1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Code:</th>
<th>20070</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Name:</td>
<td>Phosphorous Acid, 70%</td>
</tr>
<tr>
<td>Trade Name:</td>
<td>Phosphorous Acid, 70%</td>
</tr>
<tr>
<td>Company Name:</td>
<td>Compass Chemical International LLC</td>
</tr>
<tr>
<td>Web site address:</td>
<td><a href="http://www.compasschemical.com">www.compasschemical.com</a></td>
</tr>
<tr>
<td>Emergency Contact:</td>
<td>Chemtrec</td>
</tr>
<tr>
<td></td>
<td>(678)904-4017</td>
</tr>
<tr>
<td></td>
<td>(800)424-9300</td>
</tr>
<tr>
<td></td>
<td>(404)696-6711</td>
</tr>
<tr>
<td>Intended Use:</td>
<td>Intended for Industrial Use</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

**Acute Toxicity:** Oral, Category 4  
**Skin Corrosion/Irritation:** Category 1A

**GHS Signal Word:** Danger

**GHS Hazard Phrases:**  
H302 - Harmful if swallowed.  
H314 - Causes severe skin burns and eye damage.

**GHS Precaution Phrases:**  
P264 - Wash hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

**GHS Response Phrases:**  
P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P330 - Rinse mouth.  
P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.  
P363 - Wash contaminated clothing before reuse.  
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P310 - Immediately call a POISON CENTER/doctor.  
P321 - Specific treatment see Response/First aid section on this label.

**GHS Storage and Disposal Phrases:**  
P501 - Dispose of contents/container in accordance with all federal, state and local regulations.  
P405 - Store locked up.

**OSHA Regulatory Status:** This material is classified as hazardous under OSHA regulations.
Potential Health Effects (Acute and Chronic):

Repeated contact may cause corneal damage.

Effects may be delayed. None.

Inhalation:

Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Aspiration may lead to pulmonary edema. May cause systemic effects. No hazard expected in normal industrial use. Causes respiratory tract irritation. May be harmful if inhaled.

Skin Contact:

Contact with liquid is corrosive and causes severe burns and ulceration. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color. Causes skin irritation. May be harmful if absorbed through the skin.

Eye Contact:

Contact with liquid is corrosive to the eyes and causes severe burns. Causes eye irritation. May cause chemical conjunctivitis.

Ingestion:

Causes gastrointestinal tract burns. No hazard expected in normal industrial use. May cause irritation of the digestive tract. May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Concentration</th>
<th>RTECS #</th>
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</thead>
<tbody>
<tr>
<td>10294-56-1</td>
<td>Phosphorous acid</td>
<td>68 - 72 %</td>
<td>NA</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>0 - 3.0 %</td>
<td>MW4025000</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

In Case of Inhalation: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Get medical aid. No specific treatment is necessary since this material is not likely to be hazardous by inhalation. Remove from exposure and move to fresh air immediately.

In Case of Skin Contact: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse. No specific treatment is necessary, since this material is not likely to be hazardous. Get medical aid.

In Case of Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately. No specific treatment is necessary, since this material is not likely to be hazardous. Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

In Case of Ingestion: Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. No specific treatment is necessary, since this material is expected to be non-hazardous. Get medical aid. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water.

Note to Physician: Treat symptomatically and supportively.
5. FIRE FIGHTING MEASURES

Flammability Classification: Non Flammable
Flash Pt: NP
Explosive Limits: LEL: N.A.  UEL: N.A.
Autoignition Pt: NP
Suitable Extinguishing Media: Do NOT get water inside containers. Not available.
Fire Fighting Instructions: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Substance is noncombustible. Contact with metals may evolve flammable hydrogen gas. Material will not burn.

Flammable Properties and Hazards:

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing to prevent skin exposure. Wear appropriate protective gloves to prevent skin exposure. Wear chemical splash goggles and face shield. Where splashing is possible, full chemically resistant protective clothing (e.g. acid suit) and boots are required. In case of inadequate ventilation, wear respiratory protection.

