

Ethyl Alcohol (96%)
89619

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

MSDS Name: Ethyl Alcohol (96%)

Catalog Numbers:

BP/E140

Synonyms:

Ethyl alcohol; Ethyl alcohol anhydrous; Ethyl hydrate; Ethyl hydroxide; Fermentation alcohol; Grain alcohol; Methylcarbinol; Molasses alcohol; Spirits of wine

Company Identification: Fisher Scientific UK

Bishop Meadow Road

Loughborough, Leicestershire

LE11 5RG, UK

For information, call: 01509 231166

For emergencies, call: 01509 231166

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
64-17-5	Ethyl alcohol	96.0	200-578-6
7732-18-5	Water	Balance	231-791-2

Hazard Symbols: F

Risk Phrases: 11

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: Colorless. Flash Point: 16.66 deg C.

Warning! Flammable liquid. Causes respiratory tract irritation. May cause digestive tract irritation. May cause central nervous system depression. Causes severe eye irritation. This substance has caused adverse reproductive and fetal effects in humans. Causes moderate skin irritation. May cause liver, kidney and heart damage.

Target Organs: Kidneys, heart, central nervous system, liver.

Potential Health Effects

Eye:

Causes severe eye irritation. May cause painful sensitization to light. May cause chemical conjunctivitis and corneal damage.

Skin:

Causes moderate skin irritation. May cause cyanosis of the extremities.

Ingestion:

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. 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 narcotic effects in high concentration. Vapors may cause dizziness or suffocation.

Chronic:

May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the development of tumors. Prolonged exposure may cause liver, kidney, and heart damage.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:

Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. 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. Induce vomiting by giving one teaspoon of Syrup of Ipecac.

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. Persons with skin or eye disorders or liver, kidney, chronic respiratory diseases, or central and peripheral nervous system diseases may be at increased risk from exposure to this substance.

Antidote:

None reported.

**** 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. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire.

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.

**** 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. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Wash thoroughly after handling. Use only in a well ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. 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. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store near perchlorates, peroxides, chromic acid or nitric acid.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Use explosion-proof ventilation equipment. 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
Ethyl alcohol	1000 ppm	1000 ppm TWA; 1900 mg/m3 TWA 3300 ppm IDLH (10 percent lower explosive limit)	1000 ppm TWA; 1900 mg/m3 TWA
Water	none listed	none listed	none listed

OSHA Vacated PELs:

Ethyl alcohol:
1000 ppm TWA; 1900 mg/m3 TWA

Water:

No OSHA Vacated PELs are listed for this chemical.

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:

A respiratory protection program that meets OSHA's 29 CFR §1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

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

Physical State: Liquid
 Appearance: Colorless
 Odor: Mild, rather pleasant, like wine or whis
 pH: Not available.
 Vapor Pressure: 59.3 mm Hg @ 25 deg C
 Vapor Density: 1.59
 Evaporation Rate: Not available.
 Viscosity: 1.200 cP @ 25 d
 Boiling Point: 78 deg C
 Freezing/Melting Point: -114.1 deg C
 Autoignition Temperature: 363 deg C (685.40 deg F)
 Flash Point: 16.66 deg C (61.99 deg F)
 NFPA Rating: Not published.
 Explosion Limits, Lower: 3.3 vol %
 Upper: 19.0 vol %
 Decomposition Temperature:
 Solubility: Miscible.
 Specific Gravity/Density: 0.790 @ 20°C
 Molecular Formula: C2H5OH

Molecular Weight: 46.0414

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Incompatible materials, ignition sources, excess heat, oxidizers.

Incompatibilities with Other Materials:

Strong oxidizing agents, acids, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium-tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide.

Hazardous Decomposition Products:

Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:

CAS# 64-17-5: KQ6300000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 64-17-5: Inhalation, mouse: LC50 = 39 gm/m³/4H; Inhalation, rat: LC50 = 20000 ppm/10H; Oral, mouse: LD50 = 3450 mg/kg; Oral, rabbit: LD50 = 6300 mg/kg; Oral, rat: LD50 = 7060 mg/kg.

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

Carcinogenicity:

Ethyl alcohol -

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Water -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:

Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collectively been termed the "fetal alcohol syndrome".

