



## PHOSPHORIC ACID 75%, 80% & 85%

Material Safety Data Sheet

Date Prepared: 12/18/95 Supersedes Date: 11/15/95

### 1. CHEMICAL PRODUCT AND COMPANY DESCRIPTION

RHODIA INC.  
RHODIA FOOD INGREDIENTS  
CN 7500  
Prospect Plains Road  
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 DART (The Distribution  
Assistance Response Team) at 800-334-7577.

**For Product Information:**

(800) 343-8324

**Chemical Name or Synonym:**

ORTHOPHOSPHORIC ACID; WHITE PHOSPHORIC ACID

**Molecular Formula:**

$H_3PO_4$

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Reg Number	OSHA	Percentage
		Hazard	
PHOSPHORIC ACID	7664-38-2	Y	75, 80, 85
WATER	7732-18-5	N	BALANCE

### 3. HAZARDS IDENTIFICATION

**A. EMERGENCY OVERVIEW:**

**Physical Appearance and Odor:**  
colorless / liquid, odorless.

**Warning Statements:**



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### 3. HAZARDS IDENTIFICATION (Continued)

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DANGER] CAUSES BURNS.

#### B. POTENTIAL HEALTH EFFECTS:

##### Acute Eye:

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

##### Acute Skin:

Causes irritation, burns.

##### 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 human carcinogens.

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### 4. FIRST AID MEASURES

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#### 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 protected, 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.



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#### 4. FIRST AID MEASURES ( Continued )

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##### 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 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 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

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**4. FIRST AID MEASURES (Continued)**

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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.

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**5. FIRE FIGHTING MEASURES**

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**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.

**Hazardous Decomposition Materials (Under Fire Conditions):**  
oxides of phosphorus



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## 6. ACCIDENTAL RELEASE MEASURES

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### Evacuation Procedures and Safety:

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:

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 water may cause pollution. 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.

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## 7. HANDLING AND STORAGE

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### 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, well-ventilated.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (Continued)

#### 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:

Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated 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

	Notes	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.



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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (Continued)

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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 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 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 of contact with this material.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

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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:

Not Available



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### 9. PHYSICAL AND CHEMICAL PROPERTIES (Continued)

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**Density:**

1.58 to 1.69 g/ml at 25 C (77 F).

**Water Solubility:**

miscible

**Melting Point Range:**

Not Available

**Freezing Point Range:**

-17 to 21 C (1 to 70 F)

**Boiling Point Range:**

135 to 158 C (275 to 316 F) at 760 mmHg

**Vapor Pressure:**

5.65 to 2.16 mmHg at 20 C (68 F)

**Vapor Density:**

Not Available

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### 10. STABILITY AND REACTIVITY

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**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

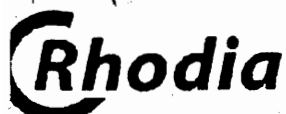
sulfur trioxide

phosphorus pentoxide

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

Decomposition Type: thermal





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## 10. STABILITY AND REACTIVITY ( Continued )

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oxides of phosphorus

Hazardous Polymerization Will Not Occur.

Avoid The Following To Inhibit Hazardous Polymerization:

not applicable

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## 11. TOXICOLOGICAL INFORMATION

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### 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.

skin - skin irritation, rabbit.

Corrosive. (At 24 hours.).

### Acute Dermal Toxicity:

Toxicological Information and Interpretation

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

### 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, 1530 mg/kg, rat.

### 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.



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### 11. TOXICOLOGICAL INFORMATION (Continued)

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No additional test data found for product.

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### 12. ECOLOGICAL INFORMATION

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**Ecotoxicological Information:**

No data found for product.

**Chemical Fate Information:**

No data found for product.

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### 13. DISPOSAL CONSIDERATIONS

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**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

**EPA RCRA HAZARDOUS WASTE CODES:**

"C" Corrosive.

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### 14. TRANSPORTATION INFORMATION

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**Transportation Status:**

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



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### 14. TRANSPORTATION INFORMATION (Continued)

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US Department of Transportation  
Hazard Class..... 8

Shipping Name:  
PHOSPHORIC ACID  
ID Number..... UN1805  
Packing Group.... III  
Labels..... CORROSIVE  
Emergency Guide #.... 154

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### 15. REGULATORY INFORMATION

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#### Inventory Status

Inventory	Status
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



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### 15. REGULATORY INFORMATION (Continued)

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#### SARA 313 Chemicals

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#### SARA Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

Ingredient

CERCLA/SARA RQ

SARA EHS TPQ

PHOSPHORIC ACID

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.

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### 16. OTHER INFORMATION

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#### National Fire Protection Association Hazard Ratings--NFPA(R):

2 Health Hazard Rating--Moderate

0 Flammability Rating--Minimal

0 Instability Rating--Minimal

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

3 Health Hazard Rating--Serious

0 Flammability Rating--Minimal

0 Reactivity Rating--Minimal

#### Reason for Revisions:

Conversion to ANSI MSDS format.

#### 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



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**16. OTHER INFORMATION ( Continued )**

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ND - Not determined

RPI - Rhone-Poulenc Established Exposure Limits

**Disclaimer:**

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