

Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

MATERIAL SAFETY DATA SHEETS

SECTION I

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: Denatured Ethanol, Special Industrial Solvent (Vanzol DF-16) 190 Proof
This MSDS is valid for all grades and catalog #'s

Synonyms: Duplicating Fluid, Denatured Ethyl Alcohol Blend; Solvent 904A 190 Proof

Formula: Mixture

Manufacturer: Pharmco Products Inc.
58 Vale Road
Brookfield, Connecticut 06804, USA
Phone (203) 740-3471
Fax (203) 740-3481

Emergency Contact:
CHEMTREC 1-800-424-9300

SECTION II

COMPOSITION /INFORMATION ON INGREDIENTS

| % wt. | Material | CAS | Exposure Limits |
|-------|------------------|-----------|--------------------------|
| 74.7% | Ethanol | 64-17-5 | 1000ppm TWA |
| 18.1% | Isopropanol | 67-63-0 | 400 ppm TWA; 500 STEL |
| 6.1% | Water | 7732-18-5 | None est. |
| 1.1% | N-Propyl Acetate | 109-60-4 | 200ppm OSHA |

SECTION III

HAZARDS IDENTIFICATION

Carcinogen Status: Established uses of denatured ethanol are not considered to pose a significant cancer hazard.

Routes of Exposure:

Swallowing: May cause dizziness, faintness, drowsiness decreased awareness or responsiveness, nausea, vomiting, staggering gait, lack of coordination, blindness, coma and death.

Skin Absorption: Prolonged or widespread contact may result in the absorption of potentially harmful amounts.

Inhalation: High vapor concentration may cause burning sensation in nose and throat and stinging and watering in the eyes. At concentrations which cause irritation, dizziness, faintness, drowsiness, nausea and vomiting may also occur.

Skin Contact: Prolonged or repeated contact may cause defatting and drying of the skin.

Eye Contact: May cause irritation including stinging, tearing, and redness

Effects of Repeated Overexposure: Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis. Overexposure to methanol may cause eye damage and liver or kidney injury.

Other Health Hazards: Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects which together constitute fetal alcohol syndrome.

Medical Conditions Aggravated by Overexposure:

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Repeated exposure to ethanol may aggravate liver injury produced from other causes. Skin contact may aggravate dermatitis.

SECTION IV FIRST AID

Obtain medical attention for all cases of over-exposure.

Swallowing: If patient is fully conscious, give two glasses of water. Induce vomiting. Obtain medical attention.

Skin: Wash skin with soap and water for at least 15 minutes

Inhalation: Remove to fresh air; Give artificial respiration if not breathing; If breathing is difficult oxygen may be given by qualified personnel; Obtain medical assistance if discomfort persists.

Eye Contact: Flush eyes with water for at least 15 minutes. Obtain medical assistance.

Note to Physician: Symptoms vary with alcohol level of the blood. Mild alcohol intoxication occurs at blood levels between 0.5- .15%.

Approximately 25% of individuals show signs of intoxication at these levels. Above .15% the person is definitely under the influence of ethanol; 50-95% of individuals are clinically intoxicated at these levels. Severe poisoning occurs when the blood is ethanol level is 0.3- 0.5%. Above 0.5% the individual will be comatose and death can occur. The unabsorbed ethanol should be removed by gastric lavage after intubating the patient to prevent aspiration. Avoid the use of depressant drugs or the excessive administration of fluids.

SECTION V FIRE FIGHTING MEASURES

Fire/Explosive Properties

Flash Point: for 190 proof ethanol:

62F (17C) Tag Closed Cup

74F (23C) Tag Open Cup

Flammable Limits in Air (% by volume):

3.3%(ethanol) - 19.0 (ethanol)

Flammability Classification: 3 (NFPA)

1993 Emergency Response Guidebook: Guide 26

1996 North American Emergency Response Guidebook: Guide 127

Extinguishing Media: Apply alcohol-type or all-purpose foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

Special Fire Fighting Procedures: Use water spray to cool fire-exposed containers and structures; Use water spray to disperse vapors - re-ignition is possible; Use self-contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards:

- ♦ Vapors may travel to source of ignition and flash back.
- ♦ Vapors may settle in low or confined spaces.
- ♦ May produce a floating fire hazard.
- ♦ Static ignition hazard can result from handling and use.

SECTION VI SPILL/ACCIDENTAL RELEASE MEASURES

Small spills can be flushed with large amounts of water.
Large spills: Eliminate all ignition sources; ground all equipment; do not walk through spill; stop spill if possible; prevent entry into sewers, confined spaces, etc.; use a vapor suppressing foam to reduce vapors; absorb spill with non-combustible matter and transfer to containers; use non-sparking tools to collect absorbed material.
Refer to section 11 for disposal information.

