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## SAFETY DATA SHEET

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SDS NUMBER: M 109

DATE: 6/22/15

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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**(a) PRODUCT NAME IDENTIFIER USED ON LABEL:**

Ethyl Acid Phosphate

**(b) OTHER MEANS OF IDENTIFICATION:**

**Synonyms:** phosphoric acid, monoethyl ester; phosphoric acid, diethyl ester; Monoethyl Phosphate; Diethyl Phosphate

**Chemical formula:**  $C_2H_7O_4P + C_4H_{11}O_4P$

**CAS Numbers:** See section 3

**Other:** Reaction mass of ethyl acid phosphate and diethyl acid phosphate.

**(c) RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS**

Industrial chemical. For industrial use only.

**(d) NAME, ADDRESS AND TELEPHONE NUMBER OF MANUFACTURER**

**Manufacturer's** IsleChem, LLC

**Name and** 2801 Long Road

**Address:** Grand Island, NY 14072

**Telephone:** 716-773-8100

**(e) EMERGENCY PHONE NUMBER**

**24 Hour emergency telephone:** 1-800-424-9300

**To request an SDS:** 1-716-773-8100

**Customer service:** 1-716-773-8100

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## 2. HAZARDS IDENTIFICATION

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(a) CLASSIFICATION OF CHEMICAL IN ACCORDANCE WITH 29 CFR 1910(d)

**Health:** Skin Corrosion, Category 1C; Toxic to Reproduction, Category 2.

**Physical:** Flammable liquid, Category 4

(b) SYMBOLS, SIGNAL WORD, HAZARD AND PRECAUTIONARY STATEMENTS IN ACCORDANCE WITH 29 CFR 1910.1200(d)

**Symbols (Pictograms)**



**Signal Words, Hazard and Precautionary Statements:**

**Danger.** Causes severe skin burns and eye damage. Suspected of damaging fertility or the unborn child. Combustible liquid.

Do not breathe vapors. Wash thoroughly after handling. Do not eat drink or smoke when using this product. Wear protective gloves, clothing, eye, and face protection. Wash contaminated clothing before reuse. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from flames and hot surfaces – No smoking.

If exposed or concerned: Get medical attention/advice.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

In case of fire: Use dry chemical, foam, carbon dioxide or water spray to extinguish.

Store locked up in a well ventilated place. Keep cool.

Dispose of contents and container in accordance with local, state and federal regulations.

**(c) HAZARDS NOT OTHERWISE CLASSIFIED**

None

**(d) MIXTURE INGREDIENT(S) THAT ARE NOT CLASSIFIED FOR TOXICITY**

None at greater than 1%.

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### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

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<b>(a) Chemical Name</b>	<b>(b) Common Name &amp; Synonyms</b>	<b>(c) CAS Number</b>	<b>(d) Concentration Weight %</b>
Phosphoric acid, monoethyl ester	Monoethyl phosphate	1623-14-9	55-65%
Phosphoric acid, diethyl ester	Diethyl phosphate	813-78-5	40-60%
Ethanol	Ethyl Alcohol	64-17-5	1-2%
Phosphoric acid	Orthophosphoric acid	7664-38-2	0.01-8%
Diphosphoric acid, ethyl esters		27194-63-4	1-5%

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### **4. FIRST AID MEASURES**

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**(a) DESCRIPTION OF FIRST AID MEASURES BY ROUTES OF ENTRY**

**EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Washing eyes within several seconds is essential to achieve maximum effectiveness. GET MEDICAL ATTENTION IMMEDIATELY.

**SKIN:** Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes. Wash clothing before reuse. GET MEDICAL ATTENTION AS SOON AS POSSIBLE.

**INHALATION:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, have trained person administer oxygen. If respiration stops, have a trained person administer artificial respiration. GET MEDICAL ATTENTION IMMEDIATELY.

**INGESTION:** NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. If swallowed, rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. GET MEDICAL ATTENTION IMMEDIATELY.

**(b) MOST IMPORTANT SYMPTOMS AND EFFECTS**

**Potential health effects:**

**Routes of entry:** Ingestion, inhalation, skin, eyes.

**Target organs:** Ethanol may cause damage to fertility or the unborn child.

**Irritancy:** Severely irritating to eyes.

**Sensitizing capability:** None known.

**Reproductive effects:** None known.

**Cancer information:** This product does not contain any substances at > 0.1 weight % that are considered by OSHA, NTP, IARC or AGCIH to be “probable” or “suspected” carcinogens.

This product contains chemicals known to the State of California to cause cancer.

