# Material Safety Data Sheet

Acetone

ACC# 00140

## Section 1 - Chemical Product and Company Identification

**MSDS Name:** Acetone
**Catalog Numbers:** AC167645000, AC176800000, AC176800026, AC176800050, AC176800051, AC176800250, AC176805000, AC177170000, AC177170050, AC177170100, AC177170250, AC177179090, AC268310000, AC268310010, AC296780000, AC296782500, AC326570000, AC326570010, AC326570025, AC326700000, AC326700010, AC326700025, AC326740000, AC326740010, AC326740025, AC326800000, AC326800010, AC326801000, AC326802500, AC327840000, AC327840010, AC400100000, AC400100010, AC400100040, AC400105000, AC423240000, AC611010040, AC9642971, 16764-0000, 16764-0025, 17680-0010, 17680-0025, 17717-0010, 17717-0025, 26831-0025, 26831-0040, 32784-0040, 40010-0025, 42324-0010, 42324-0040, 42324-5000, A11-1, A11-20, A11-200, A11-4, A11S-4, A16F-1GAL, A16P-1GAL, A16P-4, A16S-20, A16S-4, A18-1, A18-20, A18-200, A18-200LC, A18-4, A18-500, A18FB-115, A18FB-19, A18FB-200, A18FB-50, A18J-500, A18P-4, A18POP-19, A18POP-200, A18POP-50, A18POPB-19, A18POPB-200, A18POPB-50, A18RB-115, A18RB-19, A18RB-200, A18RB-50, A18RS-115, A18RS-200, A18RS-28, A18RS-50, A18S-4, A18SK-4, A18SS-115, A18SS-19, A18SS-200, A18SS-28, A18SS-50, A19-1, A19-4, A19RS-115, A19RS-200, A40-4, A40-4LC, A9-20, A9-200, A9-4, A928-4, A929-1, A929-4, A929J4, A929RS-19, A929RS-200, A929RS-50, A929SK-4, A929SS-115, A929SS-200, A929SS-50, A929SS28, A946-4, A9464LC, A946FB19, A946FB200, A946FB50, A946POPB19, A946POPB200, A946POPB50, A946RB115, A946RB19, A946RB200, A946RB50, A949-1, A949-4, A9491LC, A949CU50, A949J1, A949J4, A949N-119, A949N-219, A949POP-19, A949POP-200, A949POP-50, A949POPN-19, A949RS-115, A949RS-28, A949RS-50, A949SK-1, A949SK-4, A949SK4LC, A949SS-115, A949SS-19, A949SS-200, A949SS-28, A949SS-50, BP2401-1, BP2403-1, BP2403-20, BP2403-4, BP2403-500, BP2404-1, BP2404-4, BP2404SK-1, BP2404SK-4, HC3001GAL, NC9060899, NC9120377, NC9173151, NC9410335, NC9410661, NC9614315, NC9651790, NC9670953, PS03488, PS03489, S70091, S70091HPLC, S70091SPEC
**Synonyms:** Dimethylketone; 2-Propanone.
**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 | 200-662-2 |

## Section 3 - Hazards Identification

### EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -20 deg C.
**Danger!** Extremely flammable liquid and vapor. Vapor may cause flash fire. Causes eye irritation. Breathing vapors may cause drowsiness and dizziness. Causes respiratory tract irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. Prolonged or repeated contact may dry the skin and cause irritation.
**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. Vapors cause eye irritation.
**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. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.
**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. Matsushita et al. exposed human volunteers 6 hours/day for 6 days at 500 ppm acetone and found hematologic changes including significantly increased leukocyte and eosinophil counts and decreased neutrophil phagocytic activity.

## Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid.
**Skin:** In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.
**Ingestion:** Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.
**Inhalation:** If inhaled, remove to fresh air. 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:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. 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. Extremely flammable liquid and vapor. Vapor may cause flash fire. 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:** Use dry chemical, carbon dioxide, or appropriate foam. Water may be ineffective because it will not cool material below its flash point.
**Flash Point:** -20 deg C ( -4.00 deg F)
**Autoignition Temperature:** 465 deg C ( 869.00 deg F)
**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. Use only non-sparking tools and equipment.

