
MATERIAL SAFETY DATA SHEET

MSDS NUMBER: M109

MSDS DATE: 9/9/08

PRODUCT NAME: Ethyl Acid Phosphate

24 HOUR EMERGENCY PHONE: 1-800-424-9300

I. PRODUCT IDENTIFICATION

HMIS HAZARD RATINGS

HEALTH HAZARD 3

FIRE HAZARD 2

REACTIVITY 0

Based on the National Paint & Coatings Association HMIS rating system.

SARA/TITLE III HAZARD CATEGORIES (See Section X)

Immediate (ACUTE) Health:	YES	Reactive Hazard:	NO
Delayed (Chronic) Health:	NO	Sudden Release of Pressure:	NO
Fire Hazard:	YES		

MANUFACTURER'S :	IsleChem, LLC		
NAME AND :	2801 Long Road	TELEPHONE:	(716) 773-8100
ADDRESS :	Grand Island, NY 14072		

CHEMICAL NAME:	Phosphoric Acid, Monoethyl-diethyl Ester Mixture	CAS NUMBER:	1623-14-9 (monoester) 598-02-7 (diester)
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SYNONYMS/COMMON NAMES: Ethyl Acid Phosphate
Phosphoric acid, ethyl esters

CHEMICAL FORMULA: $C_2H_7O_4P$ / $C_4H_{11}O_4P$ mixture

PRODUCT USE: Industrial Chemical

DOT PROPER SHIPPING NAME:	Corrosive liquid, acidic, organic nos (ethyl acid phosphate, phosphoric acid)
DOT HAZARD CLASS:	8
DOT IDENTIFICATION NUMBER:	UN3265
DOT PACKING GROUP:	III
DOT HAZARDOUS SUBSTANCE:	Phosphoric acid RQ 5000 lbs.
DOT MARINE POLLUTANT:	Not applicable
ADDITIONAL DESCRIPTION REQUIREMENT:	Not applicable

II. HEALTH HAZARD INFORMATION

EMERGENCY AND FIRST AID PROCEDURES

EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with large amounts of water for at least 15 minutes forcibly holding lids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN:

SEEK MEDICAL ATTENTION IMMEDIATELY. Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. CONTINUE TO FLUSH UNTIL MEDICAL ATTENTION ARRIVES. Discard non-rubber shoes. Wash clothing before reuse.

INHALATION:

Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:

DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONCOUS PERSON. Give large quantities of water (If available, give several glasses of milk). If spontaneous vomiting is inevitable, PREVENT ASPIRATION by keeping the victims head below the knees. GET MEDICAL ATTENTION IMMEDIATELY. A qualified physician can perform gastric lavage only when the airway (trachea) has been secured to prevent aspiration.

ROUTES OF EXPOSURE

INHALATION:

Inhalation of vapors may cause irritation to the mucous membranes of the respiratory tract and can produce serious chemical burns.

SKIN:

Exposure may irritate skin and can produce serious burns.

EYE CONTACT:

May irritate eyes and can produce chemical burns.

INGESTION:

Can cause irritation and burning of the mouth, throat and gastrointestinal tract.

EFFECTS OF OVEREXPOSURE

ACUTE:

Irritating and corrosive to the eyes, skin, respiratory and digestive tracts.

CHRONIC:

No known chronic effects. Not listed as carcinogen - IARC, NTP, OSHA

TOXICOLOGY DATA:

Acute Oral LD50 (rat) 2000 mg/kg.

SYNERGISTIC MATERIALS:

Not Applicable.

III. IMPORTANT COMPONENTS

CAS NUMBER / NAME

598-02-7 Phosphoric acid, diethyl ester

EXPOSURE LIMITS

PEL: Not Established

TLV,TWA, STEL: Not Established

PERCENTAGE

VOL

WT 55-65

COMMON NAMES:

DIETHYL ACID PHOSPHATE

Listed On (List Legend Below):

00 22 51 75 76 77

1623-14-9 Phosphoric acid, monoethyl ester

EXPOSURE LIMITS

PEL: Not Established

TLV,TWA, STEL: Not Established

PERCENTAGE

VOL

WT 35-45

COMMON NAMES:

Listed On (List Legend Below):

