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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

Manufacturer: PHARMCO-AAPER
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METHYL AMYL ALCOHOL

I. IDENTIFICATION

PRODUCT NAME: METHYL AMYL ALCOHOL
CHEMICAL NAME: 4-Methyl-2-Pentanol
CHEMICAL FAMILY: Alcohols
FORMULA: (CH₃)₂ CHCH₂ CH(OH)CH₃
MOLECULAR WEIGHT: 102.18
SYNONYMS: MIBC; Isobutyl methyl carbinol; 4-Methyl-2-pentanol; 2-Methyl-4-pentanol; 4-methylpentane-2-ol; 1,3-Dimethylbutanol; Methyl amyl alcohol; Isobutyl methyl methanol
CAS # AND NAME:
108-11-2 2-Pentanol, 4-Methyl-

II. PHYSICAL DATA (Determined on typical material)

BOILING POINT, 760 mm Hg: 131.7 C 269 F
SPECIFIC GRAVITY(H₂O = 1): 0.8075 AT 20/20 C

FREEZING POINT: (sets to glass) -90 C -130 F
VAPOR PRESSURE AT 20°C: 3.7 mmHg
VAPOR DENSITY (air = 1): 3.5
EVAPORATION RATE: (Butyl Acetate = 1): 0.43
SOLUBILITY IN WATER by wt: 1.7% AT 20 C
APPEARANCE: Transparent colorless
ODOR: Mild nonresidual
PHYSICAL STATE: Liquid PERCENT VOLATILES (by weight): 100

III. INGREDIENTS

% MATERIAL CAS# EXPOSURE LIMIT

100 Methyl Amyl Alcohol 108-11-2 25 ppm-TWA8, OSHA, ACGIH; 40 ppm-STEL, OSHA, ACGIH

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method(s)): 102°F 39°C

Tag Closed Cup ASTM D 56

106°F 41°C

Tag Open Cup ASTM D 1310

FLAMMABLE LIMITS IN AIR, by volume:

LOWER: 1.0

UPPER: 5.5

EXTINGUISHING MEDIA:

Apply alcohol-type or all-purpose-type foams by manufacturer's recommended techniques for large fires. Use CO₂ or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES:

Use self-contained breathing apparatus and protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

This material may produce a floating fire hazard in extreme fire conditions.

V. HEALTH HAZARD DATA

TLV AND SOURCE:

Methyl Amyl Alcohol: 25 ppm TWA (skin), OSHA & ACGIH

40 ppm STEL (skin), OSHA & ACGIH

EFFECTS OF SINGLE OVEREXPOSURE:

SWALLOWING: Moderately toxic.

Headache, nausea, vomiting, dizziness, and drowsiness may occur.

SKIN ABSORPTION:

Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.

INHALATION:

High concentrations of vapor may cause irritation of the respiratory tract, experienced as nasal discomfort and discharge, with chest pain and coughing.

High concentrations of vapor may cause headache and drowsiness.

SKIN CONTACT:

Brief contact may cause slight irritation with itching and local redness.

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

EYE CONTACT:

Excess redness and swelling of the conjunctiva may occur.

Causes irritation, experienced as stinging and discomfort or pain.

Corneal injury may occur.

EFFECTS OF REPEATED OVEREXPOSURE:

No information available.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

Skin contact may aggravate an existing dermatitis.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN

HEALTH HAZARD EVALUATION: None currently known.

OTHER EFFECTS OF OVEREXPOSURE: None currently known.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING:

If patient is fully conscious, give two glasses of water. Induce vomiting.

Obtain medical attention.

SKIN:

Remove contaminated clothing. Wash skin with soap and water. Obtain medical attention if irritation persists. Wash clothing before reuse.

INHALATION:

Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.

EYES:

Immediately flush eyes with water and continue washing for at least

15 minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

NOTES TO PHYSICIAN:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

VI. REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID:

None known.

INCOMPATIBILITY (materials to avoid): Strong acids.

Alkalies.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:

Burning can produce the following combustion products: Carbon monoxide and/or carbon dioxide.

Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant.

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID:

None known.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Wear suitable protective equipment.

Avoid contact with liquid and vapors.

Small spills can be flushed with large amounts of water; larger spills should be collected for disposal.

This product may be toxic to fish; avoid discharge to natural waters.

WASTE DISPOSAL METHOD:

Incinerate in a furnace where permitted under Federal, State, and local regulations.

At very low concentrations in water, this product is biodegradable in a biological wastewater treatment plant.

VIII. SPECIAL PROTECTION

RESPIRATORY PROTECTION (specify type):

Use self-contained breathing apparatus in high vapor concentrations.

VENTILATION:

General (mechanical) room ventilation is expected to be satisfactory where this product is stored and handled in closed equipment.

Special, local ventilation is needed at points where vapors can be expected to escape to the workplace air.

PROTECTIVE GLOVES:

Neoprene

EYE PROTECTION:

Monogoggles or Faceshield

OTHER PROTECTIVE EQUIPMENT:

Chemical Apron

Eye Bath, Safety Shower

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

WARNING!

CAUSES EYE IRRITATION.

COMBUSTIBLE.

Avoid contact with eyes.

Keep away from heat and flame.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

FOR INDUSTRY USE ONLY

OTHER PRECAUTIONS:

PROCESS HAZARD: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions.

Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapors."

X. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:

The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

FEDERAL EPA

Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4.

Components present in this product at a level which could require reporting under the statute are:

None

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 311 and 312).

Components present in this product at a level which could require reporting under the 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 MSDSs that are copied and distributed for this material.

Components present in this product at a level, which could require Reporting under the statute are:

None

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): No chemicals on this material with known CAS numbers are subject to the reporting requirements of CERCLA.

TSCA INVENTORY STATUS:

The ingredients of this product are on the TSCA inventory.

STATE RIGHT-TO-KNOW

MASSACHUSETTS 105 CMR 670.000 Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level, which could require reporting under the statute are:

None

PENNSYLVANIA Right-To-Know, Hazardous Substance List

Hazardous Substances and Special Hazardous Substances on the List must be identified when present in products.

Components present in this product at a level, which could require reporting under the statute, are:

None

CALIFORNIA SCAQMD RULE 443.1 VOC'S:
VOC 806 g/l; Vapor Pressure 3.7 mm Hg A 20 C

OTHER REGULATORY INFORMATION:

None

The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable,

PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.