1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: EM SCIENCE
A Division of EM Industries
P.O. Box 70
480 Democrat Road
Gibbstown, N.J. 08027

Preparation Date: 6/4/98

Information Phone Number: 856-423-6300
Hours: Mon. to Fri. 8:30-5

Chemtrec Emergency Number: 800-424-9300
Hours: 24 hrs a day

Catalog Number(s):
PX1003 565

Product Name:
ortho-Phosphoric Acid, Crystalline

Synonyms:
o-Phosphoric Acid Solid

Chemical Family:
Inorganic Acid

Formula:
H₃PO₄

Molecular Weight:
98.00

2. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Appr %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric Acid</td>
<td>7664-38-2</td>
<td>100%</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
CAUSES EYE BURNS.
Causes Skin Irritation Or Burns.
May Be Harmful If Swallowed Or By Absorption Through Skin.

Appearance:
White crystals, hygroscopic

POTENTIAL HEALTH EFFECTS (ACUTE AND CHRONIC)

Symptoms of Exposure:
Causes eye burns on contact. Causes severe irritation and possible burns on contact with skin (effect may be delayed). May be harmful if swallowed or absorbed through skin.

Medical Cond. Aggravated by Exposure:
Data not available.

Routes of Entry:
Inhalation, ingestion or skin contact.

Carcinogenicity:
The material is not listed (IARC, NTP, OSHA) as cancer causing agent.

4. FIRST AID MEASURES

Emergency First Aid:
GET MEDICAL ASSISTANCE FOR ALL CASES OF OVEREXPOSURE.
Skin: Immediately flush thoroughly with large amounts of water.
Eyes: Immediately flush thoroughly with water for at least 15 minutes.
Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped.
Ingestion: Do not induce vomiting; get immediate medical attention.

5. FIRE FIGHTING MEASURES

Flash Point (F): Noncombustible
Flammable Limits LEL (%): N/A
Flammable Limits UEL (%): N/A
Extinguishing Media:
Water

Fire Fighting Procedures:
Wear self-contained breathing apparatus and protective clothing.
Fire & Explosion Hazards:
Contact with some metals may produce explosive hydrogen gas. Reacts with chlorides + stainless steel to form explosive hydrogen gas.

6. ACCIDENTAL RELEASE MEASURES

Spill Response:
Evacuate the area of all unnecessary personnel. Wear suitable protective equipment listed under Exposure / Personal Protection. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate its source, if this can be done without risk. Take up and containerize for proper disposal as described under Disposal. Comply with Federal, State, and local regulations on reporting releases. Refer to Regulatory Information for reportable quantity and other regulatory data.

7. HANDLING AND STORAGE

Handling & Storage:
Keep container tightly closed. Store in a cool, dry area away from metals and alkalies. Do not breathe dust or solution mist. Do not get in eyes, on skin, or on clothing.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT:
Ventilation, Respiratory Protection, Protective Clothing, Eye Protection:
Material should be handled or transferred in an approved fume hood or with adequate ventilation. Protective gloves (Butyl rubber, Neoprene or equivalent) must be worn to prevent skin contact. Safety glasses with side shields must be worn at all times.

Work/Hygienic Practices:
Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available.

EXPOSURE GUIDELINES

OSHA - PEL:

<table>
<thead>
<tr>
<th>Component</th>
<th>TWA (PPM)</th>
<th>STEL (MG/M3)</th>
<th>CL (PPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric Acid</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

ACGIH - TLV:

<table>
<thead>
<tr>
<th>Component</th>
<th>TWA (PPM)</th>
<th>STEL (MG/M3)</th>
<th>CL (PPM)</th>
</tr>
</thead>
</table>
If there are no exposure limit numbers listed in the Exposure Guidelines chart, this indicates that no OSHA or ACGIH exposure limits have been established.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point (C 760 mmHg):** Decomposes
**Melting Point (C):** 42°C
**Specific Gravity (H₂O = 1):** 1.86
**Vapor Pressure (mm Hg):** 0.028 20°C
**Percent Volatile by vol (%):** N/A
**Vapor Density (Air = 1):** N/A
**Evaporation Rate (BuAc = 1):** N/A
**Solubility in Water (%):** Soluble
**Appearance:**
White crystals, hygroscopic

10. STABILITY AND REACTIVITY

**Stability:** Yes

**Hazardous Polymerization:**
Does not occur

**Hazardous Decomposition:**
POₙ

**Conditions to Avoid:**
Heat

**Materials To Avoid:**

( ) Water
( ) Acids
( ) Bases
( ) Corrosives
( ) Oxidizers
(X) Other: Metals, Strong alkalis

11. TOXICOLOGICAL INFORMATION

Toxicity Data
unk-man LDLo: 220 mg/kg  orl-rat LD50: 1530 mg/kg

**Toxicological Findings:**
None
Cited in Registry of Toxic Effects of Chemical Substances (RTECS)

**12. DISPOSAL CONSIDERATIONS**

**EPA Waste Numbers:**  D002

**Treatment:**
Specified Technology - Contact your local permitted waste disposal site (TSD) for permissible treatment sites. ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

**13. TRANSPORT INFORMATION**

**DOT Proper Shipping Name:**
Corrosive Solid, Acidic, Inorganic, n.o.s. (ortho-Phosphoric Acid)

**DOT ID Number :**
UN3260

**14. REGULATORY INFORMATION**

**TSCA Statement:**
The CAS number of this product is listed on the TSCA Inventory.

<table>
<thead>
<tr>
<th>Component</th>
<th>SARA TPQ (lbs)</th>
<th>SARA RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric Acid</td>
<td></td>
<td>5000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA Floor List</th>
<th>SARA 313</th>
<th>DeMinimis for SARA 313 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>
If there is no information listed on the regulatory information chart, this indicates that the chemical is not covered by the specific regulation listed.

15. OTHER INFORMATION

Comments:
None

NFPA Hazard Ratings:

Health : 2
Flammability : 0
Reactivity : 0
Special Hazards :

Revision History: 10/1/85  4/30/86  10/27/87  10/6/88
3/1/91  9/16/96

| = Revised Section
N/A = Not Available
N/E = None Established

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