

## 1. Identification

<b>Product identifier</b>	<b>Acetone</b>	
<b>Other means of identification</b>		
<b>Catalog number</b>	1006801	
<b>CAS number</b>	67-64-1	
<b>Synonyms</b>	Dimethyl ketone * Ketone propane	
<b>Chemical name</b>	2-Propanone	
<b>Recommended use</b>	Specified quality tests and assay use only.	
<b>Recommended restrictions</b>	Not for use as a drug. Not for administration to humans or animals.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	U. S. Pharmacopeia	
<b>Address</b>	12601 Twinbrook Parkway Rockville MD 20852-1790 United States	
<b>Telephone</b>	RS Technical Services	301-816-8129
<b>Website</b>	www.usp.org	
<b>E-mail</b>	RSTECH@usp.org	
<b>Emergency phone number</b>	CHEMTREC within US & Canada	1-800-424-9300
	CHEMTREC outside US & Canada	+1 703-527-3887

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 2
<b>Health hazards</b>	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
<b>Environmental hazards</b>	Not classified.	
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Danger
<b>Hazard statement</b>	Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.
<b>Precautionary statement</b>	
<b>Prevention</b>	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Wear protective gloves/eye protection/face protection.
<b>Response</b>	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Substance

Chemical name	Common name and synonyms	CAS number	%
Acetone	Dimethyl ketone Ketone propane	67-64-1	100

### 4. First-aid measures

<b>Inhalation</b>	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. If eye irritation persists: Get medical advice/attention.
<b>Ingestion</b>	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Irritant effects. Narcotic effects.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically. Treatment of acetone overdose should be symptomatic and supportive and may include the following: Consider insertion of a nasogastric tube to aspirate stomach contents, only after recent large ingestions. Do not induce vomiting because of potential for central nervous system depression and aspiration. Activated charcoal is of limited benefit. Monitor urine output and fluid intake in symptomatic patients. Monitor blood glucose, serum acetone, and urine ketones. Monitor blood gasses if respiratory depression is present. Hemodialysis can enhance acetone elimination but should generally only be considered in patients with hemodynamic instability unresponsive to supportive care.
<b>General information</b>	Remove from exposure. Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	By heating and fire, harmful vapors/gases may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Wear suitable protective equipment.
<b>Fire fighting equipment/instructions</b>	As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing. Use water spray to cool unopened containers.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Highly flammable liquid and vapor.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Wear appropriate personal protective equipment. Avoid inhalation of vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Absorb spillage with suitable absorbent material. For waste disposal, see section 13 of the SDS. Remove sources of ignition. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Clean surface thoroughly to remove residual contamination.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

### 7. Handling and storage

<b>Precautions for safe handling</b>	As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Select and use containment devices and personal protective equipment based on a risk assessment of material potency and exposure potential.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

## 8. Exposure controls/personal protection

### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m <sup>3</sup> 1000 ppm

#### US. ACGIH Threshold Limit Values

Material	Type	Value
Acetone (CAS 67-64-1)	STEL	500 ppm
	TWA	250 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m <sup>3</sup> 250 ppm

### Biological limit values

#### ACGIH Biological Exposure Indices

Material	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*

\* - For sampling details, please see the source document.

### Appropriate engineering controls

For laboratory operations, use good technique and limit open handling. Control exposures to below the occupational exposure level (if available). Select and use containment devices and personal protective equipment based on a risk assessment of exposure potential. Cover all containers for solutions and slurries while being transferred.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.

#### Skin protection

##### Hand protection

Wear nitrile or other impervious gloves if skin contact is possible. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent.

##### Other

Wear lab coat. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use. Do not wear protective garments in common areas (e.g., cafeterias) or out-of-doors.

#### Respiratory protection

Respirators are generally not required for laboratory operations. Choose respiratory protection appropriate to the task and the level of existing engineering controls.

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

### General hygiene considerations

Handling practices in this SDS are recommendations for laboratory use of reference standards. Procedures for any other uses or quantities should be determined after an appropriate assessment.

## 9. Physical and chemical properties

### Appearance

Appearance descriptions are general information and not specific to any USP lot.

#### Physical state

Liquid.

#### Form

Liquid.

#### Color

Colorless. Clear.

### Odor

Characteristic.

### Odor threshold

62 ppm (detectable); 130 ppm (recognizable)

### pH

Not available.

### Melting point/freezing point

-138.46 °F (-94.7 °C)

### Initial boiling point and boiling range

133.16 °F (56.2 °C)

### Flash point

-4.0 °F (-20.0 °C) Closed Cup  
0 °F (-17.8 °C) Closed Cup

### Evaporation rate

7.7 (butyl acetate = 1)

### Flammability (solid, gas)

Not applicable.

**Upper/lower flammability or explosive limits**

<b>Flammability limit - lower (%)</b>	2.6 %
<b>Flammability limit - upper (%)</b>	12.8 %
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.

<b>Vapor pressure</b>	180 mm Hg
<b>Vapor density</b>	2 (air = 1)
<b>Relative density</b>	Not available.

