

Material Safety Data Sheet

Acid alcohol, 1% in 70%

Section 1 - Chemical Product and Company Identification

MSDS Name: Acid alcohol, 1% in 70% Alcohol

Catalog Numbers: 26072-04

Synonyms: None Available

Company Identification: ELECTRON MICROSCOPY SCIENCES,

1560 INDUSTRY ROAD, PO BOX 550, HATFIELD PA 19440;

(215) 412-8400

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
64-17-5	Ethyl alcohol		200-578-6
67-56-1	Methyl alcohol		200-659-6
67-63-0	Isopropyl alcohol		200-661-7
7647-01-0	Hydrogen chloride	3-5	231-595-7
7732-18-5	Water	balance	231-791-2

Hazard Symbols: None listed.

Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless. **Warning! Flammable liquid.** May be fatal or cause blindness if swallowed. May cause irritation with possible injury by all exposure routes.

Target Organs: None known.

Potential Health Effects

Eye: Vapors are irritating to the eye, liquid contact may result in clouding of the cornea, erosion, up to total corneal opacification and loss of the eye. 2% aqueous solutions applied to human eyes for seconds were without significant injury.

Solutions of 0.25N-1N causes scarring of rabbit cornea, injury at pH less than 3.

Skin: Skin may turn brown-yellow. Deep burns are slow to heal and scarring may occur.

Ingestion: Burns, perforation, and in severe cases circulatory collapse leading to renal, liver or heart failure. May cause narcosis, CNS depression leading to respiratory/circulatory failure, pain, blindness, coma, kidney/liver damage, cyanosis, edema, death.

Inhalation: Above 5ppm exposure ulceration of the respiratory tract with bronchitis, pneumonia, palpitations, dental erosion, and perforation occurring; 6-8hr latency period can occur. Acute burning of nose, throat with coughing, choking, dizziness, difficulty swallowing. Frothy sputum, cyanosis, with circulatory shock, asphyxiation, gastric hemorrhage, and death occurring from severe exposure.

Chronic: Dental erosion, jaw necrosis, respiratory disease (bronchitis, pneumonitis), dermatitis, conjunctivitis (with possible corneal scarring, loss of vision), fever. Respiratory irritation, headache, central nervous system depression (somnolence, lack of concentration), visual impairment and risk of paranasal/laryngeal cancer.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid at once. Cover burns with loose sterile non-medicated bandages.

Skin: Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes. Cover burns with a dry sterile bandage (secure, not tight).

Ingestion: Do NOT induce vomiting. Get medical aid at once. Give conscious victim large quantities of water to dilute acid. If vomiting occurs, keep head lower than hips to prevent aspiration.

Inhalation: Give artificial respiration if necessary. Get medical aid. Keep victim warm, at rest. Move victim to fresh air.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Firefighting Measures

General Information: Vapors heavier than air, may travel considerable distance and flash back from source of ignition. Move container if possible, avoid breathing vapors or dust. Dangerous fire/negligible explosion hazard when exposed to heat or

flame. Vapor-air mixtures explosive above flash point.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spills with absorbent (vermiculite, sand, fuller's earth) and place in plastic bags for later disposal. Scoop material into suitable (plastic or glass) container, label for disposal. Shut off ignition source, avoid vapors. Isolate, ventilate spill area. Water may be used to reduce vapor hazard - keep out of sewers and drains, vapors explosive, may ignite.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Avoid breathing dust, vapor, mist, or gas.

