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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: Isopropyl Alcohol, 99% (minimum)
This MSDS is valid for all grades that start with catalog number 231 (at this minimum concentration)

Synonyms Isopropanol; Isopropyl Alcohol; 2-Propanol; sec-propyl alcohol; dimethylcarbinol; sec-propanol; Rubbing alcohol; 1-Methylethanol; IPA 99%

Formula: (CH₃)₂CHOH

Manufacturer: PHARMCO-AAPER
58 Vale Road
Brookfield, Connecticut 06804, USA
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

Exposure Limits

%wt	Material	CAS	Exposure Limits
100%	Isopropanol	67-63-0	400ppm-OSHA/PEL; ACGIH/ TLV; 500ppm STEL

SECTION III

HAZARDS IDENTIFICATION

Routes of Exposure:

Swallowing: Slightly toxic. May cause nausea, abdominal discomfort, vomiting, dizziness, and gastrointestinal irritation. The single lethal dose for human adult is about 250mL.

Skin Absorption: Exposure to small quantities is not expected to cause adverse health effects.

Inhalation: Inhalation of vapors irritated the respiratory tract. Exposure to high concentrations has a narcotic effect, producing symptoms of dizziness, drowsiness, headache, staggering, unconsciousness and possibly death.

Skin Contact: May cause irritation and dryness.

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

Effects of Repeated Overexposure: No adverse effects anticipated.

Medical Conditions Aggravated by Overexposure:
Skin contact may aggravate an existing dermatitis.

SECTION IV

FIRST AID

Obtain medical attention for all cases of over-exposure.
Swallowing: If patient is fully conscious, give large amounts of water to drink, 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 attention.

SECTION V

FIRE FIGHTING MEASURES

Fire/Explosive Properties

Flash Point: 54F (12C) Tag Closed Cup

Autoignition temperature: 750F (399C)

Flammable Limits in Air: 2.0 - 12.7%

NFPA Rating: Health 1 Fire 3 Reactivity 0

1996 North American Emergency Response Guidebook: Guide 129

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

All 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 @ 20C: 33 mm Hg

Vapor density: 2.1 (air =1)

Boiling point @ 760mm Hg: 82.3C (180F)

Freezing Point: -89C (-127F)

Solubility in Water: complete @ 20C

Specific Gravity @ 20C .787

Evaporation Rate: 2.83 (butyl acetate = 1)

Percent Volatiles: 100%

SECTION X

STABILITY/REACTIVITY INFORMATION

Stability: Stable under ordinary conditions of use and storage. Heat and sunlight can contribute to instability.

Conditions to avoid: Heat, flame, and ignition sources.

Incompatibility/Materials to avoid: strong oxidizing agents; strong inorganic acids; halogens; aldehydes; and halogen compounds

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: Isopropanol

Hazard Class: 3

UN Number: 1219

Packaging Group II

IMO Information: Isopropanol

Label of Class: 3.2

Packaging 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,
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.