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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 Acetate

1. CHEMICAL PRODUCT IDENTIFICATION

Product Name: Methyl Acetate
Synonym(s): methyl ethanoate, acetic acid methyl ester, ethanoic acid methyl ester; Tereton
Molecular Formula: CH₃CO₂CH₃
Molecular Weight: 74.08

2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry Number)
>97% Methyl Acetate (79-20-9)
<2% Methyl Alcohol (67-56-1)

3. HAZARDS IDENTIFICATION

WARNING! EXTREMELY FLAMMABLE LIQUID. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE SKIN IRRITATION. CAUSES EYE IRRITATION. MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.

NFPA Hazard Ratings: Health - 1, Flammability - 3, Reactivity - 0

NOTE: NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Potential Health Effects

Eye: Causes eye irritation.

Skin: May cause moderate skin irritation. Repeated or prolonged exposure may cause drying and cracking of the skin.

Ingestion: May cause irritation of the digestive tract. Exposure may cause optic nerve degeneration and possible blindness.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause narcotic effects. Exposure may produce optic nerve damage and possible blindness. Overexposure may lead to convulsions, shortness of breath, and stupor.

Chronic: Chronic inhalation may cause effects similar to those of acute inhalation. Prolonged skin exposure may produce dryness, cracking and irritation.

Target Organs: Central nervous system, eyes.

4. FIRST-AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Eyes: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention. In case of irritation from airborne exposure, move to fresh air. Get medical attention if symptoms persist.

Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion: Call a physician or poison control center immediately. Induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person.

Note to Physicians: Symptoms of poisoning may not appear for several hours. Keep under medical supervision for at least 48 hours.

5. FIRE FIGHTING MEASURES

Fire:

Flash Point (Tag closed cup): -13°C (9°F)

Lower Flammable Limit: 3.1 volume %

Upper Flammable Limit: 16 volume %

Autoignition Temperature (method unspecified): 502°C (936°F)

Extinguishing Media: water spray, dry chemical, carbon dioxide (CO₂), alcohol foam

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire.

Hazardous Combustion Products: carbon dioxide, carbon monoxide

Unusual Fire and Explosion Hazards: Extremely flammable. Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.

6. ACCIDENTAL RELEASE MEASURES

Use personal protective equipment. (See EXPOSURE CONTROLS/PERSONAL PROTECTION.) Eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

For Large Spills: Use water spray to disperse vapors and dilute spill to a nonflammable mixture. Prevent runoff from entering drains, sewers, or streams.

7. HANDLING AND STORAGE

Personal Precautionary Measures: Do not taste or swallow. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep away from heat, sparks, and flame. Keep from contact with oxidizing materials. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

Storage: Keep container in a well-ventilated place. Keep container tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

ACGIH Threshold Limit Value (TLV):

Methyl Acetate: 200 ppm TWA, 250 ppm STEL

Methyl Alcohol: 200 ppm TWA, 250 ppm STEL; skin

An ACGIH Biological Exposure Index (BEI) is available for Methyl Alcohol.

OSHA (USA) Permissible Exposure Limit (PEL, 1989 Table Z-1-A values or section-specific standards):

Methyl Acetate: 200 ppm TWA, 250 ppm STEL

Methyl Alcohol: 200 ppm TWA, 250 ppm STEL; skin

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn.

Respirator type: full-face positive-pressure air-supplied. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998.

Eye Protection: Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection: Wear chemical-resistant gloves and protective clothing appropriate for the risk of exposure. Contact

glove manufacturer for specific information.

Recommended Decontamination Facilities: eye bath, washing facilities, safety shower

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: liquid

Color: colorless

Odor: pleasant

Odor Threshold: 4.6 ppm (methyl acetate)

Specific Gravity at 20°C (68°F) (water = 1): 0.934

Vapor Pressure at 20°C (68°F): 228.3 mbar (171.3 mm Hg)

Vapor Density (Air = 1): 2.6

Evaporation Rate (n-butyl acetate = 1): 5.3

Boiling Point: 55.8 - 58.2°C (132 - 137°F)

Melting Point: -99°C (-146°F)

Viscosity at 20°C (68°F): 0.38 mPa.s or cP

Solubility in Water at Ambient Temperature: appreciable

pH: not available

Octanol/Water Partition Coefficient: log P = 0.18, P = 1.51

10. STABILITY AND REACTIVITY

Stability: stable

Incompatibility: Material can react violently with strong oxidizing agents.

Hazardous Polymerization: will not occur

11. TOXICOLOGICAL INFORMATION

Effects of Exposure:

Inhalation: Harmful if inhaled. High vapor concentrations may cause drowsiness and irritation.

Eyes: Causes irritation. High vapor concentrations may cause irritation.

Skin: Harmful if absorbed through skin. Causes irritation.

Ingestion: May be fatal or cause blindness if swallowed. May cause irritation of the gastrointestinal tract.

Acute Toxicity Data:

Oral LD-50 (rat): >5000 mg/kg (highest dose tested)

Inhalation LC-50 (rat): >16,000 ppm/4 hour(s)

Dermal LD-50 (rabbit): >5000 mg/kg (highest dose tested)

Skin irritation (rabbit): slight

Skin sensitization (human): none

Eye irritation (rabbit): moderate

NOTE: This product is metabolized to another material: formic acid. Humans and other primates metabolize formic

acid more slowly than rodents so that formic acid can build up in the body, producing toxic effects. Therefore, data from studies in rodents have limited relevance for human risk assessment.

Mutagenicity/Genotoxicity Data:

Salmonella typhimurium assay (Ames test): negative (+/- activation)

12. ECOLOGICAL INFORMATION

Introduction: This environmental effects summary is written to assist in addressing emergencies created by an accidental spill which might occur during the shipment of this material, and, in general, it is not meant to address discharges to sanitary sewers or publicly owned treatment works.

Summary: Data for this material have been used to estimate its environmental impact. It has the following properties: a low potential to affect aquatic organisms, a low potential to bioconcentrate.

Oxygen Demand Data:

ThOD: 1.51 g oxygen/g

BOD-5: 0.393 g oxygen/g

Acute Aquatic Effects Data:

96-h LC-50 (fathead minnow): 320-399 mg/l

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Mix with compatible chemical which is less flammable and incinerate.

Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.

14. TRANSPORT INFORMATION

Domestic (Land, D.O.T.)

Proper Shipping Name: Methyl Acetate

Hazard Class: 3

UN/NA: UN1231

Packing Group: II

International (Water, I.M.O.)

Proper Shipping Name: Methyl Acetate

Hazard Class: 3.2

UN/NA: UN1231

Packing Group: II

International (Air, I.C.A.O.)

Proper Shipping Name: Methyl Acetate

Hazard Class: 3
UN/NA: UN1231
Packing Group: II

15. REGULATORY INFORMATION

- This document has been prepared in accordance with the MSDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.
 - OSHA Classification: hazardous
 - This document has been prepared in accordance with the MSDS requirements of the WHMIS Controlled Products Regulation.
 - WHMIS (Canada) Status: controlled
 - WHMIS (Canada) Hazard Classification: B/2, D/2/B
 - Carcinogenicity Classification (components present at 0.1% or more):
 - International Agency for Research on Cancer (IARC): not listed
 - American Conference of Governmental Industrial Hygienists (ACGIH): not listed
 - National Toxicology Program (NTP): not listed
 - Occupational Safety and Health Administration (OSHA): not listed
 - Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372: methanol
 - SARA (U.S.A.) Sections 311 and 312 hazard classification(s): fire hazard, immediate (acute) health hazard, delayed (chronic) health hazard
 - US Toxic Substances Control Act (TSCA): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.
 - Canadian Environmental Protection Act (CEPA) and Domestic Substances List (DSL): This product is listed on the DSL or otherwise complies with CEPA new substance notification requirements.
 - European Inventory of Existing Commercial Chemical Substances (EINECS): This product is listed on EINECS. EINECS Number: 2011852
 - Australian Inventory of Chemical Substances (AICS) and National Industrial Chemicals Notification and Assessment Scheme (NICNAS): This product is listed on AICS or otherwise complies with NICNAS.
 - Japanese Handbook of Existing and New Chemical Substances: This product is listed in the Handbook or has been approved in Japan by new substance notification.
- 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 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:

Chemical Name	CAS Number	RQ
Methanol	67-56-1	5,000 lb

16. OTHER INFORMATION

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.