

Burdick & Jackson

Material Safety Data Sheet

Ethyl Alcohol, Reagent, Anhydrous

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Ethyl Alcohol, Reagent, Anhydrous

OTHER/GENERIC NAMES: Ethyl alcohol, Denatured alcohol

PRODUCT USE: Solvent

MANUFACTURER: Honeywell, Burdick & Jackson
1953 South Harvey Street
Muskegon, MI 49442

FOR MORE INFORMATION CALL:

(Monday-Friday, 8:00am-5:00pm)

1-800-368-0050

IN CASE OF EMERGENCY CALL:

(24 Hours/Day, 7 Days/Week)

1-800-707-4555 or Chemtrec 1-800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Ethyl Alcohol	64-17-5	~90%
Methanol	67-56-1	~5%
Isopropyl Alcohol	67-63-0	~5%

Trace impurities and additional material names not listed above may also appear in Section 15 toward the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Extremely flammable liquid and vapor. Clear colorless liquid. Mildly toxic by inhalation, ingestion and skin contact. Cannot be made non-poisonous.

POTENTIAL HEALTH HAZARDS

SKIN: Irritant. May cause dermatitis through defatting of the skin.

EYES: Irritant. Redness and itching may result from exposure to vapors or liquid.

INHALATION: Can cause headache, drowsiness, intoxication, visual impairment, blindness, coma and death.

INGESTION: Can cause gastrointestinal disorder, central nervous system depression, headache, drowsiness, intoxication, visual impairment, blindness, coma and death

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DELAYED EFFECTS: Prolonged or repeated exposure can result in alcoholism, cyanosis, respiratory failure and liver damage.

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
Isopropyl Alcohol		Group 3, Unclassifiable	

Ethanol is classified by ACGIH as A4, not classifiable as a Human Carcinogen

4. FIRST AID MEASURES

SKIN: Rinse affected area thoroughly with water until no evidence of chemical remains.

EYES: Rinse with plenty of water for at least 15 minutes. Get professional medical assistance.

INHALATION: Remove from exposure area to fresh air. If victim is not breathing administer artificial respiration according to your level of training and obtain professional medical assistance immediately.

INGESTION: If patient is conscious, rinse mouth with water. Do not induce vomiting unless instructed to do so by a physician. Get immediate medical attention.

ADVICE TO PHYSICIAN: No specific instructions. Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT:	59°F (15°C)
FLASH POINT METHOD:	Closed Cup
AUTOIGNITION TEMPERATURE:	Not determined
UPPER FLAME LIMIT (volume % in air):	Not determined
LOWER FLAME LIMIT (volume % in air):	Not determined
FLAME PROPAGATION RATE (solids):	Not applicable
OSHA FLAMMABILITY CLASS:	IB

EXTINGUISHING MEDIA:

Alcohol foam, carbon dioxide, or dry chemical.

UNUSUAL FIRE AND EXPLOSION HAZARDS: May burn with an invisible flame. Fire hazard when exposed to heat, flame or oxidizers. Vapors are heavier than air and may travel a considerable distance to an ignition source and flash back. Vapor mixtures are explosive.

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SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:

Wear self-contained breathing apparatus. Do not release runoff from fire control methods to sewers or waterways. Keep fire exposed containers cool and reduce vapors with water spray.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (Always wear recommended personal protective equipment.)

Eliminate sources of ignition. Isolate the spill area. Stop leak in a safe and practical manner. (If leak cannot be stopped easily and safely, advise trained emergency response personnel of the situation.) Using inert material (such as ground corncobs) dike the spilled solvent to prevent it from running into drains or waterways.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

7. HANDLING AND STORAGE

NORMAL HANDLING: (Always wear recommended personal protective equipment.)

Keep away from heat, open flame or other high temperature sources. Avoid contact with skin, eyes and clothing; avoid breathing vapor or mist. Use good personal hygiene and housekeeping practices.

STORAGE RECOMMENDATIONS:

Store in an area designed for storage of flammable liquids. (OSHA 29 CFR 1910.106)
Protect from physical damage. Store in a cool, dry, well-ventilated area away from ignition sources and other fire hazards.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Provide general or local exhaust ventilation systems to maintain airborne concentrations below permissible TLV levels. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION:

Where liquid contact is possible impervious coveralls are recommended. To minimize the possibility in other handling and storage operations, wear appropriate PPE to include chemical resistant gloves, boots and apron.

EYE PROTECTION:

Safety glasses are considered minimum protection. Goggles or face shield may be necessary depending on quantity of material and conditions of use.

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RESPIRATORY PROTECTION:

Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

ADDITIONAL RECOMMENDATIONS:

This material should be used in close proximity to eyewash station and safety shower. Use appropriate personal hygiene after handling this material. Do not smoke in the vicinity of flammable materials.

EXPOSURE GUIDELINES

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Ethyl Alcohol	1000 ppm	1000 ppm	none
Methyl Alcohol	200 ppm (skin)	200 ppm	250 ppm (STEL)
Isopropyl Alcohol	400 ppm	400 ppm	500 ppm (STEL)

- * = Limit established by Honeywell International, Inc.
- ** = Workplace Environmental Exposure Level (AIHA).
- *** = Biological Exposure Index (ACGIH).

