

Innovalt N500**Section 1 - Product and Company Identification**

Material Name	▪ Innovalt N500
CAS Number	▪ 8017-16-1
EINECS	▪ 232-417-0
Molecular Formula	▪ $H(PO_3H)_nOH$
Product Description	▪ Colorless to dark grey viscous liquid with no odor.
Synonyms	▪ Polyphosphoric acid; Tetrakisphosphoric acid
Manufacturer	▪ Innophos PO Box 8000 259 Prospect Plains Road Cranbury, NJ 08512-8000 United States
Telephone	
Technical	▪ 609-495-2495
<u>Emergency</u>	▪ 800-424-9300 - Chemtrec
<u>Emergency</u>	▪ 615-386-7816 - Innophos Emergency Communication Team (ECT)
<u>Emergency</u>	▪ 703-527-3887 - Chemtrec - International Collect Calls
Preparation Date	▪ 05/02/2007
Last Revision Date	▪ 10/25/2010

Section 2 - Hazards Identification**Emergency Overview****DANGER**

Causes severe skin burns and eye damage. May be corrosive to metals.

Prevention	Do not breathe dust, fume, gas, mist, vapours and/or spray. Wear protective gloves, clothing, and eye/face protection - Face Shield & Eye Protection. Wash thoroughly after handling.
Response	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.
Storage/Disposal	Store locked up. Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.



**OSHA
WHMIS**

- Corrosive
- Class E - Corrosive materials



EU

- Corrosive - C
R35



GHS

- Corrosive to Metals - Category 1, Skin Corrosion/Irritation - Category 1A, Serious Eye Damage, Eye Irritation - Category 1

**Route Of Entry
Medical Conditions
Aggravated by Exposure**

- Inhalation, Skin, Eye, Ingestion
- Skin, Lungs

NFPA:



Potential Health Effects

Inhalation

**Acute (Immediate)
Chronic (Delayed)**

- May cause corrosive burns - irreversible damage.
- Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.

Skin

**Acute (Immediate)
Chronic (Delayed)**

- Causes severe skin burns and eye damage.
- Repeated or prolonged exposure to corrosive materials will cause dermatitis.

Eye

**Acute (Immediate)
Chronic (Delayed)**

- Corrosive. Can cause permanent damage to the cornea, blindness.
- Repeated or prolonged exposure to corrosive materials or fumes may cause conjunctivitis.

Ingestion

**Acute (Immediate)

Chronic (Delayed)**

- 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.
- Repeated or prolonged exposure to corrosive materials or fumes may cause gastrointestinal disturbances.

Carcinogenic Effects

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

Section 3 - Composition/Information on Ingredients

Hazardous Components						
Chemical Name	CAS	%(weight)	UN;EINECS	LD50/LC50	EU Classification & R Phrases	Other
Polyphosphoric acid	8017-16-1	> 99%	232-417-0	NDA	NDA	NDA

According to the Globally Harmonized Standard for Classification and Labeling (GHS) this product is considered hazardous. Under United States Regulations (29 CFR 1900.1200 - Hazard Communication Standard), this product is considered hazardous. In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS). This product is considered dangerous according to the European Directive 67/548/EEC.

Section 4 - First Aid Measures

- Inhalation**
- Administer oxygen if breathing is difficult. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Give artificial respiration if victim is not breathing. Move victim to fresh air.
- Skin**
- For minor skin contact, avoid spreading material on unaffected skin. In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes. Wash contaminated clothing before reuse.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. Seek immediate medical attention, preferably with an ophthalmologist. If the physician is not immediately available, eye irrigation should be continued for an additional 20 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.
- Ingestion**
- If swallowed give 2-3 glasses of water if victim is conscious and alert. Do not give anything by mouth to an unconscious person. Do NOT induce vomiting. Obtain medical attention immediately if ingested. Do not use mouth-to-mouth method if victim ingested the substance. 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.
- 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.
- Other Information**
- Call 911 or emergency medical service. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Keep victim warm and quiet.

Section 5 - Fire Fighting Measures

- Extinguishing Media**
- Not combustible. Use extinguishing media suitable for surrounding fire.
- Unsuitable Extinguishing Media**
- None known.
- Firefighting Procedures**
- Keep unauthorized personnel away.
Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Evacuate residents who are downwind of fire. 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 Combustion Products**
- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive fumes.