SECTION VII HANDLING AND STORAGE

- ♦ Flammable material - keep away from heat, sparks, and flame; sudden releases of hot organic vapors or mists from process equipment operating at elevated temperature may result in ignitions without the presence of obvious ignition sources.
- ♦ Avoid contact with eyes.
- ♦ Keep container closed.
- ♦ Use with adequate ventilation.
- ♦ Ground container when transferring product.
- ♦ Vapors may collect in containers; treat empty containers as hazardous.
- ♦ Wash thoroughly after handling
- ♦ Vapors may settle in low or confined areas
- ♦ Danger - may cause blindness or death if swallowed

SECTION VIII EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation: Special, local ventilation is needed where vapors escape to the workplace air
Respiratory Protection: Use self-contained breathing apparatus in high vapor concentration
Personal Protective Equipment: gloves, lab coat or uniform, safety glasses, eye wash, safety shower

SECTION IX PHYSICAL AND CHEMICAL PROPERTIES

Appearance: clear, colorless liquid
Odor: characteristic
Vapor pressure @ 20C: 43.6mmHg
Vapor density: 1.6 for pure 190 ethanol (air =1)
Boiling point @ 760mm Hg: 80C for pure 190 ethanol
Freezing Point: <-90C
Solubility in Water:
100% @ 20C for pure 190 proof ethanol
Specific Gravity : @ 15.56C .810
Density @ (60F) 6.74 lbs./gal
Evaporation Rate: (butyl acetate = 1) 3.0 for pure 190 ethanol
Percent Volatile: 100%

SECTION X STABILITY/REACTIVITY INFORMATION

Stability: Stable
Conditions to avoid: None known
Incompatibility/Materials to avoid: strong oxidizing agents; strong inorganic acids
Hazardous Combustion/Decomposition Products:
Carbon monoxide and/or carbon dioxide
Hazardous Polymerization: Will not occur

SECTION XI DISPOSAL CONSIDERATIONS

Vapors may collect in empty containers. Treat empty containers as hazardous.
Dispose of spill-clean up and other wastes in accordance with Federal, State, and local regulations.

SECTION XII TRANSPORTATION INFORMATION

Proper Shipping Name: Alcohol, nos.
Hazard Class: 3
UN Number: 1987
IMO Information: Alcohols, NOS
Label of Class: 3
Packing Group II
Intermediate flashpoint group

SECTION XIII REGULATORY INFORMATION

Federal EPA

Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in CFR. Components present in this product at a level which could require reporting under this statute are:

| Chemical | CAS Number | Upper Bound Conc. % |
|--------------|------------|---------------------|
| Acetone | 67-64-1 | .0002 |
| Acetaldehyde | 75-07-0 | .0010 |

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on threshold planning quantities and release reporting based on reportable quantities in 40 CFR 355 (used for SARA 302, 304, 311, and 312). Components present in this product at a level which could require reporting under this statute are: none.

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDS's that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are:

Isopropanol (67-63-0) upper bound concentration 18.1%

Toxic Substances Control Act (TSCA) Status:

The ingredients of this product are on the TSCA inventory.

State Right to Know

California Proposition 65: This product contains trace levels of acetaldehyde known to the State of California to cause cancer.

Massachusetts: Hazardous substances and extraordinarily hazardous substances must be identified. Components present which could require reporting:

Extraordinarily Hazardous (=> 0.0001%): Acetaldehyde (CAS 75-07-0) upper bound conc. .0010%

Hazardous (=>1%): Ethanol (CAS 64-17-5) upper bound conc. 74.7%
Isopropanol (CAS 67-63-0) upper bound conc.

18.1%

Pennsylvania: Hazardous substances must be identified.

Hazardous (=>1%): Ethanol (CAS 64-17-5) upper bound conc. 74.7%
Isopropanol (CAS 67-63-0) upper bound conc.

18.1%

California SCAQMD Rule 443.1 (VOC's)

A Volatile Organic Compound (VOC) is any volatile compound of carbon excluding methane, carbon monoxide, carbonic acid, metallic carbides, or carbonates, ammonium carbonate, 1,1,1 tri-chloroethane, methylene chloride, (FC-23), (CFC-113), (CFC-12), (CFC-11), (CFC-22), (CFC-114) and (CFC-115).

VOC 800g/l 41.4mmHg for pure 190 proof ethanol

The information contained herein is based on data considered to be accurate. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use of the product.