



Chemical Name	Acetone
Chemical Category (if applicable)	Ketone
Synonyms	Propanone; Dimethyl ketone; and Propan-2-one
CAS Number	67-64-1
CAS Name	Acetone
EC (EINECS) Number	200-662-2
Other identifier (Please specify)	GPS0082

Description

- Acetone is a high production volume (HPV) chemical produced at over 1,000,000 pounds annually and is listed by the United Nations Environmental Programme. About one-third of the world's acetone is used in solvent applications and a quarter is consumed in the production of methyl methacrylate. Acetone is also used in the production of many polycarbonates, polyurethanes and epoxy resins. It is ideal for thinning resins, cleaning tools, dissolving epoxies and similar applications. Acetone is found as an ingredient in a variety of consumer products ranging from cosmetics to processed and unprocessed foods.
- Workplace exposures to acetone during its manufacture and use are expected to be minimal because exposures are controlled with process enclosures, local exhaust ventilation, and personal protective equipment. Good manufacturing practices and industrial hygiene practices are also implemented to prevent or reduce exposure to acetone. Worksite safety programs also follow recommended exposure guidelines. Please see the Safety Data Sheet (SDS) for additional information. Acetone is found as an ingredient in a variety of consumer products ranging from cosmetics to processed and unprocessed foods. When acetone is used as a component of consumer products, users should follow manufacturer's use and/or label instructions. Acetone has been rated as a Generally Recognized as Safe (GRAS) substance when present in beverages, baked goods, desserts, and preserves at concentrations ranging from 5 to 8 mg/L.
- Acetone is a colorless liquid with a sweet pungent odor that is stable under normal conditions of storage and use. The most hazardous property of acetone is its extreme flammability. At temperatures greater than acetone's flash point of -20°C (-4°F), and in air mixtures of between 2.5% and 12.8% acetone, by volume, acetone may explode or cause a flash fire. Vapors can flow along surfaces to distant ignition sources and flash back. Static discharge may also ignite acetone vapors. However, acetone has a very high ignition initiation energy point, so accidental ignition is rare. Acetone is incompatible with acids, aldehydes, alkalis, amines, ammonia, oxidizing agents, reducing agents, and chlorine compounds. Acetone may form explosive mixtures with chromic anhydride, chromyl alcohol, hexachloromelamine, hydrogen peroxide, permonosulfuric acid, potassium tertbutoxide, and thioglycol. When acetone is heated to autoignition and decomposition (ca. $465^{\circ}\text{C}/869^{\circ}\text{F}$), it can decompose to carbon monoxide and carbon dioxide.

Description *(Continued)*

- Acetone exhibits only slight toxicity in normal use, and there is no strong evidence of chronic health effects if basic precautions are followed. At very high vapor concentrations, acetone is irritating to the nose, throat and lungs and, like many other solvents, may depress the central nervous system (CNS). High vapor concentrations can cause headaches, dizziness, drowsiness, nausea, and possibly unconsciousness. If swallowed, acetone is an irritant to the gastrointestinal tract and is considered an aspiration hazard as it can enter the lungs and cause damage. Acetone is considered a severe eye irritant and it can cause skin irritation. Prolonged or repeated skin contact with liquid acetone may cause drying, redness and possible blistering of the skin.
- In 1995, the U.S. Environmental Protection Agency (EPA) removed acetone from the list of “toxic chemicals” maintained under Section 313 of the Emergency Planning and Community Right to Know Act (EPCRA). In making that decision, EPA conducted an extensive review of the available toxicity data on acetone and found that acetone “exhibits acute toxicity only at levels that greatly exceed releases and resultant exposures,” and further that acetone “exhibits low toxicity in chronic studies.”
- Acetone is not considered a neurotoxicant, although exposures to high doses may cause transient CNS effects.
- Acetone is not genotoxic based on results of multiple *in vitro* and *in vivo* genetic assays.
- There are no known or documented reproductive or developmental effects associated with acetone.
- The risk of cancer from exposures to acetone is low.
- Acetone is completely miscible with water, but has a low order of toxicity to aquatic organisms (e.g., fish, invertebrates, and algae) and to terrestrial plants and animals. Acetone is readily biodegradable; therefore, its persistence in the environment is expected to be negligible. Also, its potential to bioaccumulate is judged to be low.
- In 1995, the U.S. EPA exempted acetone from regulation as a volatile organic compound (VOC) and stated that this exemption would “contribute to the achievement of several important environmental goals and would support EPA’s pollution prevention efforts.” The U.S. EPA also noted that acetone could be used as a substitute for several compounds that are listed as hazardous air pollutants (HAP) under section 112 of the Clean Air Act.

Useful Resources

For more information about this product, [contact AdvanSix](#). Also see the following links:

- [U.S. EPA Health Effects Assessment \(IRIS\): Acetone](#)
- [U.S. EPA Interim Acute Exposure Guideline Levels \(AEGs\): Acetone](#)
- [Support Document for Interim Acute Exposure Guideline Levels \(AEGs\): Acetone](#)
- [Agency for Toxic Substances and Disease Registry \(ATSDR\): Acetone](#)
- [Minnesota Department of Health Risk Assessment: Acetone](#)
- [International Chemical Safety Cards: Acetone](#)
- [National Institute for Occupational Safety & Health \(NIOSH\): Acetone](#)

Contact AdvanSix

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AdvanSix.com/chemicalintermediates

or call:

1-844-890-8949 (toll free, U.S./Can.)

+1-973-526-1800 (international)

AdvanSix

300 Kimball Drive, Suite 101
Parsippany, NJ 07054



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