00 22 51 75 76 77

7664-38-2 Phosphoric acid

EXPOSURE LIMITS

PEL: 1 mg/m3, TWA

ACGIH TLV: 1 mg/m3, STEL 3 mg/m3

NIOSH TWA: 1 mg/m3, STEL 3 mg/m3

PERCENTAGE

VOL

WT 1-2

COMMON NAMES:

ORTHOPHOSPHORIC ACID

Listed On (List Legend Below):

00 03 12 13 21 22 24 50 51 56 57 58 60 62 64 70 71 72 75 76 77

CAS NUMBER / NAME

27194-63-4 Diphosphoric acid, ethyl esters

EXPOSURE LIMITS

PEL: Not Established

TLV,TWA, STEL: Not Established

PERCENTAGE

VOL

WT 1-5

COMMON NAMES:

Listed On (List Legend Below):

00 22 51 75 76 77

V. SPECIAL PROTECTION

VENTILATION REQUIREMENTS:

Provide good general room ventilation plus local exhaust at points of emission.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY:

Use NIOSH/MSHA approved respirator, following manufacturer's recommendations, should be used as a precautionary measure where airborne contaminants may occur.

EYE:

Wear chemical safety goggles plus full face shield to protect against splashing when appropriate.

GLOVES:

Wear chemical resistant gloves such as neoprene.

OTHER CLOTHING AND EQUIPMENT:

Eyewash facility and emergency shower should be in close proximity. Impervious clothing and rubber boots should be worn for splash protection.

VI. PHYSICAL DATA

BOILING POINT @ 760 mm Hg:	No Data
FREEZING POINT:	No Data
VAPOR PRESSURE:	0.27 @ 20 C (68F)
SPECIFIC GRAVITY (H₂O=1):	1.275 @ 25 C
SOLUBILITY IN H₂O % BY WT:	Miscible
VAPOR DENSITY (Air=1):	No Data
APPEARANCE AND ODOR:	Clear, colorless liquid-to-light yellow liquid with ethanol odor
ODOR THRESHOLD (ppm):	No Data
pH:	Acidic
DENSITY:	10.6 lb/gal
EVAPORATION RATE:	No Data
COEFFICIENT WATER/OIL DISTRIBUTION:	No Data

VII. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:

Avoid exposure to heat and to most metals or plastics, especially at elevated temperatures. Thermal degradation occurs above 255°F.

INCOMPATIBILITY:

Reacts with alkalis producing heat. Reacts with many metals liberating flammable hydrogen gas. This material hydrolyzes slowly in contact with water and more rapidly in contact with mineral acids.

HAZARDOUS DECOMPOSITION PRODUCTS:

Oxides of phosphorus and oxides of carbon produced on thermal degradation.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

Material is not known to polymerize.

VIII. HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS:

Store away from heat and separate from alkalis, aluminum, zinc and other metals. Protect from atmospheric moisture. Storage areas for drummed material should have adequate drainage. Storage tanks should be vented and diked. Keep away from sources of heat or ignition. This material is acidic and will attack carbon steel.

IX. ENVIRONMENTAL PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Eliminate sources of ignition. Isolate spill and restrict non-essential personnel. Cleanup personnel should use protective measures outlined in section V of this MSDS. Soak up with vermiculite, sand or other absorbent material and place in marked metal container for disposal. Neutralize with soda ash. Flush spill area with large quantities of water after spilled material has been removed. Do not allow contaminated water to enter water ways or sewers.

WASTE DISPOSAL METHOD:

The RCRA characteristic of corrosivity, D002, is exhibited by the unused product if it becomes a waste. Product should be completely removed from container. Material that cannot be used or chemically reprocessed should be disposed of in accordance with all local, state and federal regulations. Incinerate in equipment designed and permitted to handle oxides of phosphorus as combustion products or send to a waste disposal firm. Empty containers should be disposed of in a manner meeting government regulations.

X. ADDITIONAL INFORMATION

Designated a hazardous chemical by OSHA (29 CFR Sec 1910, Subpart Z).

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to your employees.

To aid our customers in complying with regulatory requirements, SARA Title III hazard categories for this product are indicated in Section I. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40 CFR Part 370. Please consult those regulations for details.