Teratogenicity:

Oral, Human - woman: TDLo = 41 gm/kg (female 41 week(s) after conception) Effects on Newborn - Apgar score (human only) and Effects on Newborn - other neonatal measures or effects and Effects on Newborn - drug dependence.

Reproductive Effects:

Intrauterine, Human - woman: TDLo = 200 mg/kg (female 5 day(s) pre-mating) Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated).

Neurotoxicity:

No information available.

Mutagenicity:

DNA Inhibition: Human, Lymphocyte = 220 mmol/L.; Cytogenetic Analysis: Human, Lymphocyte = 1160 gm/L.; Cytogenetic Analysis: Human, Fibroblast = 12000 ppm.; Cytogenetic Analysis: Human, Leukocyte = 1 pph/72H (Continuous).; Sister Chromatid Exchange: Human, Lymphocyte = 500 ppm/72H (Continuous).

Other Studies:

Standard Draize Test (Skin, rabbit) = 20 mg/24H (Moderate) Standard Draize Test: Administration into the eye (rabbit) = 500 mg (Severe).

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:

Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @

24-24.3°F Fish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling
(Unspecified) Bacteria: Phytobacterium phosphoreum: EC50 = 34900
mg/L; 5-30 min; Microtox test When spilled on land it is apt to
volatilize, biodegrade, and leach into the ground water, but no data
on the rates of these processes could be found. Its fate in ground
water is unknown. When released into water it will volatilize and
probably biodegrade. It would not be expected to adsorb to sediment
or bioconcentrate in fish.

**** 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 Part 261. 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: None listed.

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

US DOT

No information available

Canadian TDG

No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL

TSCA

CAS# 64-17-5 is listed on the TSCA inventory.

CAS# 7732-18-5 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)

None of the chemicals in this material have an RQ.

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 64-17-5: acute, chronic, flammable.

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

Ethyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Water is not present on state lists from CA, PA, MN, MA, FL, or NJ.

WARNING: This product contains Ethyl alcohol, a chemical known to the

state of California to cause birth defects or other reproductive harm.

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: F

Risk Phrases:

R 11 Highly flammable.

Safety Phrases:

S 7 Keep container tightly closed.

S 9 Keep container in a well-ventilated place.

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

S 33 Take precautionary measures against static discharges.

WGK (Water Danger/Protection)

CAS# 64-17-5: 0

CAS# 7732-18-5: No information available.

United Kingdom Occupational Exposure Limits

CAS# 64-17-5: OES-United Kingdom, TWA 1000 ppm TWA; 1920 mg/m3 TWA

Canada

CAS# 64-17-5 is listed on Canada's DSL/NDSL List.

CAS# 7732-18-5 is listed on Canada's DSL/NDSL List.

This product has a WHMIS classification of B2, D2A.

CAS# 64-17-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 64-17-5: OEL-AUSTRALIA:TWA 1000 ppm (1900 mg/m3)

OEL-BELGIUM:TWA 1000 ppm (1880 mg/m3)

OEL-CZECHOSLOVAKIA:TWA 1000 mg/m3;STEL 5000 mg/m3

OEL-DENMARK:TWA 1000 ppm (1900 mg/m3)

OEL-FINLAND:TWA 1000 ppm (1900 mg/m3);STEL 1250 ppm (2400 mg/m3)

OEL-FRANCE:TWA 1000 ppm (1900 mg/m3);STEL 5000 pp

OEL-GERMANY:TWA 1000 ppm (1900 mg/m3)

OEL-HUNGARY:TWA 1000 mg/m3;STEL 3000 mg/m3

OEL-THE NETHERLANDS:TWA 1000 ppm (1900 mg/m3)

OEL-THE PHILIPPINES:TWA 1000 ppm (1900 mg/m3)

OEL-POLAND:TWA 1000 mg/m3

OEL-RUSSIA:STEL 1000 mg/m3

OEL-SWEDEN:TWA 1000 ppm (1900 mg/m3)

OEL-SWITZERLAND:TWA 1000 ppm (1900 mg/m3)

OEL-THAILAND:TWA 1000 ppm (1900 mg/m3)

OEL-TURKEY:TWA 1000 ppm (1900 mg/m3)

OEL-UNITED KINGDOM:TWA 1000 ppm (1900 mg/m3) JAN9

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: 7/27/1999 Revision #2 Date: 8/02/2000

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, howsoever arising, even if the company has been advised of the possibility of such damages.
