

Material Safety Data Sheet

Acetone

Section 1 - Chemical Product and Company Identification
MSDS Name:

Acetone

Catalog Numbers:

57025

Synonyms:

Dimethylformaldehyde, dimethyl ketone, 2-propanone, pyroacetic acid, pyroacetic ether.

Company Identification:

 Biochemical Sciences, Inc.
 200 Commodore Drive
 Swedesboro, NJ 08085

Company Phone Number:

(800) 524-0294

Emergency Phone Number:

(800) 424-9300

CHEMTREC Phone Number, US:

(800) 424-9300

CHEMTREC Phone Number, Europe:

(202) 483-7616

Section 2 - Composition, Information on Ingredients

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

Hazard Symbols: F



Risk Phrases: 11

Section 3 - Hazards Identification
EMERGENCY OVERVIEW
Appearance: colourless
Danger! Extremely flammable liquid. Causes digestive and respiratory tract irritation. Causes eye and skin irritation. May cause central nervous system depression. May cause liver and kidney damage. Flash Point: -4°F.
Target Organs: kidneys, central nervous system, liver.
Potential Health Effects
Eye:

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

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Skin:

Exposure may cause irritation characterized by redness, dryness, and inflammation.

Ingestion:

May cause irritation of the digestive tract. Symptoms may include: headache, excitement, fatigue, nausea, vomiting, stupor, and coma. May cause liver and kidney damage. 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 headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause liver and kidney damage. 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 soap and 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:

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:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Use water spray to keep fire-exposed containers cool. Extremely flammable liquid. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May be ignited by heat, sparks, and flame. Containers may explode when heated.

Extinguishing Media:

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

NFPA Rating:

(estimated) Health: 1; Flammability: 3; Reactivity: 0

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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., dry sand or earth), then place into a chemical waste container. 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.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Use only in a well ventilated area. 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 contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

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.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name:	ACGIH	NIOSH	OSHA
Acetone	500 ppm TWA; 1188 mg/m ³ TWA ;750 ppm STEL; 1782 mg/m ³ STEL	250 ppm TWA; 590 mg/m ³ TWA 2500 ppm IDLH (lower explosive level)	1000 ppm TWA; 2400 mg/m ³ TWA ;

OSHA Vacated PELs

Acetone: 750 ppm TWA; 1800 mg/m³ TWA

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

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 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Material Safety Data Sheet**Acetone****Section 9 - Physical and Chemical Properties**

Physical State: Liquid
Color: colourless
Odor: Musky
Odor threshold value: 62 ppm (detectable); 130 ppm (recognizable)
pH: 7
Vapor Pressure: 180 mm Hg
Vapor Density: 2.0 (Air=1)
Evaporation Rate: 7.7 (n-Butyl acetate=1)
Viscosity: No information found.
Boiling Point: 133.2 F
Freezing/Melting Point: -139.6 F
Autoignition Temperature: 869°F (465.00°C)
Explosion Limits: Lower: 2.5 Upper: 12.8
Flash Point: -4°F (-20.00°C)
Decomposition Temperature: No information found.
Solubility in water: Soluble.
Specific Gravity/Density: 0.79 (Water=1)
Molecular Formula: C₃H₆O
Molecular Weight 58.0414

Section 10 - Stability and Reactivity**Chemical Stability:**

Stable.

Conditions to Avoid:

High temperatures, temperatures above 220°C.

Incompatibilities with Other Materials

acids (mineral, non-oxidizing, e.g. hydrochloric acid, hydrofluoric acid, muriatic acid, phosphoric acid), acids (mineral, oxidizing, e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), cyanides (e.g. potassium cyanide, sodium cyanide), mercaptans and other organic sulfides (e.g. butyl mercaptan, carbon disulfide, methanethiol), metals (alkali and alkaline, e.g. cesium, potassium, sodium), nitrides (e.g. potassium nitride, sodium nitride), peroxides and hydroperoxides (organic, e.g. acetyl peroxide, benzoyl peroxide, butyl peroxide, methyl ethyl ketone peroxide), oxidizing agents (strong, e.g. bromine, hydrogen peroxide, nitrogen dioxide, potassium nitrate), reducing agents (strong, e.g. aluminum carbide, chlorosilane, hydrogen phosphide, lithium hydride), water reactive substances (e.g. acetic anhydride, alkyl aluminum chloride, calcium carbide, ethyl dichlorosilane).

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide.

Hazardous Polymerization

Has not been reported.

Section 11 - Toxicological Information**RTECS:**

CAS# 67-64-1: AL3150000.

Material Safety Data Sheet**Acetone****LD50/LC50:**

CAS# 67-64-1:

Inhalation, rat: LC50 = 50100 mg/m³/8H

Oral, mouse: LD50 = 3 gm/kg

Oral, rabbit: LD50 = 5340 mg/kg

Oral, rat: LD50 = 5800 mg/kg

Skin, rabbit: LD50 = 20 gm/kg.