Environmental Precautions: Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Empty drums should be completely drained and properly bunged, then promptly returned to a drum reconditioner, or properly disposed of. Land Spill: Prevent additional discharge of material if possible to do so without hazard. Warn occupants and downwind areas of hazardous material release hazard and request all to stay clear. For small spills implement clean-up procedures, for large spills implement clean-up procedures and, if in a public area, immediately advise authorities. Leaking or damaged drums must be placed in overpack drums for disposal. Water Spill: Prevent additional discharge of material if possible to do so without hazard. Warn occupants and downstream/downwind areas of release of corrosive hazardous material and request all to stay clear. This material will sink and is soluble/dispersible in water, it is probably not recoverable. Notify Authorities.

Steps To Be Taken In Case Material Is Released Or Spilled:
Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Cover with sand, dry lime or soda ash and place in a closed container for disposal. Provide ventilation. Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Wash thoroughly after handling. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Use only in a chemical fume hood. Discard contaminated shoes. No special handling procedures are required. Avoid breathing dust, vapor, mist, or gas. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Use with adequate ventilation. Wash clothing before reuse.

Precautions To Be Taken in Storing: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from metals. Corrosives area. Do not store in metal containers. Store in a cool, dry place.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>10294-56-1</td>
<td>Phosphorous acid</td>
<td>PEL: Not Established</td>
<td>TLV: Not established</td>
<td>Not Established</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>CEIL: 5 ppm</td>
<td>CEIL: 2 ppm)</td>
<td>No data.</td>
</tr>
</tbody>
</table>

Respiratory Equipment (Specify Type):
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. Respirator protection is not normally required. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Eye Protection:
Wear chemical splash goggles.

Protective Gloves:
Wear appropriate protective gloves to prevent skin exposure.

Other Protective Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Engineering Controls (Ventilation etc.):
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Work/Hygienic/Maintenance Practices:
Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls:
Safety shower and eye bath. Use with adequate ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States: [ ] Gas [X] Liquid [ ] Solid

Appearance and Odor:
Clear colorless.
Slight odor.
Odor threshold: Unavailable

Flammability (solid, gas): NA- Not available

Melting Point: NP

Boiling Point: 100.0 C (212.0 F)

Decomposition Temperature: NA

Autoignition Pt: NP

Flash Pt: NP

Explosive Limits: LEL: N.A. UEL: N.A.

Specific Gravity (Water = 1): 1.390 - 1.430 at 25.0 C (77.0 F)

Density: 11.58 - 11.91 LB/GA at 25.0 C (77.0 F)

Bulk density: NP

Vapor Pressure (vs. Air or mm Hg): NA

Vapor Density (vs. Air = 1): NA

Evaporation Rate: NA

Solubility in Water: Complete

Saturated Vapor Concentration: NA

Viscosity: < 100 CPS at 77.0 F (25.0 C)

Octanol/Water Partition Coefficient: Not Known

pH: < 3.0 - 1% in DIH2O
**10. STABILITY AND REACTIVITY**

Reactivity: Strong bases.
Stability: Unstable [ ] Stable [ X ]
Conditions To Avoid - Instability: Incompatible materials.
Incompatibility - Materials To Avoid: Strong bases, Strong oxidizing agents, Strong reducing agents, Water, None known.

**Hazardous Decomposition or Byproducts:** Oxides of Phosphorus, Phosphines, Carbon monoxide.
Possibility of Hazardous Reactions: Will occur [ ] Will not occur [ X ]
Conditions To Avoid - Hazardous Reactions: No data available.

**11. TOXICOLOGICAL INFORMATION**

Other Studies:
CAS# 7647-01-0: Other Studies:; TClO, Inhalation, Rat, 685.0 UG/M3, 24 D. Result:


SAFETY DATA SHEET
Phosphorous Acid, 70%

Acute toxicity, LC50, Inhalation, Rat, 3124. PPM, 1 H.
Result:
Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes.
Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Iritis.