Storage: Store capped at room temperature. Keep away from incompatible materials. Protect from heat and incompatibles. Vapors heavier than air, may travel considerable distance and ignite or explode. Store capped as a flammable liquid in safety cabinet or vault that is ventilated.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Provide local exhaust or general dilution ventilation.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethyl alcohol	1000 ppm	1000 ppm TWA; 1900 mg/m ³ TWA 3300 ppm IDLH (10 percent lower explosive limit)	1000 ppm TWA; 1900 mg/m ³ TWA
Methyl alcohol	200 ppm; 250 ppm STEL; skin - potential for cutaneous absorption	200 ppm TWA; 260 mg/m ³ TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m ³ TWA
Isopropyl alcohol	(400 ppm); (500ppm) STEL	400 ppm TWA; 980 mg/m ³ TWA 2000 ppm IDLH (10 percent lower explosive limit)	400 ppm TWA; 980 mg/m ³ TWA

Hydrogen chloride	C 5 ppm	50 ppm IDLH	C 5 ppm; C 7 mg/m3
Water	none listed	none listed	none listed

OSHA Vacated PELs: Ethyl alcohol: 1000 ppm TWA; 1900 mg/m3 TWA Methyl alcohol: 200 ppm TWA; 260 mg/m3 TWA Isopropyl alcohol: 400 ppm TWA; 980 mg/m3 TWA Hydrogen chloride: No OSHA Vacated PELs are listed for this chemical. Water: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Do not wear contact lenses when working with chemicals. An eye wash fountain should be available in the immediate work area. Wear splash-proof safety goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Firefighting-- any self-contained breathing apparatus with full facepiece operated in pressure-demand mode. High Levels- CCROV/SAR/SCBA. Firefighting- SCBAF:PP,PD. (Respirator Codes: DHEW (NIOSH) Publication No. 78-210). Respirator Codes DHEW (NIOSH) Publication No. 78-210. Firefighting - SCBAF:PP.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid

Appearance: colorless

Odor: alcohol-like

pH: acidic

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point:Not available.

Decomposition Temperature:Not available.

Autoignition Temperature: Not available.

Flash Point: Not available.

NFPA Rating: Not published.

Explosion Limits, Lower:Not available.

Upper: Not available.

Solubility: Soluble.

Specific Gravity/Density:Not available.

Molecular Formula:Not available.

Molecular Weight:Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials.

Incompatibilities with Other Materials: Acetyl chloride, acetyl bromide, nitric acid, aluminum sesquibromide ethylate, bromine pentafluoride, calcium hypochlorite, hydrogen peroxide/sulfuric acid mixes, iodine-mercuric oxide, perchlorate-dimethoxy propane, perchloric acid, sulfuric treated permanganates, ethanol recrystallized perchlorates, potassium superoxide, sodium hydrazide, sulfuric-dichromate mix., ammonium hydroxide-silver oxide mix., hydrogen peroxides, calcium carbide, magnesium, cyanuric chloride, chloroform-sodium hydroxide, chromic anhydride, phosgene-iron.

Hazardous Decomposition Products: Hydrogen chloride, oxides of carbon, formaldehyde.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 64-17-5 unlisted.

CAS# 67-56-1 unlisted.

CAS# 67-63-0 unlisted.

CAS# 7647-01-0 unlisted.

CAS# 7732-18-5 unlisted.

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; <br.

CAS# 67-56-1:

Inhalation, rat: LC50 = 64000 ppm/4H;

Oral, mouse: LD50 = 7300 mg/kg;

Oral, rabbit: LD50 = 14200 mg/kg;

Oral, rat: LD50 = 5628 mg/kg;

Skin, rabbit: LD50 = 15800 mg/kg; <br.

CAS# 67-63-0:

Oral, mouse: LD50 = 3600 mg/kg;

Oral, rabbit: LD50 = 6410 mg/kg;

Oral, rat: LD50 = 5045 mg/kg;

Skin, rabbit: LD50 = 12800 mg/kg; <br.

CAS# 7647-01-0:

Inhalation, mouse: LC50 = 1108 ppm/1H;

Inhalation, rat: LC50 = 3124 ppm/1H;

Oral, rabbit: LD50 = 900 mg/kg; <br.

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

Carcinogenicity:

CAS# 64-17-5:

ACGIH: A4 - Not Classifiable as a Human Carcinogen CAS# 67-56-1: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 67-63-0:

IARC: Group 3 carcinogen CAS# 7647-01-0:

IARC: Group 3 carcinogen CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Neurotoxicity: No data available.

