



## Material Safety Data Sheet

### PHOSPHOROUS ACID 70% SOLUTION (LOW CHLORIDE)

Date Prepared: 6/23/06

Supersedes Date: 5/14/01

#### 1. PRODUCT AND COMPANY DESCRIPTION

RHODIA INC.  
RHODIA NOVECARE  
CN7500  
8 Cedar Brook Drive  
Cranbury NJ 08512-7500

**Emergency Phone Numbers:**

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC (800-424-9300 within the United States or 703-527-3887 for international collect calls) or Rhodia CAERS (Communication and Emergency Response System) at 800-916-3232.

**For Product Information:**

(888) 776-7337

**Chemical Name or Synonym:**

ORTHOPHOSPHOROUS ACID

**Molecular Formula:**

H<sub>3</sub>PO<sub>3</sub>

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Reg Number	OSHA Hazard	Percentage
PHOSPHOROUS ACID	10294-56-1	Y	70
WATER/RESIDUALS	*****	N	BALANCE

#### 3. HAZARDS IDENTIFICATION

**A. EMERGENCY OVERVIEW:****Physical Appearance and Odor:**

colorless / liquid, odorless.

**Warning Statements:**

DANGER! CAUSES BURNS. CORROSIVE TO SKIN, EYES AND RESPIRATORY TRACT. MAY BE HARMFUL IF INGESTED.

**B. POTENTIAL HEALTH EFFECTS:****Acute Eye:**

Corrosive. Causes irritation, permanent damage to the cornea.

**Acute Skin:**

Corrosive. Causes burns.

**Acute Inhalation:**

Causes upper respiratory tract irritation, coughing, fluid in lungs, dizziness, headache, decreased blood pressure, bluish-purple discoloration of skin, shortness of breath, chest pain, muscle weakness, nausea, vomiting.

**Acute Ingestion:**

Causes burns to mouth and esophagus, nausea, vomiting, abdominal pain, chest pain, shortness of breath.

**Chronic Effects:**

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

**4. FIRST AID MEASURES****FIRST AID MEASURES FOR ACCIDENTAL:****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 needs to be bandaged, use a dry sterile cloth pad and cover both eyes.

**Skin Exposure:**

Immediately wipe excess material off 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 if they cannot be thoroughly cleaned.

**Inhalation:**

Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.

**Ingestion:**

NEVER attempt to induce vomiting. Do not give the affected person anything to drink, even if he is fully conscious. Transport to hospital immediately. 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 cough or 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 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 weighted against the risk of perforation or bleeding. If a large amount of acid (> 1 ml/kg body weight) has been recently ingested, cautious gastric lavage is generally advised if the patient is alert and there is little risk of convulsions. Consultation with a gastroenterologist and/or surgeon is advised. Serious complications such as perforation or stricture of the esophagus may occur requiring care by specialists. Laryngeal edema may develop requiring intubation or tracheostomy.

## 5. FIRE FIGHTING MEASURES

### **FIRE HAZARD 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 contaminated 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. Under fire conditions, toxic, corrosive fumes are emitted.

#### **Hazardous Decomposition Materials (Under Fire Conditions):**

oxides of phosphorus  
phosphine gas

## 6. ACCIDENTAL RELEASE MEASURES

### **Evacuation Procedures and Safety:**

Ventilate closed spaces before entering. Wear appropriate protective gear for the situation. See Personal 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:**

Absorb with vermiculite or other inert absorbent. Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Carefully neutralize residue with soda ash. Flush neutralized spill with copious amounts of water. Decontaminate tools and equipment following cleanup. Collect washings for disposal. The material should be properly packaged and disposed of in compliance with applicable regulations.

**Environmental and Regulatory Reporting:**

If spilled on the ground, the affected area should be scraped clean and placed in a appropriate container for disposal. Dispose of as a hazardous waste. Prevent material from entering public sewer system or any waterways. Large spills should be handled according to a predetermined plan. For assistance in developing a plan contact the Technical Service Department using the Product Information phone number in Section 1. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

## 7. HANDLING AND STORAGE

**Minimum/Maximum Storage Temperatures:**

Not Available

**Handling:**

Do not get on skin or in eyes. Do not ingest. Do not breathe vapors and mists. Personnel handling this product should be thoroughly trained as to its hazards.

When diluting an acid, ALWAYS add the acid slowly to water and stir well to avoid spattering. NEVER ADD WATER TO ACID.

**Storage:**

Store in an area that is dry, well-ventilated, away from incompatible materials (see Section 10. Stability and Reactivity), Recommended container material: polyethylene, Container material to avoid: stainless steel (Type 304), brass, mild steel.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Introductory Remarks:**

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices 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 maintenance of worker protection equipment is generally available from equipment manufacturers.