Carcinogenicity:

CAS# 67-64-1

ACGIH: A4 - Not Classifiable as a Human Carcinogen

California: Not listed.

NIOSH: Not listed.

NTP: Not listed.

OSHA: Not listed.

IARC: Not listed.

Epidemiology:

No information found.

Teratogenicity:

No information found.

Reproductive:

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

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

No information found.

Other:

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:**

Rainbow trout LC50=5540 mg/L/96H

Sunfish (tap water), death at 14250 ppm/24H

Mosquito fish (turbid water) TLm=13000 ppm/48H

Cas# 67-64-1:

LC50 (96Hr.) rainbow trout = 5540 mg/L; Static conditions, 11-13 degrees C

LC50 (96Hr) Fathead Minnow = 7280-8120 mg/L; Flow-through Conditions

LC50 (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.

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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

Dispose of in a manner consistent with federal, state, and local regulations.

RCRA P Series Wastes

None of the components are on this list.

RCRA U Series Wastes

CAS# 67-64-1: waste number U002 (Ignitable waste).

Section 14 - Transport Information

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

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 67-64-1 is listed on the TSCA Inventory.

Health and Safety Reporting List

None of the components are on this list.

Chemical Test Rules

None of the components are on this list.

TSCA Section 12b

CAS# 67-64-1: export notification required - Section 4

TSCA Significant New Use Rule (SNUR)

None of the components are on this list.

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CAS# 67-64-1: final RQ = 5000 pounds (2270 kg)

SARA Threshold Planning Quantities (TPQ)

None of the components are on this list.

SARA Hazard Categories

CAS# 67-64-1: acute, chronic, flammable, sudden release of pressure.

SARA Section 313

None of the components are on this list.

Clean Air Act - Hazardous Air Pollutants (HAPs)

None of the components are on this list.

Clean Air Act - Class 1 Ozone Depletors

None of the components are on this list.

Clean Air Act - Class 2 Ozone Depletors

None of the components are on this list.

Clean Water Act - Hazardous Substances

None of the components are on this list.

Clean Water Act - Priority Pollutants

None of the components are on this list.

Clean Water Act - Toxic Pollutants

None of the components are on this list.

OSHA - Highly Hazardous

None of the components are on this list.

OSHA - Specifically Regulated Chemicals**US State****State Right to Know**

Acetone can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California Prop 65**California No Significant Risk Level**

No information found.

European/International Regulations**European Labelling in Accordance with EC Directives:**

Hazard Symbols: F

Risk Phrases: R 11 Highly flammable.

Safety Phrases: S 9 Keep container in a well-ventilated place.

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

S 23C Do not breathe vapour.

S 33 Take precautionary measures against static discharges.

WGK (Water Danger/Protection)

No information found.

United Kingdom Occupational Exposure Limits

No information found.

Canadian DSL/NDSL

CAS# 67-64-1 is listed on Canada's DSL/NDSL List

Material Safety Data Sheet**Acetone****Canadian WHMIS Classifications**

This product has a WHMIS classification of B2.

Canada Ingredient Disclosure List

CAS# 67-64-1 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 67-64-1: OEL-AUSTRALIA:TWA 500 ppm (1185 mg/m³);STEL 1000 ppm

OEL-AUSTRIA:TWA 750 ppm (1780 mg/m³)

OEL-BELGIUM:TWA 750 ppm (1780 mg/m³);STEL 1000 pp

OEL-CZECHOSLOVAKIA:TWA 800 mg/m³;STEL 4000 mg/m³

OEL-DENMARK:TWA 250 ppm (600 mg/m³)

OEL-FINLAND:TWA 500 ppm (1200 mg/m³);STEL 625 ppm (1500 mg/m³)

OEL-FRANCE:TWA 750 ppm (1800 mg/m³)

OEL-GERMANY:TWA 1000 ppm (2400 mg/m³)

OEL-HUNGARY:TWA 600 mg/m³;STEL 1200 mg/m³

OEL-INDIA:TWA 750 ppm (1780 mg/m³);STEL 1000 ppm (2375 mg/m³)

OEL-JAPAN:TWA 200 ppm (470 mg/m³)

OEL-THE NETHERLANDS:TWA 750 ppm (1780 mg/m³) JAN9

OEL-THE PHILIPPINES:TWA 1000 ppm (2400 mg/m³)

OEL-POLAND:TWA 200 mg/m³

OEL-RUSSIA:TWA 200 ppm;STEL 200 mg/m³

OEL-SWEDEN:TWA 250 ppm (600 mg/m³);STEL 500 ppm (1200 mg/m³)

OEL-SWITZERLAND:TWA 750 ppm (1780 mg/m³)

OEL-TURKEY:TWA 1000 ppm (2400 mg/m³)

OEL-UNITED KINGDOM:TWA 750 ppm (1810 mg/m³);STEL 1250 ppm

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Other Information

Color information has been

MSDS Creation Date: July 26, 1999

Revision Date: Original.

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