

Material Safety Data Sheet
Acetone

ACC# 00140

Section 1 - Chemical Product and Company Identification

MSDS Name: Acetone

Catalog Numbers: S70090, S70091-1, A11-1, A11-20, A11-200, A11-4, A11S-4, A16F-1GAL, A16P-4, A16S-20, A16S-4, A16S20001, A16S4LC, A18-1, A18-20, A18-200, A18-4, A18-500, A18200001, A18200LC, A1820LC, A1820LOT003, A184LC, A184LOT001, A18CU1300, A18J500, A18P-4, A18P4, A18RB115, A18RB19, A18RB200, A18RB50, A18RS115, A18RS200, A18RS28, A18RS50, A18S-4, A18SK-4, A18SK4LC, A18SS-115, A18SS-200, A18SS-30, A18SS-50, A19-1, A19-4, A20-1, A40-4, A404LOT007, A404LOT008, A404LOT009, A928-4, A929-1, A929-4, A9294LC, A9294LOT001, A9294LOT012, A9294LOT014, A9294LOT017, A9294LOT018, A9294LOT019, A9294LOT021, A9294LOT022, A9294LOT024, A929J4, A929RS-115, A929RS-19, A929RS-200, A929RS-28, A929RS-50, A929SS-115, A929SS-200, A929SS-28, A929SS-50, A930-4, A946-4, A946FB200, A946RB115, A946RB19, A946RB200, A946RB50, A949-1, A949-4, A9494LOT004, A949CU50, A949J4, A949LC, A949RS115, A949RS19, A949RS200, A949RS28, A949RS50, A949SK-1, A949SK-4, A949SS-11, A949SS-115, A949SS-20, A949SS-200, A949SS-30, A949SS-50, BP24011, BP240320, BP24034, BP2403500, BP2404, BPA18-4, BPA946RB-115, BPA946RB-19, BPA946RB-200, BPA946RB-50, HC 300 1GAL, HC3001GAL, NC9475452, NC9475553, NC9614315, NC9631882, NC9743229, S118016, S254CA4, S70091, S70091HPLC, S70091SPEC, XXA181LI, XXA949U200LI

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

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
67-64-1	Acetone	99.0	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. **Danger!** Causes eye and skin irritation. May cause central nervous system depression. May cause liver and kidney damage. Causes respiratory tract irritation. Extremely flammable liquid and vapor. Vapor may cause flash fire.

Target Organs: Kidneys, central nervous system, liver, respiratory system, eyes, skin.

Potential Health Effects

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

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

Ingestion: May cause irritation of the digestive tract. May cause central nervous system depression, kidney damage, and liver damage. 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 nausea, 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: 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 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. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back.

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. Extremely flammable liquid and vapor. 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.

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.

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. 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. 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 ³ TWA 2500 ppm IDLH (10 percent lower)	1000 ppm TWA; 2400 mg/m ³ TWA

		explosive level)	
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OSHA Vacated PELs: Acetone: 750 ppm TWA; 1800 mg/m³ TWA; 1000 ppm STEL; 2400 mg/m³ STEL (The acetone STEL does not apply to the cellulose

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 29CFR 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

Autoignition Temperature: 869 deg F (465.00 deg C)

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

Decomposition Temperature: Not available.

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

Explosion Limits, Lower: 2.5

Upper: 12.8

Solubility: Soluble.

Specific Gravity/Density: 0.79 (Water=1)

Molecular Formula: C₃H₆O

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 oxidizing agents, strong acids, perchlorates, aliphatic amines, chromyl chloride, hexachloromelamine, chromic anhydride, chloroform + alkali, potassium tert-butoxide.

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: 20 mg Severe;

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

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

Inhalation, mouse: LC50 = 44 gm/m³/4H;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; <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
Shipping Name:	ACETONE				ACETONE
Hazard Class:	3				3
UN Number:	UN1090				UN1090
Packing Group:	II				II
Additional Info:					FLASHPOINT -20 C

Section 15 - Regulatory Information

US FEDERAL

TSCA

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

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

CAS# 67-64-1: 4/12b

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)

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

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

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

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 67-64-1 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

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.

WGK (Water Danger/Protection)

CAS# 67-64-1: 0

Canada

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

This product has a WHMIS classification of B2, D2B.

CAS# 67-64-1 is 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 O
EL-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 120
0 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-P
OLAND: 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: TW
A 750 ppm (1780 mg/m³) OEL-TURKEY: TWA 1000 ppm (2400 mg/m³) OEL-UNIT
ED KINGDOM: TWA 750 ppm (1810 mg/m³); STEL 1250 ppm OEL IN BULGARIA, CO

LOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE,
VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 7/26/1999

Revision #9 Date: 3/19/2001

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages