



Acetone Use and Care

Acetone, also called dimethyl ketone, is one of the ketone groups of solvents that also includes methyl ethyl ketone. Acetone can often be found in research and development laboratories, within pharmaceutical coating operations, and in medical device production.

Acetone is one of the least toxic of the many organic solvents used in the work place. Its toxicity is low for both acute and chronic exposures. However, prolonged inhalation of high concentrations of acetone vapor causes irritation of the respiratory tract, headache, loss of memory, and in extreme cases, unconsciousness. Other symptoms of acetone intoxication include dizziness, nausea, or drowsiness. Continued skin contact may produce a mild form of dermatitis.

Control Vapor Concentrations

Acetone vapor in work areas should be maintained at or below the Threshold Limit Value of 750 PPM (averaged during an 8-hour workday), with a maximum Short Term Exposure Limit (defined as 15 minutes) no higher than 1000 PPM.

For most operations, vapor can be kept at safe levels by enclosing the operation, by ventilating, or both. Ventilation systems must be engineered to Classified Hazard Area Standards, typically Class I Div I or Div II depending on the process.

Wear PPE

Employees engaged in routine handling of acetone should wear nitrile rubber gloves and rubber aprons for protection against skin contact. Chemical goggles should be worn where necessary. When complete face protection is necessary, a face shield should be worn.

Fire Prevention

Acetone is a serious fire hazard and can ignite with only a 2.6% concentration in the air.

Water solutions of acetone are also highly flammable; a solution of 10 percent acetone in water has a flash point of about 80°F (27°C). All sources of ignition, including spark-producing mechanisms or operations, should be eliminated in areas where acetone is stored, handled, or used. Vapor proof electrical systems should also be installed (Class 1 - Division 1).

Fire extinguishers for acetone fires include foam, carbon dioxide, and dry chemical. Water used on an acetone fire should be in the form of a spray or fog in order to prevent spreading the fire.

First Aid

Inhalation – If a person has inhaled small amounts of acetone vapor and exhibits any of the symptoms of acetone intoxication, they should be moved to fresh air and the effects will often disappear in a few hours. If large amounts have been inhaled, the person should be moved to fresh air and medical assistance immediately summoned. If breathing has stopped or respiration is weak; artificial respiration should be given.

Eyes – If acetone has been splashed in the eyes, the eyes should be irrigated immediately with large quantities of running water for at least 15 minutes. An evaluation by a physician as soon as possible is recommended.

Skin – Skin contaminated with acetone should be washed with soap and water, and any contaminated clothing removed.

Products and services are provided by one or more insurance company subsidiaries of W. R. Berkley Corporation. Not all products and services are available in every jurisdiction. Certain coverages may be provided through surplus lines insurance company subsidiaries of W. R. Berkley Corporation through licensed surplus lines brokers. Surplus lines insurers do not generally participate in state guaranty funds and insureds are therefore not protected by such funds. Berkley Life Sciences conducts business in California as Berkley LS Insurance Solutions, LLC, a licensed surplus lines broker (License Number 0H44165).

This material is provided to you for general informational purposes only. Coverage afforded under any insurance policy issued is subject to the individual terms and conditions of that policy as issued. Claims scenarios are hypothetical in nature and for illustrative purposes.

Maintaining safe operations and a safe facility in accordance with all laws is your responsibility. We make no representation or warranty, express or implied, that our activities or advice will place you in compliance with the law; that your premises or operations are safe; or that the information provided is complete, free from errors or timely. We are not liable for any direct, indirect, special, incidental or consequential damages resulting from the use or misuse of this information. You are not entitled to rely upon this information or any loss control activities provided by us and you may not delegate any of your legal responsibilities to us. All loss control activities are conducted solely for the purpose of, and in accordance with, our underwriting activities.