Acute toxicity, LC50, Inhalation, Mouse, 1108. PPM, 1 H.
Result:
Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other.
Lungs, Thorax, or Respiration: Respiratory stimulation.
Skin and Appendages: Skin: After systemic exposure: Dermatitis, other.
- Journal of Combustion Toxicology., Vol/p/yr: 3,61, 1976

Acute toxicity, LC50, Inhalation, Mouse, 2644. ppm.
Result:
Behavioral: Convulsions or effect on seizure threshold.

Acute toxicity, LC50, Inhalation, Rat, 3700. ppm.
Result:
Blood:Other hemolysis with or without anemia.

Eyes, Species: Rabbit, 5.000 MG, 30 S.
Result:
Behavioral: Convulsions or effect on seizure threshold.
Gastrointestinal: Hypermotility, diarrhea.
Nutritional and Gross Metabolic: Changes in: Body temperature increase.

Carcinogenicity/Other Information:
CAS# 10294-56-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 13598-36-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7647-01-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
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<tbody>
<tr>
<td>10294-56-1</td>
<td>Phosphorous acid</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>n.a.</td>
<td>3</td>
<td>A4</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

No data available.

Results of PBT and vPvB assessment:
CAS# 7647-01-0:
Effective concentration to {0} % of test organisms, Brook Trout (Salvelinus fontinalis), 10000. UG/L, Mortality, Water temperature: 11.70 C (53.1 F) - 15.60 C (60.1 F) C. Result:
Morphological changes.
- Toxicity Experiments with Fish in Reference to Trade Waste Pollution. I. The Problem of Water Pollution, Belding, D.L., 1927

LC50, Green Or European Shore Crab (Carcinus maenas), adult(s), 240000. UG/L, 48
H, Mortality, Water temperature: 15.00 °C (59.0 °F) C.
Result:
No loss of equilibrium observed.
- The Toxicity of 140 Substances to the Brown Shrimp and Other Marine Animals,
Portmann, J.E., and K.W. Wilson, 1971

LC50, Western Mosquitofish (Gambusia affinis), adult(s), 282000. UG/L, 96 H, Mortality,
Water temperature: 21.00 °C (69.8 °F) - 23.00 °C (73.4 °F) C, pH: 8.20.
Result:
Morphological changes.
- Toxicity to Gambusia affinis of Certain Pure Chemicals in Turbid Waters, Wallen, I.E.,
W.C. Greer, and R. Lasater, 1957

LC50, Western Mosquitofish (Gambusia affinis), adult(s), 282000. UG/L, 48 H, Mortality,
Water temperature: 21.00 °C (69.8 °F) - 23.00 °C (73.4 °F) C, pH: 8.20.
Result:
Morphological changes.
- Toxicity to Gambusia affinis of Certain Pure Chemicals in Turbid Waters, Wallen, I.E.,
W.C. Greer, and R. Lasater, 1957

Not reported., Bryozoan (Pectinatella gelatinosa), 3.000 - 5.000 M, 10 - 240 M, Water
temperature: 25.00 °C (77.0 °F) C.
Result:
No loss of equilibrium observed.
- Effects of Chemical Pretreatment on the Germination of Statoblasts of the Freshwater
Bryozoan, Pectinatella gelatinosa, Mukai, H., 1977

Bioaccumulative Potential: This material is not expected to bio-accumulate.
Mobility in Soil: Unknown Effect.

### 13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Chemical waste generators must determine whether a discarded chemical is classified
as a hazardous waste. US EPA guidelines for the classification determination are listed
in 40 CFR Parts 261. Additionally, waste generators must consult state and local
hazardous waste regulations to ensure complete and accurate classification.

