Safety Data Sheet

Ethyl Alcohol 95%, Denatured

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ethyl Alcohol 95%, Denatured

Synonyms/Generic Names: Ethanol, grain alcohol, EtOH

SDS Number: 274.00

Product Use: For Educational Use Only

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Contact: Ward's Science
5100 West Henrietta Rd.
PO Box 92912-9012
Rochester, NY 14692
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Flammable liquid, Target organ effect, Irritant

Target Organs: Nerves, Liver, Heart

Signal Words: Danger

Pictograms

GHS Classification:

Flammable liquids	Category 2
Skin irritation	Category 2
Eye irritation	Category 2B
Specific target organ toxicity-single exposure	Category 3

GHS Label Elements, including precautionary statements:

Hazard Statements:

H225	Highly flammable liquid and vapor.
H315+H320	Causes skin and eye irritation.
H401	Toxic to aquatic life.

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/face protection/eye protection.
P303+P361+P353	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Potential Health Effects

Eyes	Causes eye irritation
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Ingestion	May be harmful if swallowed

NFPA Ratings

Health	1
Flammability	3
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	2
Fire	3
Reactivity	0
Personal	H

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Ethyl Alcohol	95	64-17-5	200-578-6	C_2H_5OH	46.07 g/mol
Water	Balance	7732-18-5	231-791-2	H_2O	18.00 g/mol

4. FIRST-AID MEASURES

Eyes	In case of eye contact, rinse with plenty of water and seek medical attention if necessary.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if necessary.
Ingestion	**Do Not Induce Vomiting!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Flammable liquid. Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material. Cool containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas.

Specific hazards arising from the chemical	Emits toxic fumes under fire conditions. (Carbon oxides) (See also Stability and Reactivity section) Vapors can travel to a source of ignition and flash back. Containers may explode in a fire. Cool containers from a distance using water spray. SENSITIVE TO STATIC DISCHARGE.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Absorb spill with noncombustible absorbent material. Sweep up, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling
Use with adequate ventilation and grounding. Wash thoroughly after using. Keep container closed when not in use. Keep away from sources of ignition. No smoking. Take measure to prevent the buildup of electrostatic charge.

Conditions for safe storage, including any incompatibilities
Store in tightly closed, original containers in a cool, dry, well ventilated area. Store between 55-100°F for product stability. Do not store with strong oxidizing agents, strong acids, peroxides, aldehydes, halogens, ammonia, acid anhydrides or alkali metals.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Ventilation and appropriate grounding of containers.

Component	Exposure Limits	Basis	Entity
Ethyl Alcohol	1000 ppm 1900 mg/m^3	REL	NIOSH
	1000 ppm 1900 mg/m^3	PEL	OSHA
	1000 ppm 1880 mg/m^3	STEL	ACGIH
	3300 ppm	IDLH	OSHA

TWA: Time Weighted Average over 8 hours of work.
TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit during x minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	Not Available

Other Recommendations
Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless liquid
Odor	Mild alcohol
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	-144°C (-227.2°F)
Initial boiling point and boiling range	78°C (172.4°F) to 80°C (174°F)
Flash point	14°C (57.2°F)
Evaporation rate	Not Available
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limit	3.3-19%
Vapor pressure	(@ 20°C) 44.6 mmHg
Vapor density	(air=1) 1.6
Relative density	Not Available
Solubility (ies)	Completely soluble in water
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	363°C (685.4°F)
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Keep away from heat, flame and sparks.
Incompatible Materials	Alkali metals, Ammonia, Oxidizing agents, peroxides.
Hazardous Decomposition Products	Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	Not Available
Eyes	Not Available
Respiratory	LC50 Inhalation – rat – 10 h – 20000 ppm
Ingestion	LD50 Oral – rat – 7,060 mg/kg Remarks: Lungs, Thorax, or Respiration: Other changes.

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	A3: Confirmed animal carcinogen with unknown relevance to humans. (Ethyl Alcohol)
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation
Eyes	Irritation
Respiratory	Irritation
Ingestion	Irritation

Chronic Toxicity	Ingestion may cause blindness.
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Pre-and Post-implant mortality.
Specific Target Organ Toxicity	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	LC_{50} (96 hours): 13,000 mg/L Oncorhynchus mykiss (Rainbow Trout)
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Will not accumulate
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1170, Ethanol solutions, 3, pg II
TDG	UN1170, ETHANOL SOLUTIONS, 3, pg II
IMDG	UN1170, ETHANOL SOLUTIONS, 3, pg II
Marine Pollutant	No
IATA/ICAO	UN1170, Ethanol solutions, 3, pg II

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Listed: Ethyl Alcohol (in alcoholic beverages)
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Ethyl Alcohol
SARA 312	Ethyl Alcohol
SARA 313	Listed: Ethyl Alcohol
WHMIS Canada	Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

16. OTHER INFORMATION

Revision	Date
Revision 1	01/29/2013