**Exposure Guidelines:**

No exposure limits were found for this product or any of its ingredients.

**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:

general area dilution/exhaust ventilation.

**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 use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area. Face contact should be prevented through use of a face shield.

**Skin Protection:**

Skin contact must be prevented through the use of permeation resistant clothing, gloves and footwear, selected with regard for use conditions and exposure potential. An emergency shower must be readily accessible to the work area. Consideration must be given both to durability as well as permeation resistance.

**Work Practice Controls:**

Personal hygiene is an important work practice 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 areas 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

**Physical Appearance:**

colorless / liquid.

**Odor:**

odorless.

**pH:**

< 1 at 1 wt/wt%.

**Specific Gravity:**

1.428 at 15 C (59 F).

**Density:**

1.428 g/ml at 15 C (59 F).

**Water Solubility:**

soluble

**Melting Point Range:**

Not Available

**Freezing Point Range:**

&lt; 10 C (50 F)

**Boiling Point Range:**

&gt; 100 C (212 F) at 760 mmHg

**Vapor Pressure:**

Not Available

**Vapor Density:**

Not Available

## 10. STABILITY AND REACTIVITY

**Chemical Stability:**

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

**Conditions To Be Avoided:**

extreme heat

**Materials/Chemicals To Be Avoided:**

strong oxidizing agents

bases

metals

**Decomposition Temperature Range:**

180 C (356 F)

**The Following Hazardous Decomposition Products Might Be Expected:****Decomposition Type: thermal**

phosphoric acid

phosphine gas

**Hazardous Polymerization Will Not Occur.****Avoid The Following To Inhibit Hazardous Polymerization:**

not applicable

## 11. TOXICOLOGICAL INFORMATION

**Acute Eye Irritation:**

No test data found for product.

**Acute Skin Irritation:**

No test data found for product.

**Acute Dermal Toxicity:**

No test data found for product.

**Acute Respiratory Irritation:**

No test data found for product.

**Acute Inhalation Toxicity:**

No test data found for product.

**Acute Oral Toxicity:****Toxicological Information and Interpretation:**

LD50 - lethal dose 50% of test species, 1500 mg/kg, rat. Data for active ingredient.

**Chronic Toxicity:**

This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

No additional test data found for product.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicological Information:****Ecotoxicological Information and Interpretation:**

LC50 - lethal concentration 50% of test species, 8000 mg/l/96 hr, fish. Data for active ingredient.

**Chemical Fate Information:**

No data found for product. No specific biodegradation 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.

## 13. 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 and 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.

**EPA Hazardous Waste - YES**

## 14. 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.

**US Department of Transportation**

Hazard Class..... 8

Shipping Name:

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

Technical Shipping Name:

## SOLUTION CONTAINING PHOSPHOROUS ACID

ID Number..... UN3264

Packing Group.... III

Labels..... CORROSIVE

Emergency Guide #.... 154

**15. REGULATORY INFORMATION****Inventory Status**

<b>Inventory</b>	<b>Status</b>
UNITED STATES (TSCA)	Y
CANADA (DSL)	Y
EUROPE (EINECS/ELINCS)	Y
AUSTRALIA (AICS)	Y
JAPAN (MITI)	Y
SOUTH KOREA (KECL)	Y

Y = All ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

**FEDERAL REGULATIONS****Inventory Issues:**

All functional components of this product are listed on 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**

<b>Ingredient</b>	<b>CERCLA/SARA RQ</b>	<b>SARA EHS TPQ</b>
UNLISTED HAZARDOUS WASTES - CHARACTERISTIC OF CORROSIVITY	100 lbs	

**STATE REGULATIONS:**

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

**16. OTHER INFORMATION****National Fire Protection Association Hazard Ratings--NFPA(R):**

<b>3</b>	Health Hazard Rating--Serious
<b>0</b>	Flammability Rating--Minimal
<b>1</b>	Instability Rating--Slight



**National Paint & Coating Hazardous Materials Identification System--HMIS(R):**

- 3** Health Hazard Rating--Serious
- 0** Flammability Rating--Minimal
- 1** Reactivity Rating--Slight

**Reason for Revisions:**

Change and/or addition made to Section 2, Section 3, Warning Statements in Section 3, Section 7, Section 9, Section 11, Section 12, Section 14, Regulatory Review and Update.

**Key Legend Information:**

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

TLV - Threshold Limit Value

PEL - Permissible Exposure Limit

TWA - Time Weighted Average

STEL - Short Term Exposure Limit

NTP - National Toxicology Program

IARC - International Agency for Research on Cancer

ND - Not determined

RHODIA - Rhodia Established Exposure Limits

**Disclaimer:**

The information herein is given in good faith but no warranty, expressed or implied, is made.

**\*\* End of MSDS Document \*\***