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THE POWER OF THREE³

PHARMCO-AAPER

AND COMMERCIAL ALCOHOLS

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

MATERIAL SAFETY DATA SHEETS

SECTION I

PRODUCT AND COMPANY IDENTIFICATION

Product: SDA 3A-1, 200 Proof

This MSDS is valid for all grades and catalog #'s

Synonyms: Denatured Alcohol 3A-1, Denatured Ethanol

Formula: Mixture

Manufacturer: PHARMCO-AAPER.
58 Vale Road
Brookfield, Connecticut 06804
Phone (203) 740-3471
Fax (203) 740-3481

1101 Isaac Shelby Drive
Shelbyville, KY 40065
Phone (502) 633-0650
Fax (502) 633-0685

Emergency Contact:
CHEMTREC 1-800-424-9300

SECTION II

COMPOSITION /INFORMATION ON INGREDIENTS

| %wt | Material | CAS | Exposure Limits |
|--------|-------------|----------|---|
| 95.32% | Ethanol | 64-17-5 | 1000ppm TWA |
| 4.68% | Cyclohexane | 110-82-7 | 300ppm TWA, OSHA PEL; 100ppm TWA, ACGIH TLV |

SECTION III

HAZARDS IDENTIFICATION

Carcinogen Status: Not classifiable as a human carcinogen

Routes of Exposure:

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

Skin Absorption: No harmful affects with normal skin.

Inhalation: High vapor concentration may cause burning sensation in nose and throat and stinging and watering in the eyes. Exposure can cause dizziness, headache, nausea and unconsciousness.

Skin Contact: Prolonged or repeated skin contact can cause irritation and dermatitis through defatting of skin.

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

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Effects of Repeated Overexposure: Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis. Cyclohexane is a mild eye and mucous membrane irritant, primary skin irritant, and central nervous system depressant.

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. These include mental and physical retardation, disturbances of learning, motor and language deficiencies, behavioral disorders and small size head. Acute exposure irritates eyes and respiratory system. Prolonged inhalation may result in drowsiness, dizziness, nausea, and other sign of narcosis.

Medical Conditions Aggravated by Overexposure:

Repeated exposure to ethanol may aggravate liver injury produced from other causes. Preclude from expose those individuals susceptible to 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 is discomfort persists.

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

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

OSHA/NFPA Class IB Flammable Liquid

Flash Point (ethanol): 58F (14C) Tag Closed Cup

70F (21C) Tag Open Cup

Flash Point (cyclohexane): -17F (-27C)

Flammable Limits in Air: 3.3 - 19.0% (by volume)

Flammability Classification: 3 (NFPA), 3 (HMIS)

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.

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

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, eyewash, safety shower

SECTION IX

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: clear, colorless liquid

Odor: characteristic

Vapor pressure (ethanol) @ 20C: 48 mm Hg

Vapor pressure (cyclohexane) @ 20C: 78 mm Hg

Vapor density (ethanol): 1.6 (air =1)

Vapor density (cyclohexane): 2.9 (air =1)

Boiling point (ethanol) @ 760mm Hg: 77.1C (170.8F)

Boiling point (cyclohexane) @ 760mm Hg: 81C (177F)

Freezing Point: -144C (-227.2F)

Solubility in Water (ethanol): 100% @ 20C

Solubility in Water (cyclohexane): 0.006% @ 25C

Specific Gravity : 0.7910 – 0.7935 @ 60F

Density @ 15.56C (60F) 6.604lbs/gal

Evaporation Rate (ethanol): 3.3 (butyl acetate = 1)

Evaporation Rate (cyclohexane): 2.6 (butyl acetate = 1)

Percent Volatiles: 100%

SECTION X

STABILITY/REACTIVITY INFORMATION

Stability: Stable

Conditions to avoid: Incompatibles

Incompatibility/Materials to avoid: strong oxidizing agents; strong inorganic acids, heat and sources of ignition.

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, n.o.s.

Hazard Class: 3

UN Number: 1987

IMO Information: Ethanol or ethanol solutions

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): No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA

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). Based upon available information, this material is classified as the following health and/or physical hazard according to section 311 & 312:

Immediate (Acute) Health Hazard,

Delayed (Chronic) Health Hazard,

Fire Hazard.

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 material does not contain any chemical components with known CAS numbers that exceed the reporting limits.

Toxic Substances Control Act (TSCA) Status:

All components of this product are listed or are exempt from listing on the TSCA inventory.

State Right to Know

No components of this product are listed on the California Prop 65 lists.

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.