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS: None

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear, Colorless
PHYSICAL STATE:	Liquid
MOLECULAR WEIGHT:	(mixture)
CHEMICAL FORMULA:	Mixture
ODOR:	Fragrant mild odor of alcohol. Threshold not determined.
SPECIFIC GRAVITY (water = 1.0):	0.78 (Ethanol)
SOLUBILITY IN WATER (weight %):	Miscible in all proportions
pH:	Not Applicable
BOILING POINT:	78.32°C (Ethanol)
MELTING POINT:	-114.1°C (Ethanol)
VAPOR PRESSURE:	44.6 mm Hg @ 20°C (Ethanol)
VAPOR DENSITY (air = 1.0):	1.6 (Ethanol)
EVAPORATION RATE:	~3 COMPARED TO: Butyl Acetate = 1
% VOLATILES:	100%
FLASH POINT:	59°F (15°C)

(Flash point method and additional flammability data are found in Section 5.)

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10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID):

Stable at room temperature in closed containers under normal storage and handling conditions.

INCOMPATIBILITIES:

Strong oxidizing agents.

CONDITIONS TO AVOID:

Avoid heat, ignition sources and incompatible materials.

HAZARDOUS DECOMPOSITION PRODUCTS:

Incomplete combustion can produce toxic fumes of carbon monoxide.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

Oral-Rat LD₅₀:7060 mg/kg

Inhalation-Rat LC₅₀:20,000 ppm/10H

Intraperitoneal-Rat LD₅₀:3750 mg/kg

Intravenous-Rat LD₅₀:1440 mg/kg

Oral-Mouse LD₅₀:3450 mg/kg

Inhalation-Mouse LC₅₀:39 g/m³/4H

Intraperitoneal-Mouse LD₅₀:933 mg/kg

Intravenous-Mouse LD₅₀:1973 mg/kg

Subcutaneous-Mouse LD₅₀:8285 mg/kg

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:

Exposure to concentrations over 1000 ppm may cause headache, irritation of the eyes, nose, and throat, and, if continued, drowsiness and lassitude, loss of appetite, and inability to concentrate. There is no concrete evidence that repeated exposure to vapor results in cirrhosis of the liver. Ingestion of large doses can cause alcohol poisoning. Repeated ingestions can lead to alcoholism.

OTHER DATA: None

12. ECOLOGICAL INFORMATION

Data reported is for methanol

LC₅₀ Pimephales promelas (fathead minnows) 29.4 g/L/96 hr, (28-29 days old), confidence limit = 28.5-30.4; test conditions: water temp = 25°C, dissolved oxygen = 7.3 mg/L, water hardness = 43.5 mg/L calcium carbonate, alkalinity = 46.6 calcium carbonate, tank volume = 6.3 l, additions = 5.71 V/D, pH = 7.66 (0.03) (conditions of bioassay not specified)

Burdick & Jackson**MATERIAL SAFETY DATA SHEET****Ethyl Alcohol, Reagent, Anhydrous****13. DISPOSAL CONSIDERATIONS****RCRA****Is the unused product a RCRA hazardous waste if discarded?** Yes**If yes, the RCRA ID number is:** D001**OTHER DISPOSAL CONSIDERATIONS:**

Dispose of material in accordance with all applicable local, state, and federal regulations.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT PROPER SHIPPING NAME:	Alcohols, flammable, toxic, n.o.s.
US DOT HAZARD CLASS:	3, 6.1, Flammable liquid, Poison
US DOT ID NUMBER:	UN1986
US DOT PACKING GROUP:	II
NA EMERGENCY RESPONSE GUIDE:	131

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

15. REGULATORY INFORMATION**TOXIC SUBSTANCES CONTROL ACT (TSCA)****TSCA INVENTORY STATUS:** All ingredients listed on TSCA inventory**OTHER TSCA ISSUES:** May be subject to Export Notification.**SARA TITLE III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<u>INGREDIENT NAME</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPQ (lb)</u>
Methanol	5000 lbs.	

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: Acute, Fire

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SARA 313 TOXIC CHEMICALS:

The following ingredients are SARA 313 "Toxic Chemicals". CAS numbers and weight percents are found in Section 2.

INGREDIENT NAME

Methyl Alcohol
Isopropyl Alcohol

COMMENT

Reporting is required only for those manufacturers using the Strong Acid Process

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

INGREDIENT NAME

No ingredients listed in this section.

WEIGHT %**COMMENT**

ADDITIONAL REGULATORY INFORMATION: None

WHMIS CLASSIFICATION (CANADA): Class B, Division 2 & Class D, Division 2a

FOREIGN INVENTORY STATUS:

Not Determined

16. OTHER INFORMATION

CURRENT ISSUE DATE: June, 2000

PREVIOUS ISSUE DATE: November, 1996, January, 1998, October, 1998

CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:

October, 1998 Update DOT info in section 14. New header and footer information.

Update to ANSI Standard. (Former, Jan, 1998)

OTHER INFORMATION:

NFPA Classification

Health:	0
Flammability:	3
Reactivity:	0