



## Material Safety Data Sheet Acetone

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Acetone

**Synonyms:** Dimethylformaldehyde; Dimethyl ketone; 2-Propanone; Pyroacetic acid; Pyroacetic ether.

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
67-64-1	Acetone	100.0	200-662-2

**Hazard Symbols:** XI F

**Risk Phrases:** 11 36 66 67

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: colourless. Flash Point: -4 deg F. Causes respiratory tract irritation. Causes eye irritation. Breathing vapors may cause drowsiness and dizziness. Prolonged or repeated contact may dry the skin and cause irritation. **Danger!** Extremely flammable liquid and vapor. Vapor may cause flash fire.

**Target Organs:** Central nervous system, respiratory system, eyes, skin.

#### Potential Health Effects

**Eye:** Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury.

**Skin:** May be absorbed through the skin. Repeated or prolonged exposure may cause drying and cracking of the skin.

**Ingestion:** May cause irritation of the digestive tract. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

**Inhalation:** Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause motor incoordination and speech abnormalities.

**Chronic:** Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation may cause effects similar to those of acute inhalation.

### Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

**Ingestion:** Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. May be ignited by heat, sparks, and flame. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.

**Flash Point:** -4e deg F ( -20.00 deg C)

**Autoignition Temperature:** 869 deg F ( 465.00 deg C)

**Explosion Limits, Lower:**2.5%

**Upper:** 12.8%

**NFPA Rating:** (estimated) Health: 1; Flammability: 3; Instability: 0

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Wear appropriate protective clothing to minimize contact with skin. Remove all sources of ignition. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces. Clean up residual material by washing area with a 2-5% solution of soda ash.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Acetone	500 ppm TWA; 750 ppm STEL	250 ppm TWA; 590 mg/m <sup>3</sup> TWA 2500 ppm IDLH	1000 ppm TWA; 2400 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** Acetone: 750 ppm TWA; 1800 mg/m<sup>3</sup> TWA

**Personal Protective Equipment**

**Eyes:** Wear chemical goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** colourless

**Odor:** acetone-like

**pH:** 7

**Vapor Pressure:** 180 mm Hg

**Vapor Density:** 2.0 (Air=1)

**Evaporation Rate:**7.7 (n-Butyl acetate=1)

**Viscosity:** Not available

**Boiling Point:** 133.2 deg F

**Freezing/Melting Point:**-139.6 deg F

**Decomposition Temperature:**Not available.

**Solubility:** Soluble.

**Specific Gravity/Density:**0.79 (Water=1)

**Molecular Formula:**C<sub>3</sub>H<sub>6</sub>O

**Molecular Weight:**58.08

Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.

**Conditions to Avoid:** High temperatures, ignition sources, temperatures above 220°C.

**Incompatibilities with Other Materials:** Strong acids, strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.

Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 67-64-1: AL3150000

**LD50/LC50:**

CAS# 67-64-1:

Dermal, guinea pig: LD50 = >9400 uL/kg;

Draize test, rabbit, eye: 10 uL Mild;

Draize test, rabbit, eye: 20 mg Severe;

Draize test, rabbit, eye: 20 mg/24H Moderate;

Draize test, rabbit, skin: 500 mg/24H Mild;

Inhalation, mouse: LC50 = 44 gm/m<sup>3</sup>/4H;

Inhalation, rat: LC50 = 50100 mg/m<sup>3</sup>/8H;

Oral, mouse: LD50 = 3 gm/kg;

Oral, rabbit: LD50 = 5340 mg/kg;

Oral, rat: LD50 = 5800 mg/kg; <BR.

**Carcinogenicity:**

CAS# 67-64-1:

**ACGIH:** A4 - Not Classifiable as a Human Carcinogen

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** TDLo(Oral, rat) = 273 gm/kg; Reproductive - Paternal Effects - spermatogenesis (incl. genetic material, sperm morphology, motility, and count).

**Neurotoxicity:** No information available.

**Mutagenicity:** Sex chromosome loss and nondisjunction(Yeast - *Saccharomyces cerevisiae*) = 47600 ppm; Cytogenetic analysis(Rodent - hamster Fibroblast)= 40 gm/L.

**Other Studies:** Standard Draize Test: Administration onto the skin (human) = 500 mg/7days (Mild).

Standard Draize Test: Administration onto the skin (rabbit) = 500 mg/24H (Mild). Standard Draize

Test( Eye, Rabbit) = 20 mg; Severe.

## Section 12 - Ecological Information

**Ecotoxicity:** Material Safety Data Sheet Brown trout: ; ; Rainbow trout LC50=5540 mg/L/96H Sunfish (tap water), death at 14250 ppm/24H Mosquito fish (turbid water) TLm=13000 ppm/48HCas# 67-64-1:LC50 (96Hr.) rainbow trout = 5540 mg/L; Static conditions, 11-13 degrees CLC50 (96Hr) Fathead Minnow = 7280-8120 mg/L; Flow-through ConditionsLC50 (96Hr) Bluegill = 8300 mg/L

**Environmental:** Volatilizes, leeches, and biodegrades when released to soil. TERRESTRIAL FATE: If released on soil, acetone will both volatilize and leach into the ground. Acetone readily biodegrades and there is evidence suggesting that it biodegrades fairly rapidly in soils. AQUATIC FATE: If released into water, acetone will probably biodegrade. It is readily biodegradable in screening tests, although data from natural water are lacking. It will also be lost due to volatilization (estimated half-life 20 hr from a model river). Adsorption to sediment should not be significant.

**Physical:** ATMOSPHERIC FATE: In the atmosphere, acetone will be lost by photolysis and reaction with photochemically produced hydroxyl radicals. Half-life estimates from these combined processes are 79 and 13 days in January and June, respectively, for an overall annual average of 22 days. Therefore considerable dispersion should occur. Being miscible in water, wash out by rain should be an important removal process. This process has been confirmed around Lake Shinsei-ko in Japan. There acetone was found in the air and rain as well as the lake.

**Other:** Not expected to bioconcentrate in fish. he recommended log octanol/water partition coefficient for acetone is -0.24 and therefore its potential for bioconcentration in fish is negligible. One experimental study of bioconcentration in adult haddock at 7-9 deg C (static test), resulted in a BCF of 0.69.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure

complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** CAS# 67-64-1: waste number U002 (Ignitable waste).

#### Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
<b>Shipping Name:</b>	No information available.				ACETONE
<b>Hazard Class:</b>					3
<b>UN Number:</b>					UN1090
<b>Packing Group:</b>					II
<b>Additional Info:</b>					FLASHPOINT -20 C

#### Section 15 - Regulatory Information

##### European/International Regulations

##### European Labeling in Accordance with EC Directives

##### Hazard Symbols:

XI F

##### Risk Phrases:

R 11 Highly flammable.

R 36 Irritating to eyes.

R 66 Repeated exposure may cause skin dryness or cracking.

R 67 Vapors may cause drowsiness and dizziness.

##### Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 9 Keep container in a well-ventilated place.

#### Section 16 - Additional Information

**MSDS Creation Date:** 7/26/1999

**Revision #3 Date:** 10/03/2005

**Revision #4 Date:** 09/03/2010

**Revision #5 Date:** 08/03/2015

**Revision #6 Date:** 07/03/2020

**Revision #7 Date:** 06/03/2025

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