

New York State Department of Health

Tenant Notification Fact Sheet for Acetone

This fact sheet is provided to fulfill New York State Department of Health (NYS DOH) requirements for preparation of generic fact sheets under Article 27 (Title 24, Section 27-2405) of the Environmental Conservation Law.

Acetone

Acetone is a volatile and colorless liquid chemical with a sweet odor. It can be man-made, but is also produced in small quantities in the human body through the normal breakdown of fat. Acetone is used as a solvent and as an intermediate to produce other chemicals in the manufacture of plastics, fibers and drugs. Acetone is also used as a solvent in nail polish remover and is present in other products such as particle board, paint removers, waxes, polishes and certain detergents and cleansers.

Sources of Acetone in Indoor Air

Household products containing acetone are a possible source for acetone in indoor air. Another source could be evaporation from contaminated well water that is used for household purposes. Acetone may also enter homes through soil vapor intrusion, which occurs when the chemical evaporates from groundwater, enters soil vapor (air spaces between soil particles), and migrates through building foundations into the building's indoor air. Acetone has also been found at low concentrations in outdoor air, which can also be a source of the chemical in indoor air.

Levels Typically Found in Air

The NYS DOH reviewed and compiled information from studies in New York State as well as from homes and office buildings across the United States on typical levels of acetone in indoor and outdoor air. Levels of acetone are typically less than 60 micrograms per cubic meter (mcg/m^3) in the indoor air of homes and offices, but may be somewhat higher because acetone is a common ingredient in many products. Levels in outdoor air are expected to be around 20 mcg/m^3 .

Health Risks Associated with Exposure

Humans exposed to large amounts of acetone in air over short periods of time have had irritation of the eyes and respiratory tract, and nervous system effects including headaches, lightheadedness, dizziness, unsteadiness and confusion. Some people exposed to acetone in the workplace for longer periods had decreased scores on tests used to evaluate nervous system function. Exposure to high levels of acetone in air causes nervous system toxicity in laboratory animals. Taken together, the human and animal data indicate that long term human exposure to acetone may increase the risk for nervous system toxicity. There is insufficient information to determine whether exposure to acetone can cause cancer in humans or laboratory animals.

NYS DOH Air Guideline

The NYS DOH has not established a chemical-specific guideline for acetone in air. However, NYS DOH guidance for acetone and other air contaminants is that reasonable and practical actions should be taken to reduce acetone exposure when indoor air levels are above those typically found in indoor air. The urgency to take actions increases as indoor air levels increase. The acetone exposure

levels that cause health effects in animals or humans are many times higher than levels typically found in indoor air.

Ways to Limit Exposure to Acetone in Indoor Air

In all cases, the specific actions to limit exposure to acetone in indoor air depend on a case-by-case evaluation of the situation. Removing household sources of acetone and maintaining adequate ventilation will usually help reduce indoor air levels of the chemical. A sub-slab depressurization system can reduce the amount of acetone entering indoor air by soil vapor intrusion. Use of an activated carbon filter on the water supply can reduce the amount of the chemical in contaminated well water that could evaporate into indoor air.

Reportable Detection Level

The reportable detection level for a chemical can vary depending on the analytical method used, the laboratory performing the analysis, and several other factors. Most laboratories that use the analytical methods recommended by the NYS DOH for measuring acetone in air (and approved by the National Environmental Laboratory Accreditation Conference or New York State's Environmental Laboratory Approval Program) can routinely detect the chemical at concentrations below 1 mcg/m³.

Additional Information

Additional information on acetone, ways to reduce exposure, indoor air contamination resulting from soil vapor intrusion, indoor and outdoor air levels and the Environmental Conservation Law can be found on the NYS DOH website at www.health.state.ny.us/environmental/indoors/air/contaminants/.

If you have further questions about acetone and the information in this fact sheet, please call the NYS DOH at 1-518-402-7800 or 1-800-458-1158 (extension 2-7800), e-mail to ceheduc@health.state.ny.us, or write to the following address:

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