes, nose and throat, and makes people cough and wheeze. Other symptoms of exposure are vomiting, loss of appetite, heartburn and stomach pain.

Exposure to high levels of MIBK can be fatal. At high levels, MIBK can lead to narcosis, a condition that causes a person to lose consciousness or become unable to function.

How is MIBK poisoning treated?

There is no treatment for MIBK poisoning. Treatment depends on the type of exposure.

What should I do if exposed to MIBK?

If MIBK gets on your skin, remove contaminated clothing and wash thoroughly with soap and water.

If you get MIBK in your eyes, flush with large amounts of water. Get medical attention right away.

If you breathe MIBK, move to fresh air. Get medical help right away.

If you swallow MIBK, get medical help right away.

24/7 Emergency Contact Number: 1-888-295-5156

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Page 1 of 2



What factors limit use or exposure to MIBK?

At work, reduce exposure by following health and safety rules. When using products that contain MIBK, follow label directions.

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

Blood tests can show exposure to MIBK. Such tests cannot determine possible health outcomes.

Technical information for MIBK

CAS Number: 108-10-1

Chemical Formula: C₆H₁₂O

Carcinogenicity (EPA): Group D, not classifiable as to human carcinogenicity.

MCL (Drinking Water): Not Established

OSHA Standards: 100 ppm, time weighted average

NIOSH Standards: 50 ppm, 10-hour time weighted average.

IDLH – 500 ppm.

ACGIH: 50 ppm, 8-hour time weighted average

References and Sources

The Risk Assessment Information System, Condensed Toxicity Summary for Methyl Isobutyl Ketone, http://rais.ornl.gov/tox/profiles/mibkrv_c.html - Accessed 12/7/09

U.S. E.P.A., IRIS, Methyl Isobutyl Ketone, www.epa.gov/iris/subst/0173.htm - Accessed 12/7/09