Mutagenicity: No data available.

Other Studies: No data available.

Section 12 - Ecological Information

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# 67-56-1: waste number U154; (Ignitable waste).

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	Alcohols, N.O.S.				No information available.
Hazard Class:	3				
UN Number:	UN1987				
Packing Group:	PG II				

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 64-17-5 is listed on the TSCA inventory.
CAS# 67-56-1 is listed on the TSCA inventory.
CAS# 67-63-0 is listed on the TSCA inventory.
CAS# 7647-01-0 is listed on the TSCA inventory.
CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 67-63-0: Effective Date: December 15, 1986; Sunset Date: December 15, 1996

Chemical Test Rules

CAS# 67-63-0: Testing required by: manufacturers; importers; processors (40

Section 12b

CAS# 67-63-0: 4/12b

TSCA Significant New Use Rule

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

SARA

Section 302 (RQ)

CAS# 67-56-1: final RQ = 5000 pounds (2270 kg) CAS# 7647-01-0: final RQ = 5000 pounds (2270 kg)

Section 302 (TPQ)

CAS# 7647-01-0: TPQ = 500 pounds; RQ = 5000 pounds (does not meet toxicity criteria but because of high production volume and recognized toxicity is considered a chemical of concern)

SARA Codes

CAS # 64-17-5: acute, chronic, flammable. CAS # 67-56-1: acute, flammable. CAS # 67-63-0: acute, chronic, flammable. CAS # 7647-01-0: acute.

Section 313

This material contains Methyl alcohol (CAS# 67-56-1, 5%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373. This material contains Isopropyl alcohol (CAS# 67-63-0, 5%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373. This material contains Hydrogen chloride (CAS# 7647-01-0, 3.5%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 67-56-1 is listed as a hazardous air pollutant (HAP). CAS# 7647-01-0 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 7647-01-0 is listed as a Hazardous Substance 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:

CAS# 7647-01-0 is considered highly hazardous by OSHA.

STATE

CAS# 64-17-5 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

CAS# 67-56-1 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

CAS# 67-63-0 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

CAS# 7647-01-0 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

CAS# 7732-18-5 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:

Not available.

Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 64-17-5: 0

CAS# 67-56-1: 1

CAS# 67-63-0: 1

CAS# 7647-01-0: 1

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

Canada

CAS# 64-17-5 is listed on Canada's DSL List. CAS# 64-17-5 is listed on Canada's DSL List. CAS# 67-56-1 is listed on Canada's DSL List. CAS# 67-56-1 is listed on Canada's DSL List. CAS# 67-63-0 is listed on Canada's DSL List. CAS# 67-63-0 is listed on Canada's DSL List. CAS# 7647-01-0 is listed on Canada's DSL List. CAS# 7647-01-0 is listed on Canada's DSL List. CAS# 7732-18-5 is listed on Canada's DSL List. CAS# 7732-18-5 is listed on Canada's DSL List.

WHMIS: Not available.

CAS# 64-17-5 is listed on Canada's Ingredient Disclosure List.

CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List.

CAS# 67-63-0 is listed on Canada's Ingredient Disclosure List.