**Short term exposure (acute):**

**Inhalation:** Irritating to mucous membranes.

**Eyes:** Liquid is a severe eye irritant and can cause burns.

**Skin:** May irritate the skin and can cause burns.

**Ingestion:** May cause burns to gastrointestinal tract. May be harmful by ingestion.

**Repeated exposure (chronic)**

This product contains chemicals known to the State of California to cause cancer. This product contains chemicals suspected of causing damage to fertility or the unborn child.

**Synergistic materials:** None known.

**Medical conditions aggravated by exposure:** None known.

**(c) INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT**

As indicated above

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**5. FIRE FIGHTING MEASURES**

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**(a) SUITABLE EXTINGUISHING MEDIA**

Dry chemical, alcohol foam, carbon dioxide, water mist.

**(b) SPECIFIC HAZARDS ARISING FROM THE CHEMICAL**

Combustible liquid. Oxides of carbon and phosphorus form as combustion products.

**(c) SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS**

Keep unauthorized personnel removed and upwind. Wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus and full protective clothing.

(note: see section 9 for flash point, LEL, UEL, and auto-ignition temperature)

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**6. ACCIDENTAL RELEASE MEASURES**

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**(a) PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES**

Eliminate all sources of ignition. Follow protective measures provided in section 2 and section 8.

Contain spill with dike to prevent entry into sewers or waterways. Spills or releases should be reported, if required, to the appropriate local, state and federal agencies.

**(b) METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP**

Absorb spill using suitable absorbent. Sweep or vacuum spills and place in containers for recovery or disposal. Dispose of clean-up materials per section 13.

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**7. HANDLING AND STORAGE**

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**(a) PRECAUTIONS FOR SAFE HANDLING**

Avoid breathing mist or vapor, use with adequate ventilation. Wear NIOSH/MSHA approved respiratory protection if there is potential for exposure above the exposure limits.

**(b) CONDITIONS FOR SAFE STORAGE, INCOMPATIBILITIES**

Keep container tightly closed and properly labeled. Store in a cool, dry, ventilated and locked area. This material is acidic and will attack steel.

Incompatibilities: See section 10

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**(a) EXPOSURE LIMITS**

<i>Component</i>	<i>Weight Percent</i>	<i>OSHA</i>	<i>ACGIH TLV</i>
Phosphoric acid, monomethyl ester	40-60%	None established	None established

Phosphoric acid, diethyl ester	40-60%	None established	None established
Phosphoric acid, monethyl estere	55-65%	None established	None established
Ethanol	0.-5%	PEL: 1000 ppm	TWA: 1000 PPM, STEL: 1000 PPM
Phosphoric acid	0.01-8%	PEL: 1 mg/M3	TWA: 1 mg/M3 Ceiling: 3 mg/M3
Diphosphoric acid, ethyl esters	1-5%	None established	None established

### (b) ENGINEERING CONTROLS

Since this material may be corrosive to skin and mucous membranes, general room ventilation plus local exhaust at points of emission should be used to maintain levels of airborne contaminants as low as feasibly possible.

### (c) PERSONAL PROTECTION

**Respiratory:** Wear a NIOSH/MSHA approved respirator following manufacturer's recommendations, where airborne contaminants may occur.

**Eye/face:** Wear safety glasses with side shields or chemical safety goggles and a face shield as appropriate (ANSI Z87.1).

**Skin:** Contact should be prevented by use of appropriate personal protective clothing. Wear chemical resistant gloves such as rubber, neoprene or vinyl.

**Other:** Emergency shower and eyewash facility should be in close proximity (ANSI Z358.1).

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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(a) **Appearance and Odor:** Clear colorless, to slightly yellow liquid with ethanol odor

(b) **Odor Threshold:** Not available

(c) **pH:** acidic

(d) **Specific Gravity (H<sub>2</sub>O = 1):** 1.275

(e) **Melting Point/Freezing Point:** < - 60<sup>0</sup> C

(f) **Boiling Point @ 760 mm Hg/Boiling Point Range:** Not available

(g) **Flash Point:** 84 C (Seta CC)

(h) **Evaporation rate:** Not available

(I) **Flammability:** Combustible liquid.

(j) **Lower explosive limit (LEL)/Upper explosive limit (UEL):** Not available/ Not available

- (k) **Vapor Pressure:** 0.27 @ 20 C  
(l) **Vapor density:** Not available  
(m) **Relative density:** 10.6 lbs/gal  
(n) **Solubility in Water:** miscible  
(o) **Partition coefficient:** Not available  
(p) **Auto ignition temperature:** Not available  
(q) **Decomposition temperature:** Decomposition starts at 124<sup>0</sup> C  
(r) **Viscosity:** Not available

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## 10. STABILITY AND REACTIVITY

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### a) REACTIVITY

Reacts with strong oxidizers and alkalis, especially at elevated temperatures. This material hydrolyzes slowly in contact with water and more rapidly in contact with mineral acids.

