



Material Safety Data Sheet

INNOVALT N400

Date Prepared: 9/14/09

Supersedes Date: 5/02/07

1. PRODUCT AND COMPANY DESCRIPTION

Innophos
PO Box 8000
259 Prospect Plains Road
Cranbury NJ 08512-8000

Emergency Phone Numbers:

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CANUTEC at 613-996-6666 (call collect) or INNOPHOS ECT (Emergency Communication Team) at 615-386-7816.

For Product Information:

(609) 495-2495

Product Use:

CONSTRUCTION, ASPHALT ADDITIVE.

Chemical Name or Synonym:

POLYPHOSPHORIC ACID, TETRAPHOSPHORIC ACID

Molecular Formula:

$H(PO_3H)_nOH$

Prepared By:

Innophos Regulatory Department, (609) 495-2495.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Reg Number	WHMIS Hazard	Percentage
POLYPHOSPHORIC ACIDS	8017-16-1	Y	> 99

3. HAZARDS IDENTIFICATION

A. EMERGENCY OVERVIEW:

Physical Appearance and Odor:

colorless to dark grey viscous liquid, odorless.

Warning Statements:

DANGER! CAUSES BURNS. CORROSIVE TO METALS.

B. POTENTIAL HEALTH EFFECTS:

Acute Eye:

Corrosive. Can cause permanent damage to the cornea, blindness.

Acute Skin:

Causes irritation, burns.

Acute Inhalation:

May cause respiratory tract irritation, shortness of breath, fluid in lungs.

Acute Ingestion:

Causes corrosion, burns to mouth and esophagus, abdominal pain, chest pain, nausea, vomiting, diarrhea, seizures, Aspiration of the swallowed or vomited product can cause severe pulmonary complications.

Chronic Effects:

This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens. Prolonged contact may cause chronic dermatitis.

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:

In case of contact, immediately wash 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 immediate medical attention.

Ingestion:

If victim is conscious and alert, give 2-3 glasses of water to drink and do not induce vomiting. Material may enter lungs and cause severe damage. Do not give anything by mouth to an unconscious victim. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Persons attending the victim should avoid direct contact with heavily contaminated clothing and vomitus. Wear impervious gloves while decontaminating skin and hair.

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

6. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety:

Wear appropriate protective gear for the situation. See Personal Protection information in Section 8. Evacuate and isolate spill area.

Containment of Spill:

Dike spill using absorbent or impervious materials such as earth, sand or clay. 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. Neutralize spill area with soda ash, sodium bicarbonate or lime. Flush neutralized spill with copious amounts of water.

Environmental and Regulatory Reporting:

7. 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.

Storage tanks, pipes and pumps should be equipped with external heating and insulation to maintain at or above minimum storage temperature. This material is corrosive to common metals such as mild steel, copper, brass and bronze and may generate flammable hydrogen gas as a result of this reaction. See Storage below for recommended material for storage tanks, pipes and pumps. 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 tightly closed containers. Store in an area that is cool, dry, well-ventilated, away from ignition sources, Recommended container material: stainless steel (Type 316ELC).

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:

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:

POLYPHOSPHORIC ACID (AS PHOSPHORIC ACID)

	Notes	TWA	STEL
ACGIH		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.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): organic vapors, acid

gases. Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.

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 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 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 to dark grey viscous liquid.

Odor:

odorless.

pH:

< 1 at 1 wt/wt%.

Specific Gravity:

2.02 at 15 C (59 F).

Water Solubility:

soluble w/ evolution of heat

Melting Point Range:

16 C (61 F)

Boiling Point Range:

~ 282 C (540 F) at 760 mmHg

Vapor Pressure:

~ 1 mmHg at 20 C (68 F)

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

moisture

Materials/Chemicals To Be Avoided:

water

strong bases

metals

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

11. TOXICOLOGICAL INFORMATION

Acute Eye Irritation:

The following data are for similar or related products.

Toxicological Information and Interpretation:

eye - eye irritation, rabbit. Corrosive. Data for phosphoric acid.

Acute Skin Irritation:**Toxicological Information and Interpretation:**

skin - skin irritation, rabbit. Corrosive.

Acute Dermal Toxicity:

The following data is for similar or related products.

Toxicological Information and Interpretation:

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

Acute Respiratory Irritation:

No test data found for product.

Acute Inhalation Toxicity:

The following data is for similar or related products.

Toxicological Information and Interpretation:

LC50 - lethal concentration 50% of test species, > 850 mg/cu m/1 hr, rat. Data for phosphoric acid.

Acute Oral Toxicity:

The following data is for similar or related products.

Toxicological Information and Interpretation:

LD50 - lethal dose 50% of test species, 1530 mg/kg, rat. Data for phosphoric acid.

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:

No data found for product.

Chemical Fate Information:

No data found for product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Waste Management options should first consider possible re-use or recycling opportunities. Some provinces have active "Waste Exchange" networks for re-use and recycling of wastes. Contact your local waste management companies to explore

available options. All waste management activities must obey local, provincial and federal regulations. Possible disposal methods include the following:

Dilute with cold water and neutralize with a dilute solution of sodium hydroxide.

Dewater (eg. evaporation) the neutralized solution and dispose of salt in a secure landfill.

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.

TDG Status:

Hazard Class..... 8

Shipping Name: PHOSPHORIC ACID, LIQUID

ID Number..... UN1805

Packing Group.... III

IMO Status:

Hazard Class..... 8

Shipping Name: PHOSPHORIC ACID SOLUTION

ID Number..... UN1805

Packing Group.... III

IATA Status:

Hazard Class..... 8

Shipping Name: PHOSPHORIC ACID, SOLUTION

ID Number..... UN1805

Packing Group.... III

15. REGULATORY INFORMATION

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.

Inventory Issues:

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

WHMIS Classification:

E : CORROSIVE MATERIAL

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

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

3 Health Hazard Rating--Serious

0 Flammability Rating--Minimal

1 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.

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

RPI - INNOPHOS Established Exposure Limits

Disclaimer:

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

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