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**** MATERIAL SAFETY DATA SHEET ****

Acetone
00140

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Acetone

Catalog Numbers:

S70090, S70091-1, A11 1, A11 20, A11 200, A11 4, A11-1, A11-20, A11-200, A11-4, A111, A11200, A114, A11S 4, A11S-4, A11S4, A16F-1GAL, A16P 4, A16P-4, A16P4, A16S 20, A16S 20 001, A16S 4, A16S-20, A16S-4, A16S20, A16S20001, A16S4, A16S4LC, A18 1, A18 20, A18 200, A18 200 001, A18 4, A18 500, A18-1, A18-20, A18-200, A18-4, A18-500, A181, A1820, A18200, A1820001, A18200LC, A1820LC, A1820LOT003, A184, A184LC, A184LOT001, A18500, A18CU1300, A18F500, A18P4, A18RB115, A18RB19, A18RB200, A18RB50, A18RB50, A18RS115, A18RS200, A18RS28, A18RS50, A18S 4, A18S-4, A18S4, A18SK 4, A18SK-4, A18SK4, A18SK4LC, A18SS 200, A18SS 50, A18SS-115, A18SS-200, A18SS-30, A18SS-50, A18SS200, A18SS50, A19 1, A19 4, A19-1, A19-4, A191, A194, A20-1, A40 4, A40-4, A404, A404LOT007, A404LOT008, A404LOT009, A928 4, A9284, A929 4, A929-1, A929-4, A9294, A9294LC, A9294LOT001, A9294LOT012, A9294LOT014, A9294LOT017, A9294LOT018, A9294LOT019, A9294LOT021, A9294LOT022, A9294LOT024, A929J4, A929RS115, A929RS19, A929RS200, A929RS28, A929RS50, A929SS115, A929SS200, A929SS28, A929SS50, A930-4, A946 4, A946-4, A9464, A946FB200, A946RB115, A946RB19, A946RB200, A946RB50, A949 1, A949 4, A949-1, A949-4, A9491, A9494, A9494LOT004, A949CU50, A949J4, A949LC, A949RS115, A949RS19, A949RS200, A949RS28, A949RS50, A949SK-1, A949SK-4, A949SS 115, A949SS 200, A949SS 30, A949SS 50, A949SS-11, A949SS-115, A949SS-20, A949SS-200, A949SS-30, A949SS-50, A949SS115, A949SS200, A949SS30, A949SS50, BP24011, BP240320, BP24034, BP2403500, BPA18-4, BPA946RB-115, BPA946RB-19, BPA946RB-200, BPA946RB-50, FLA929RS-115, FLA929RS-200, FLA929RS-28, FLA929RS-50, HC 300 1GAL, HC3001GAL, NC9475452, NC9475553, NC9614315, NC9631882, S70091, S70091HPLC, S70091SPEX, XXA181LI

Synonyms:

Dimethylformaldehyde; Dimethyl Ketone; 2-Propanone; Pyroacetic Acid; Pyroacetic Ether.

Company Identification: Fisher Scientific
1 Reagent Lane
Fairlawn, 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	%	EINECS#
67-64-1	2-Propanone	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! Extremely flammable liquid. May cause central nervous system depression. May cause liver and kidney damage. Causes eye and skin irritation. Causes digestive and respiratory tract irritation.
Target Organs: Kidneys, central nervous system, liver, respiratory system.

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 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.

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**** 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 respiration. 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. 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., dry sand or earth), then place into a chemical waste 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 containers 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
2-Propanone	500 ppm; 750 ppm	250 ppm TWA; 590	1000 ppm TWA;

STEL	mg/m3 TWA 2500	2400 mg/m3 TWA
	ppm IDLH (lower explosive level)	

OSHA Vacated PELs:
2-Propanone:
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.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Liquid
Appearance: colourless
Odor: sweetish odor - Musky
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)
NFPA Rating: (est.) Health: 1; Flammability: 3; Reactivity: 0
Explosion Limits, Lower: 2.5
Upper: 12.8
Decomposition Temperature:
Solubility: Soluble.
Specific Gravity/Density: 0.79 (Water=1)
Molecular Formula: C3H6O
Molecular Weight: 58.0414

**** 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:

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), acids (organic, e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), alcohols and glycols (e.g. butyl alcohol, ethanol, methanol, ethylene glycol), aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, formaldehyde), amides (e.g. butyramide, diethyltoluamide, dimethyl formamide), amines (aliphatic and aromatic, e.g. dimethyl amine, propylamine, pyridine, triethylamine), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), carbamates (e.g. carbanolate, carbofuran), caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), cyanides (e.g. potassium cyanide, sodium cyanide), dithiocarbamates (e.g. ferbam, maneb, metham, thiram), esters (e.g. butyl acetate, ethyl acetate, propyl formate), ethers.

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: Inhalation, rat: LC50 = 50100 mg/m3/6H; 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:

2-Propanone -

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:

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

Other

For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

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

RCRA P-Series: None listed.

RCRA U-Series: CAS# 67-64-1: waste number U002;

(Ignitable waste).

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT

Shipping Name: ACETONE

Hazard Class: 3

UN Number: UN1090

Packing Group: II

Canadian TDG

Shipping Name: ACETONE

Hazard Class: 3

UN Number: UN1090

Other Information: 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

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.

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

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by OSHA.

STATE
2-Propanone 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 9 Keep container in a well-ventilated place.
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.

WGK (Water Danger/Protection)

CAS# 67-64-1: 0

United Kingdom Occupational Exposure Limits

CAS# 67-64-1: OES-United Kingdom, TWA 750 ppm TWA; 1810 mg/m³ TWA

CAS# 67-64-1: OES-United Kingdom, STEL 1500 ppm STEL; 3620 mg/m³
STEL

Canada

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

This product has a WHMIS classification of B2, D2B.

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 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 7/26/1999 Revision #4 Date: 4/30/2000

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 way shall the company 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, however arising, even if the company has been advised of the possibility of such damages.