## 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. 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. Avoid breathing vapor.
**Storage:** 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. Ventilation fans and other electrical service must be non-sparking and have an explosion-proof design.
**Exposure Limits**

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|---|---|---|---|
| Acetone | 500 ppm TWA; 750 ppm STEL | 250 ppm TWA; 590 mg/m3 TWA 2500 ppm IDLH (10% LEL) | 1000 ppm TWA; 2400 mg/m3 TWA |

**OSHA Vacated PELs:** Acetone: 750 ppm TWA; 1800 mg/m3 TWA
**Personal Protective Equipment**
**Eyes:** Wear chemical splash goggles.
**Skin:** Wear butyl rubber gloves, apron, and/or clothing.
**Clothing:** Wear appropriate protective clothing to prevent skin exposure.
**Respirators:** A NIOSH/MSHA approved or European Standard EN 149 air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid
**Appearance:** clear, colorless
**Odor:** sweetish odor
**pH:** 7
**Vapor Pressure:** 231 mm Hg @ 25 deg C
**Vapor Density:** 2.0 (Air=1)
**Evaporation Rate:**5.6 (n-Butyl acetate=1)
**Viscosity:** 0.32 cps @ 20 deg C
**Boiling Point:** 56.5 deg C
**Freezing/Melting Point:**-94 deg C
**Decomposition Temperature:**Not available.
**Solubility:** Soluble.
**Specific Gravity/Density:**0.788 @ 25°C
**Molecular Formula:**$C_3H_6O$
**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, confined spaces.
**Incompatibilities with Other Materials:** Strong oxidizing agents, strong reducing agents, strong bases, nitric acid, hexachloromelamine, sulfur dichloride, potassium tert-butoxide.
**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide.
**Hazardous Polymerization:** Will not occur.

## 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, eye: 10 uL Mild;
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;
.

**Carcinogenicity:**
CAS# 67-64-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** In a series of studies, no statistically significant differences in causes of death or clinical laboratory results were observed in 948 employees exposed to up to 1070 ppm acetone over 23 years.
**Teratogenicity:** Animal studies have only shown harmful effects in the offspring of animals exposed to doses which also produced significant maternal toxicity.
**Reproductive Effects:** During the Stewart et al. study, four adult female volunteers were exposed 7.5 hours to acetone vapor at a nominal concentration of 1000 ppm.Three of the four women experienced premature menstrual periods which were attributed to the acetone exposure.
**Mutagenicity:** Sex chromosome loss and nondisjunction(Yeast - Saccharomyces cerevisiae) = 47600 ppm; Cytogenetic analysis(Rodent - hamster Fibroblast)= 40 gm/L.
**Neurotoxicity:** No information found
**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** Fish: Rainbow trout: 5540 mg/l; 96-hr; LC50Fish: Bluegill/Sunfish: 8300 mg/l; 96-hr; LC50 No data available.
**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:** No information available.

## 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 | Canada TDG |
|---|---|---|
| **Shipping Name:** | ACETONE | ACETONE |
| **Hazard Class:** | 3 | 3 |
| **UN Number:** | UN1090 | UN1090 |
| **Packing Group:** | II | II |

## 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**
CAS# 67-64-1: 40 CFR 799.5000
**Section 12b**
None of the chemicals are listed under TSCA Section 12b.
**TSCA Significant New Use Rule**
None of the chemicals in this material have a SNUR under TSCA.
**CERCLA Hazardous Substances and corresponding RQs**
CAS# 67-64-1: 5000 lb final RQ; 2270 kg final RQ
**SARA Section 302 Extremely Hazardous Substances**
None of the chemicals in this product have a TPQ.
**SARA Codes**
CAS # 67-64-1: immediate, fire.
**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 depletors.
This material does not contain any Class 2 Ozone depletors.
**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, Pennsylvania, Minnesota, Massachusetts.

**California Prop 65**

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 Vapours 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 - DSL/NDSL**
CAS# 67-64-1 is listed on Canada's DSL List.
**Canada - WHMIS**
This product has a WHMIS classification of B2, D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
**Canadian Ingredient Disclosure List**
CAS# 67-64-1 is listed on the Canadian Ingredient Disclosure List.

## Section 16 - Additional Information

**MSDS Creation Date:** 7/26/1999
**Revision #22 Date:** 2/28/2008

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