CAS# 7647-01-0 is 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

CAS# 67-56-1: OEL-ARAB Republic of Egypt: TWA 200 ppm (260 mg/m³); Skin OEL-AUSTRALIA: TWA 200 ppm (260 mg/m³); STEL 250 ppm; Skin OEL-BELGIUM: TWA 200 ppm (262 mg/m³); STEL 250 ppm; Skin OEL-CZECHOSLOVAKIA: TWA 100 mg/m³; STEL 500 mg/m³ OEL-DENMARK: TWA 200 ppm (260 mg/m³); Skin OEL-FINLAND: TWA 200 ppm (260 mg/m³); STEL 250 ppm; Skin OEL-FRANCE: TWA 200 ppm (260 mg/m³); STEL 1000 ppm (1300 mg/m³) OEL-GERMANY: TWA 200 ppm (260 mg/m³); Skin OEL-HUNGARY: TWA 50 mg/m³; STEL 100 mg/m³; Skin JAN9 OEL-JAPAN: TWA 200 ppm (260 mg/m³); Skin OEL-THE NETHERLANDS: TWA 200 ppm (260 mg/m³); Skin OEL-THE PHILIPPINES: TWA 200 ppm (260 mg/m³) OEL-POLAND: TWA 100 mg/m³ OEL-RUSSIA: TWA 200 ppm; STEL 5 mg/m³; Skin OEL-SWEDEN: TWA 200 ppm (250 mg/m³); STEL 250 ppm (350 mg/m³); Skin OEL-SWITZERLAND: TWA 200 ppm (260 mg/m³); STEL 400 ppm; Skin OEL-THAILAND: TWA 200 ppm (260 mg/m³) OEL-TURKEY: TWA 200 ppm (260 mg/m³) OEL-UNITED KINGDOM: TWA 200 ppm (260 mg/m³); STEL 250 ppm; Skin OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

CAS# 67-63-0: OEL-AUSTRALIA: TWA 400 ppm (980 mg/m³); STEL 500 ppm (1225 mg/m³) OEL-BELGIUM: TWA 400 ppm (985 mg/m³); STEL 500 ppm (1230 mg/m³) OEL-DENMARK: TWA 200 ppm (490 mg/m³); Skin OEL-FRANCE: STEL 400 ppm (980 mg/m³) OEL-GERMANY: TWA 400 ppm (980 mg/m³) OEL-JAPAN: STEL 400 ppm (980 mg/m³) OEL-THE NETHERLANDS: TWA 400 ppm (980 mg/m³); Skin OEL-THE PHILIPPINES: TWA 400 ppm (980 mg/m³) OEL-RUSSIA: STEL 400 ppm (10 mg/m³) OEL-SWEDEN: TWA 150 ppm (350 mg/m³); STEL 250 ppm (600 mg/m³) OEL-SWITZERLAND: TWA 400 ppm (980 mg/m³); STEL 800 ppm OEL-TURKEY: TWA 200 ppm (500 mg/m³) OEL-UNITED KINGDOM: TWA 400 ppm (980 mg/m³); STEL 500 ppm; Skin OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

CAS# 7647-01-0: OEL-AUSTRALIA: TWA 5 ppm (7 mg/m³) OEL-AUSTRIA: TWA 5 ppm (7 mg/m³) OEL-BELGIUM: STEL 5 ppm (7.7 mg/m³) OEL-DENMARK: STEL 5 ppm (7 mg/m³) OEL-FINLAND: STEL 5 ppm (7 mg/m³); Skin OEL-FRANCE: STEL 5 ppm (7.5 mg/m³) OEL-GERMANY: TWA 5 ppm (7 mg/m³) OEL-HUNGARY: STEL 5 mg/m³ OEL-JAPAN: STEL 5 ppm (7.5 mg/m³) OEL-THE NETHERLANDS: TWA 5 ppm (7 mg/m³) OEL-THE PHILIPPINES: TWA 5 ppm (7 mg/m³) OEL-POLAND: TWA 5 mg/m³ OEL-RUSSIA: STEL 5 ppm (5 mg/m³) OEL-SWEDEN: STEL 5 ppm (8 mg/m³) OEL-SWITZERLAND: TWA 5 ppm (7.5 mg/m³); STEL 10 ppm (15 mg/m³) OEL-THAILAND: TWA 5 ppm (7 mg/m³) OEL-TURKEY: TWA 5 ppm (7 mg/m³) OEL-UNITED KINGDOM: TWA 5 ppm (7 mg/m³); STEL 5 ppm (7 mg/m³) 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: 11/15/1998

Revision #1 Date: 03/27/2007

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