

MATERIAL SAFETY DATA SHEET

February 18, 2009

Product Name **PHOSPHORIC ACID 36%**

Manufacturer Old Bridge Chemicals, Inc.
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This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION I. MATERIAL IDENTIFICATION

Common Name Phosphoric Acid
Synonyms Orthophosphoric Acid; White Phosphoric Acid
Molecular Formula H₃PO₄

SECTION II. COMPOSITION / INFORMATION ON INGREDIENTS

Phosphoric Acid: 35-37%
CAS #: 7664-38-2 EINECS#: 231-633-2
Water: Balance
CAS #: 7732-18-5 EINECS#: 231-791-2

SECTION III. HAZARD INFORMATION

EMERGENCY OVERVIEW:

Physical Appearance and Odor:

Colorless and Odorless liquid

WARNING STATEMENTS: DANGER! CAUSES BURNS

POTENTIAL HEALTH EFFECTS:

Acute Eye: Corrosive. Causes tissue destruction, permanent damage to the cornea, blindness.

Acute Inhalation: Mists may cause lung irritation, shortness of breath, fluid in lungs.

Acute Ingestion: Can cause nausea, vomiting, diarrhea, corrosion, burns to mouth and esophagus, abdominal pain, chest pain, shortness of breath, seizures, death.

Chronic Effects: This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected carcinogens.

SECTION IV. FIRST AID PROCEDURES

EYE EXPOSURE: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist. If the physician is not immediately available, eye irrigation should be continued for an additional 15

minutes. If it is necessary to transport the patient to a physician and the eye need to be bandaged, use a dry sterile cloth pad and cover both eyes.

SKIN EXPOSURE: Immediately wipe excess material from skin with a dry cloth; then wash skin with plenty of soap and water for at least 15 minutes. Seek medical attention. Remove contaminated clothing and shoes while washing. Clean contaminated clothing and shoes before re-use or discard employing proper procedures if they cannot be properly cleaned.

INHALATION: Remove victim from immediate source of exposure and assure that the victim is still breathing. If breathing is difficult, administer oxygen if available. If victim is not breathing, administer CPR (CARDIO-PULMONARY RESUSCITATION). Seek immediate medical attention.

INGESTION: If victim is conscious and alert, give 2-3 glasses of water to drink and do not induce vomiting. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

NOTES TO PHYSICIAN: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. This material is an acid. The primary toxicity of this product is due to its irritant effects on mucous membranes.

INHALATION: If shortness of breath occurs, evaluate the possibility of bronchitis or pneumonitis. Chest x-ray and arterial blood gases can be used to determine the presence of pulmonary edema. In severe cases, use of humidified oxygen and assisted ventilation including positive end expiratory pressure (PEEP) may be needed. Parenteral steroids may be useful in limiting the extent of pulmonary damage.

SKIN: Wash exposed area thoroughly with soap and water. Chemical burns from strong acids are generally treated the same as thermal burns.

EYES: Irrigate eyes for 15 minutes with sterile saline. If irritation, pain, swelling, photophobia or lacrimation persist, examination by an ophthalmologist is recommended.

INGESTION: If not already performed by first aid personnel, irrigate mouth with large amounts of water and dilute the acid by having the victim drink 4 to 8 ounces of water or milk. DO NOT induce vomiting. Use of gastric lavage is controversial. The advantage of removal of acid must be weighed against the risk of perforation or bleeding. If a large amount of acid (> 1ml/kg body weight) has been recently ingested, cautious gastric lavage is generally advised. Serious complications such as perforation or stricture of the esophagus may occur requiring care by specialists. Laryngeal edema may develop requiring intubation or tracheotomy.

SECTION V. FIRE AND EXPLOSION DATA

Flash Point: Not applicable

Extinguishing Media: Not combustible. Use extinguishing method suitable for surrounding fire.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Persons who may have been exposed to hazardous smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

Unusual Fire and Explosion Hazards: not combustible.

Hazardous Decomposition Materials (Under Fire Conditions): Oxides of phosphorus.

SECTION VI. ACCIDENTAL RELEASE MEASURES

Protection Information in Section 8.

Containment of Spill: Dike or retain dilution water or water from firefighting for later disposal. Follow procedure described below under **Cleanup and Disposal of Spill**.

Cleanup and Disposal of Spill: Exercise caution during neutralization as considerable heat may be generated. Carefully neutralize spill with soda ash. Clean up residual material by washing area with water.

Environmental and Regulatory Reporting: Runoff from fire control or dilution of water may cause pollution. Large spills should be handled according to a predetermined plan.

SECTION VII. HANDLING AND STORAGE

Minimum/Maximum Storage Temperatures: Not Available.

Handling: Do not get on skin or in eyes. Avoid breathing vapors and mists. Do not ingest. This product reacts violently with bases liberating heat and causing spattering.

Storage: Store in an area that is cool, dry and well-ventilated.

SECTION VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practice vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with **Section 13: Disposal Considerations**. Assistance with selection, use and manufacture of worker protection equipment is generally available from equipment manufacturers.

EXPOSURE GUIDELINES: Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validate sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit:

PHOSPHORIC ACID

| | TWA | STEL |
|-------|------------|-------------|
| ACGIH | 1 mg/cu m | 3 mg/cu m |
| OSHA | 1 mg/cu m | 3 mg/cu m |

Engineering Controls: Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation.

Respiratory Protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Eye/Face Protection: Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. Eye contact should be prevented through the use of chemical safety glasses with side shields or splash proof goggles.

An emergency eyewash must be readily accessible to the work area. Face contact should be prevented through the use of a face shield.