### b) CHEMICAL STABILITY

Stable

### c) POSSIBILITY OF HAZARDOUS REACTION

Hazardous polymerization will not occur.

### d) CONDITIONS TO AVOID

See 10 a, c and e

### e) INCOMPATIBLE MATERIALS

See 10 a and c.

### f) HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide & carbon dioxide; Phosphorus oxides.

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## 11. TOXICOLOGICAL INFORMATION

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### a) INFORMATION ON LIKELY ROUTES OF EXPOSURE

See section 4.

### b) SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS

See sections 2 and 4.

### c) DELAYED AND IMMEDIATE EFFECTS

See section 4.

**d) NUMERICAL MEASURES OF TOXICITY**

ACUTE ORAL TOXICITY: LD50: 2000 mg/kg (rat)

**e) CARCINOGENICITY**

This product does not contain any substances at > 0.1 weight % that are considered by OSHA, NTP, IARC or AGCIH to be “probable” or “suspected” carcinogens.

This product contains chemicals known to the State of California to cause cancer. This product contains chemicals suspected of causing damage to fertility or the unborn child.

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**12. ECOLOGICAL INFORMATION**

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**a) ECOTOXICITY**

No data available

**b) PERSISTANCE AND DEGRADABILITY**

No data available

**c) BIOACCUMULATIVE POTENTIAL**

No data available

**d) MOBILITY IN SOIL**

No data available

**e) OTHER ADVERSE EFFECTS**

Phosphoric acid is a SARA Section 313 Water Priority Chemical.

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**13. DISPOSAL CONSIDERATIONS**

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Dispose of all waste, contaminated containers and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts.

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**14. TRANSPORTATION INFORMATION**

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**a) UN NUMBER:**

UN3265

**b) UN PROPER SHIPPING NAME:**



Corrosive liquid, acidic, organic nos (ethyl acid phosphate, phosphoric acid)

**c) TRANSPORT HAZARD CLASSES**

8 (Corrosive)

**d) PACKING GROUP**

III

**e) ENVIRONMENTAL HAZARDS**

Not a marine pollutant

**e) TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL**

None

**f) SPECIAL PRECAUTIONS**

DOT Hazardous substance: RQ 5000 lbs (phosphoric acid)

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**15. REGULATORY INFORMATION**

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**U.S. FEDERAL REGULATIONS:** 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, 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 Safety Data Sheet available to your employees.

This product contains phosphoric acid which has a CERCLA RQ of 5000 pounds.

This product contains phosphoric acid which is a SARA section 313 Water Priority Chemical.

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

**SARA/TITLE III HAZARD CATEGORIES:**

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

**TSCA:** All components contained in this substance are listed on the TSCA inventory.

**HMIS HAZARD RATINGS:**

HEALTH HAZARD: 3\*      FIRE HAZARD: 2      REACTIVITY: 0

**STATE REGULATIONS:** Consult local laws for applicability.

**INTERNATIONAL REGULATIONS:** Consult the regulations of the importing country.

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**16. OTHER INFORMATION**

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**SDS LEGEND:**

ACGIH = American Conference of Governmental Industrial Hygienists

ANSI = American National Standards Institute

CAS = Chemical Abstracts Service Registry Number

CEILING = Ceiling Limit (Duration is for 15 minutes, unless otherwise noted.)

CEL = Corporate Exposure Limit

CERCLA = Comprehensive Environmental Response Compensation and Liability Act

CFR = Code of Federal Regulations (USA)

DOT = Department of Transportation

LEL = Lower explosive limit

MARPOL = International Convention for the Prevention of Pollution from Ships

MSHA = Mine Safety and health Administration

NTP = National Toxicological Program

NIOSH = National Institute for Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

GHS = Global Harmonized System

IARC = International Agency for Research on Cancer

PEL = Permissible Exposure Limit (OSHA)

Ppm = parts per million

RQ = Reportable Quantity per 40 CFR 355

SARA = Superfund Amendments and Re-authorization Act

SDS = Safety Data Sheet

STEL = Short Term Exposure Limit (Duration is for 15 minutes, unless otherwise noted.)

TLV = Threshold Limit Value (ACGIH)

TWA = Time Weighted Average (8 hour)

UEL = Upper Explosive Limit

\* = See section 3 Hazards Identification - Repeated Exposure (Chronic)

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**MOST RECENT VERSION OF THIS SDS:** 6/22/15