Discarded product, as sold, would be considered a RCRA Characteristic Hazardous
Waste as it meets the definition /characteristic of corrosivity (designated as D002).
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Waste Disposal Method: D002

### 14. TRANSPORT INFORMATION

GHS Classification: Acute Toxicity: Oral, Category 4 - Warning! Harmful if swallowed
Skin Corrosion/Irritation, Category 1A - Danger! Causes severe skin burns and eye
damage

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Phosphorous acid.
DOT Hazard Class: 8 CORROSIVE
UN/NA Number: UN2834 Packing Group: II
PHOSPHOROUS ACID.

**LAND TRANSPORT (Canadian TDG):**

- **TDG Shipping Name:** PHOSPHOROUS ACID.
- **UN Number:** 2834
- **Hazard Class:** 8 - CORROSIVE

**LAND TRANSPORT (European ADR/RID):**

- **ADR/RID Shipping Name:** PHOSPHOROUS ACID.
- **UN Number:** 2834
- **Hazard Class:** 8 - CORROSIVE

**MARINE TRANSPORT (IMDG/IMO):**

- **IMDG/IMO Shipping Name:** Phosphorous acid.
- **UN Number:** 2834
- **Hazard Class:** 8 - CORROSIVE

**IMDG EMS Page:**

**AIR TRANSPORT (ICAO/IATA):**

- **ICAO/IATA Shipping Name:** Phosphorous acid.
- **UN Number:** 2834
- **Hazard Class:** 8 - CORROSIVE

---

**15. REGULATORY INFORMATION**

**EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists**

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
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</thead>
<tbody>
<tr>
<td>10294-56-1</td>
<td>Phosphorous acid</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric acid</td>
<td>Yes 500 LB</td>
<td>Yes 5000 LB</td>
<td>Yes</td>
</tr>
</tbody>
</table>

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections:

- **Acute (immediate) Health Hazard**
  - [ ] Yes [X] No
- **Chronic (delayed) Health Hazard**
  - [ ] Yes [X] No
- **Fire Hazard**
  - [ ] Yes [X] No
- **Sudden Release of Pressure Hazard**
  - [ ] Yes [X] No
- **Reactive Hazard**
  - [ ] Yes [X] No

**Other US EPA or State Lists**

- CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
- CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: No

**International Regulatory Lists**

- Canadian DSL: Yes; Canadian NDSL: No; Mexico INSEQ: Yes; Australia ICS: Yes; China IECSC: Yes; Japan ENCS: Yes - (1)-421; Korea ECL: Yes - KE-28696; Philippines ICCS: Yes; Taiwan TCSCA: Yes; REACH: Yes - (P)
- Canadian DSL: Yes; Canadian NDSL: No; Mexico INSEQ: Yes; Australia ICS: Yes; China IECSC: Yes; Japan ENCS: Yes - (1)-215; Korea ECL: Yes - KE-20189; Philippines ICCS: Yes; Taiwan TCSCA: Yes; REACH: Yes - (R), (P)
Regulatory Information Statement: Regulatory information provided in this SDS was prepared for this product and is to be used only for the product in its present form. If this material is used as a component in another material or altered in any way, the information in this SDS may no longer be applicable. This document was generated for the purpose of distributing health, safety and environmental data.

16. OTHER INFORMATION

Revision Date: 06/17/2015
Preparer Name: Compass EHS Department (404)696-6711 4071

Hazard Rating System:  

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL</th>
<th>PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

HMIS: Flammability Instability Health COR Special Hazard

Additional Information About This Product: SDS Data Field Acronym Legend:

NA- Not Available  
NE- Not Established  
NP- Not Applicable  
NR- Not Required  
PR- Proprietary  
TS- Trade Secret.

Company Policy or Disclaimer: MANUFACTURER DISCLAIMER: NOTICE: We believe that the information contained on this Safety Data Sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily either all-inclusive or fully adequate in every circumstance. Also, these suggestions should not be confused with or followed in violation of applicable laws, regulation, rules or insurance requirements. NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.