Skin Protection: Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard for use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls: Personal hygiene is an important work exposure control measure and the following general measures should be taken when working with or handling this material:

1. Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in area where this material is stored.
2. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.
3. Wash exposed skin promptly to remove accidental splashes or contact with this material.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product.

| | |
|-----------------------|---|
| Physical Appearance: | Colorless liquid |
| Boiling Point Range: | ~ 104 Degrees C |
| Odor | Odorless |
| pH | <1 at 1 wt/wt% |
| Specific Gravity: | 1.224 at 20 degrees C |
| Melting Point Range: | Not available |
| Freezing Point Range: | ~ minus 18 degrees |
| Density: | 1.573 to 1.693 g/ml at 25 degrees C (77F) |
| Vapor Density: | not available |
| Water Solubility: | miscible |
| Vapor Pressure: | 20.6 mmHg at 25 degrees C |

NOTE: PHYSICAL AND CHEMICAL PROPERTIES MAY BE DIFFERENT FOR DIFFERENT CONCENTRATIONS OF PHOSPHORIC ACID

SECTION X. STABILITY AND REACTIVITY DATA

Chemical Stability: This material is stable under normal handling and storage conditions described in Section 7.

Conditions To Be Avoided: None known.

Materials/Chemicals to Be Avoided:

- Fluorine
- Strong oxidizing agents
- Strong reducing agents
- Bases
- Metals
- Sulfur trioxide
- Phosphorus pentoxide

The Following Hazardous Decomposition Products Might Be Expected:

Decomposition Type: thermal

Oxides of phosphorus

Hazardous Polymerization Will Not Occur.

Avoid the Following to Inhibit Hazardous Polymerization: Not applicable.

SECTION XI. TOXICOLOGICAL INFORMATION

Acute Eye Irritation:

Toxicological Information and Interpretation:

eye – eye irritation, 119 mg, rabbit. Severely irritating.

Eye – eye irritation, rabbit. Corrosive.

Acute skin irritation:

Toxicological Information and Interpretation:

Skin – skin irritation, 595 mg/24 hr. rabbit. Severely irritating.

Acute Dermal Toxicity:

Toxicological Information and Interpretation:

LD50-lethal dose 50% of test species, 2740 mg/kg, rabbit

Acute Respiratory Irritation: No data found for product.

Acute Inhalation Toxicity: No test data found for product.

Acute Oral Toxicity: LD50-lethal dose 50% of test species, 1530 mg/kg, rat.

SECTION XII. ECOTOXICOLOGICAL INFORMATION

Ecotoxicological information and interpretation: LC50-lethal concentration 50% of test species, 138 mg/l/96hr, fish: Mosquito fish. Practically nontoxic.

Chemical Fate Information: No specific biodegradable test data located. While acidity of this material is readily reduced in natural waters, the resulting phosphate may persist indefinitely or incorporate into biological systems.

SECTION XIII. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state or local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material. *Please contact technical service support at the telephone number in section one of this MSDS to obtain suggestions for proper disposal of this product.

EPA HAZARDOUS WASTE: YES

EPA RCRA HAZARDOUS WASTE CODES: “C” CORROSIVE

Dispose of properly in accordance with all local, state and federal laws and regulations

SECTION XIV. TRANSPORTATION INFORMATION

Transportation Status: IMPORTANT! Statements below provide additional data on listed DOT classification.

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

U.S DEPARTMENT OF TRANSPORTATION

Shipping Name: PHOSPHORIC ACID SOLUTION

Primary Hazard Class: 8

Secondary Hazard Class:

UN/NA Number: UN1805

Packing Group: III

Label: Corrosive
NAERG: 154
Emergency Response Guide#: 154

CANADA TRANSPORT OF DANGEROUS GOODS

Shipping Name: PHOSPHORIC ACID SOLUTION
Primary Hazard Class: 8
Secondary Hazard Class:
UN/NA Number: UN1805
Packing Group: III
Label: Corrosive

AIR (ICAO/ATA)

Shipping Name: PHOSPHORIC ACID SOLUTION
Primary Hazard Class: 8
Secondary Hazard Class:
UN/NA Number: UN1805
Packing Group: III
Label: Corrosive

VESSEL(IMO/IMDG)

Shipping Name: PHOSPHORIC ACID SOLUTION
Primary Hazard Class: 8
Secondary Hazard Class:
UN/NA Number: UN1805
Packing Group: III
Label: Corrosive

SECTION XV REGULATORY INFORMATION

Inventory Status

| Inventory | Status |
|------------------------|---|
| UNITED STATES (TSCA) | Y- All ingredients are on the inventory |
| CANADA (DSL) | Y- All ingredients are on the inventory |
| EUROPE (EINECS/ELINCS) | Y- All ingredients are on the inventory |

FEDERAL REGULATIONS

Inventory Issues:

All functional components of this product are listed in the TSCA Inventory.

SARA Title III Hazard Classes:

| | |
|-----------------------|-----|
| Fire Hazard | NO |
| Reactive Hazard | NO |
| Release of Pressure | NO |
| Acute Health Hazard | YES |
| Chronic Health Hazard | NO |

SARA Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

Ingredient

CERCLA/SARA

SARA EHS TPQ

PHOSPHORIC ACID

RQ
5000 lbs.

OTHER FEDERAL REGULATIONS:

FDA Status: This product meets the compositional requirements of:
21 CFR 182.1073 PHOSPHORIC ACID

STATE REGULATIONS: This product does not contain any components that are regulated under California Proposition 65.

NFPA Ratings: Health: 3 - Serious
Flammability: 0 - Minimal
Reactivity: 0 - Minimal

SECTION XVI. MSDS PREPARATION INFORMATION

Prepared By: Regulatory Department
732-727-2229

The information contained herein is provided in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose. OLD BRIDGE CHEMICALS, INC., MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, OLD BRIDGE CHEMICALS, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.