Acronym and Abbreviation Key

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service Number
CERCLA	Comprehensive Environmental Response, Compensation & Recovery Act
IARC	International Agency for Research on Cancer
MSDS	Material Safety Data Sheet
N/D	No data
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit (OSHA)
RQ	CERCLA Reportable Quantity
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average exposure limit
WH MIS	Workplace Hazardous Materials Information System (Canada)

IMPORTANT: The information presented in this MSDS, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY, EXPRESS OR IMPLIED IS MADE REGARDING PERFORMANCE, STABILITY, OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling use procedures, safe handling and use remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any Federal, State or local laws.

XI. PREPARATION INFORMATION

For additional Non-Emergency health, safety or environmental information telephone (716) 773-8438, or write to:

IsleChem, LLC
2801 Long Road
Grand Island, NY 14072

For Emergencies: 24 HOUR EMERGENCY PHONE: 1-800-424-9300

To request an MSDS: 716-773-8438

WARNING LABEL INFORMATION

SIGNAL WORD: DANGER

STATEMENT OF HAZARDS:

ACID CORROSIVE

MAY CAUSE IRRITATION OR BURNS TO THE SKIN, EYES, RESPIRATORY AND DIGESTIVE TRACTS.

COMBUSTIBLE LIQUID

PRECAUTIONARY STATEMENTS:

Keep container closed. Insure adequate ventilation or use an approved respirator. Avoid breathing vapor. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Use goggles, impervious clothing and rubber shoes. Reacts with aluminum, zinc, and other metals liberating flammable hydrogen gas. Keep away from heat and sources of ignition.

FIRST AID:

FOR EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY THEN SEEK MEDICAL ATTENTION.

IMMEDIATELY flush eyes with large amounts of water for at least 15 minutes forcibly holding lids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within one (1) minute is essential to achieve maximum effectiveness. SEEK MEDICAL ATTENTION IMMEDIATELY.

FOR SKIN:

SEEK MEDICAL ATTENTION IMMEDIATELY. Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. CONTINUE TO FLUSH UNTIL MEDICAL ATTENTION ARRIVES. Discard non-rubber shoes. Wash clothing before reuse.

WARNING LABEL INFORMATION (continued)

IF INHALED:

Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, give mouth-to-mouth resuscitation. GET MEDICAL ATTENTION IMMEDIATELY.

IF SWALLOWED:

DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Give large quantities of water (If available, give several glasses of milk). If spontaneous vomiting is inevitable, PREVENT ASPIRATION by keeping the victims head below the knees. GET MEDICAL ATTENTION IMMEDIATELY. A qualified physician can perform gastric lavage only when the airway (trachea) has been secured to prevent aspiration.

IN CASE OF:

SPILL OR LEAK:

Eliminate sources of ignition. Soak up with vermiculite, sand, or other absorbent material and place in marked metal container for disposal. Neutralize with soda ash. Flush spill residue area with large quantities of water after spilled material is removed.

FIRE:

Use dry chemical, foam, carbon dioxide or water spray. Use air supplied respirator and full protection equipment. Fire will liberate toxic phosphorus oxide and carbon oxide gases.

HANDLING AND STORAGE:

Store in a cool, dry place separate AWAY from alkalis, aluminum, zinc and other metals.

DISPOSAL:

The RCRA characteristic of corrosivity, D002, is exhibited by the unused product if it becomes a waste. Product should be completely removed from container. Material that cannot be used or chemically reprocessed should be disposed of in accordance with all local, state and federal regulations. Incinerate in equipment designed to handle oxides of phosphorus at a RCRA permitted facility. Empty containers should also be disposed of in a manner meeting government regulations.

INFORMATION REQUIRED BY FEDERAL, STATE OR LOCAL REGULATIONS:

This product contains:

CAS#	NAME
598-02-9	Phosphoric acid, diethyl ester
1623-14-9	Phosphoric acid, monoethyl ester
7664-38-2	Phosphoric acid
27194-63-4	Diphosphoric acid, ethyl esters

HMIS RATING SYSTEM: HEALTH 3 FLAMMABILITY 2 REACTIVITY 0

FOR INDUSTRIAL USE ONLY

For additional information, see Material Safety Data Sheet (MSDS) for this product.