**Solubility(ies)**

<b>Solubility (water)</b>	Miscible.
<b>Solubility (other)</b>	Alcohol: Soluble. Benzene: Soluble. Chloroform: Soluble. Ether: Soluble.

<b>Partition coefficient (n-octanol/water)</b>	-0.24
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<b>Auto-ignition temperature</b>	869 - 1004 °F (465 - 540 °C)
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<b>Decomposition temperature</b>	Not available.
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<b>Viscosity</b>	Not available.
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**Other information**

<b>Chemical family</b>	Ketone.
<b>Dynamic viscosity</b>	0.27 mPa.s (104 °F (40 °C))
<b>Heat of combustion (NFPA 30B)</b>	27.7 kJ/g
<b>Molecular formula</b>	C3H6O
<b>Molecular weight</b>	58.08
<b>Specific gravity</b>	0.79 at 20 °C
<b>Surface tension</b>	23.7 mN/m (68 °F (20 °C))

**10. Stability and reactivity**

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials. Flames. Heat. Sparks.
<b>Incompatible materials</b>	Strong oxidizing agents. Strong reducing agents. Halogenated materials. Acids. Strong bases.
<b>Hazardous decomposition products</b>	Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions.

**11. Toxicological information****Information on likely routes of exposure**

<b>Inhalation</b>	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	Knowledge about health hazard is incomplete.
<b>Symptoms related to the physical, chemical, and toxicological characteristics</b>	Gastrointestinal disturbances. Fatigue. Headache. Vomiting. Dizziness. Weakness. Drowsiness.

**Information on toxicological effects****Acute toxicity**

Product	Species	Test Results
Acetone (CAS 67-64-1)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	20000 mg/kg
<b>Inhalation</b>		
LC50	Rat	76 mg/l, 4 hours
<b>Oral</b>		
LD50	Rat	5800 mg/kg
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.	
<b>Local effects</b>		
20 mg Eye irritation		
Result: Irritant.		
Species: Rabbit		
Test Duration: 24 hours		
Severity: Moderate.		
Skin irritation		
Result: Negative.		
Species: Rabbit		
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Knowledge about health hazard is incomplete.	
<b>Skin sensitization</b>	Based on available data, the classification criteria are not met.	
Sensitization: (Ear swelling)		
Result: Negative.		
Species: Mouse		
Skin sensitization		
Result: Negative.		
Species: Guinea pig		
<b>Germ cell mutagenicity</b>	Knowledge about mutagenicity is incomplete.	
<b>Carcinogenicity</b>	Knowledge about carcinogenicity is incomplete.	
0.1 ml Carcinogenicity		
Result: Negative.		
Species: Mouse		
Test Duration: 441 days		
0.2 ml Carcinogenicity		
Result: No increase in tumor rates during dermal study.		
Species: Mouse		
Test Duration: 2 years		
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	Not listed.	
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not regulated.	
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>	Not listed.	
<b>Reproductive toxicity</b>	Knowledge about health hazard is incomplete.	
<b>Reproductivity</b>		
11000 ppm Reproductivity study		
Result: Resorptions were increased.		
Species: Rat		
<b>Specific target organ toxicity - single exposure</b>	Narcotic effects.	
<b>Specific target organ toxicity - repeated exposure</b>	Knowledge about health hazard is incomplete.	
<b>Aspiration hazard</b>	Knowledge about health hazard is incomplete.	

## 12. Ecological information

### Ecotoxicity

Product		Species	Test Results
Acetone (CAS 67-64-1)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia magna)	10294 - 17704 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours

**Persistence and degradability** No data is available on the degradability of this product.

### Bioaccumulative potential

**Octanol/water partition coefficient log Kow**  
-0.24

**Mobility in soil** No data available.

**Other adverse effects** The product contains volatile organic compounds which have a photochemical ozone creation potential.

## 13. Disposal considerations

**Disposal instructions** Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company. D001: Waste Flammable material with a flash point <140 F

### US RCRA Hazardous Waste U List: Reference

Acetone (CAS 67-64-1)

U002

**Waste from residues / unused products** Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

### DOT

<b>UN number</b>	UN1090
<b>UN proper shipping name</b>	Acetone
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Packaging exceptions</b>	150
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	242

### IATA

<b>UN number</b>	UN1090
<b>UN proper shipping name</b>	Acetone
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Other information</b>	

**Passenger and cargo aircraft** Allowed with restrictions.

**Cargo aircraft only** Allowed with restrictions.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

DOT



IATA



**General information**

It is the shipper's responsibility to determine the correct transport classification at the time of shipment.

**15. Regulatory information**

**US federal regulations**

CERCLA/SARA Reportable Quantity: 5000 pounds (2270 kg)  
Class 1B Flammable liquid This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Acetone (CAS 67-64-1) Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - Yes  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Acetone (CAS 67-64-1) 6532

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

Acetone (CAS 67-64-1) 35 %WV

**DEA Exempt Chemical Mixtures Code Number**

Acetone (CAS 67-64-1) 6532

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Acetone (CAS 67-64-1)

Low priority

**US state regulations****US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Acetone (CAS 67-64-1)

**International Inventories**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** 07-06-2009**Revision date** 04-27-2018**Version #** 03

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