Protection of Firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Personal Precautions

- Ventilate enclosed areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures

- Keep unauthorized personnel away. 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.

Environmental Precautions

- Prevent entry into waterways, sewers, basements or confined areas.

Containment/Clean-up Measures

- 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.

Prohibited Materials

- None known.

Section 7 - Handling and Storage

Handling

- Do not get on skin or in eyes. Avoid breathing vapors and mists. Do not ingest. Handle and open container with care. Use only with adequate ventilation. Use caution when combining with water; DO NOT add water to corrosive liquid, ALWAYS add corrosive liquid to water while stirring to prevent release of heat, steam and fumes.

Storage

- Keep away from incompatible materials. Store locked up. Keep container/package tightly closed in a cool, well-ventilated place. Ventilate enclosed areas. 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.

Special Packaging Materials

- Recommended container material: stainless steel (Type 316ELC) with corrosive resistant inner liner.

Incompatible Materials or Ignition Sources

- This material is corrosive to common metals such as mild steel, copper, brass and bronze. Reacts with water to generate heat and forms phosphoric acid. The reaction is not violent.

Section 8 - Exposure Controls/Personal Protection

Personal Protective Equipment

Pictograms



Respiratory

- 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 symptoms are experienced.

Eye/Face

- Wear face shield and eye protection. Wear splash goggles. An emergency eye wash must be readily accessible to the work area.

Hands

- Wear protective gloves selected with regard to both durability as well as permeation resistance.

Skin/Body

- Wear protective clothing -Full Body Suit

General Industrial Hygiene Considerations

- Do not get in eyes or on skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Handle in accordance with good industrial hygiene and safety practice.

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Octanol/Water Partition coefficient:	NDA	UEL:	NDA
Coefficient of Water:	NDA	LEL:	NDA
Bioaccumulation Factor:	NDA	Autoignition:	NDA
pH:	< 1		

Section 10 - Stability and Reactivity

Stability	<ul style="list-style-type: none"> Stable
Hazardous Polymerization Conditions to Avoid	<ul style="list-style-type: none"> Hazardous polymerization will not occur. Incompatible materials. Moisture. Excess heat.
Incompatible Materials	<ul style="list-style-type: none"> Water, strong bases, metals. Reacts with metals to liberate flammable hydrogen gas. Reacts with water to generate heat and forms phosphoric acid. The reaction is not violent.
Hazardous Decomposition Products	<ul style="list-style-type: none"> Oxides of phosphorus.

Section 11 - Toxicological Information

Other Material Information	<ul style="list-style-type: none"> This material is an acid. The primary effects and toxicity of this material are due to its corrosive nature.
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Innovalt N500									
Test Type	Dosage	Units	Route	Species	Duration	Results	Test Class	Target Organs	Comments
Acute Toxicity	2740	mg/kg	Ingestion/Oral	Rabbit	NDA	LD50	NDA	NDA	Data for phosphoric acid
Acute Toxicity	> 850	mg/m ³	Inhalation	Rat	1 Hour(s) Continuous	LC50	NDA	NDA	Data for Phosphoric acid
Irritation	NDA	NDA	Eye	Rabbit	NDA	NDA	Severe irritation, irreversible, burns (corrosive)	NDA	Data for phosphoric acid
Acute Toxicity	1530	mg/kg	Ingestion/Oral	Rat	NDA	LD50	NDA	NDA	Data for phosphoric acid
Irritation	NDA	NDA	Skin	Rabbit	NDA	NDA	Severe irritation, irreversible, burns (corrosive)	NDA	Data for phosphoric acid

Key to abbreviations

TC = Toxic Concentration

LD = Lethal Dose

Section 12 - Ecological Information

Ecological Fate	<ul style="list-style-type: none"> No data found for product.
Persistence/Degradability	<ul style="list-style-type: none"> No data found for product.
Bioaccumulation Potential	<ul style="list-style-type: none"> No data found for product.
Mobility in Soil	<ul style="list-style-type: none"> No data found for product.

Section 13 - Disposal Considerations

- Product**
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. This material is considered an EPA hazardous waste. EPA "RCRA" Hazardous Waste Code: "C" Corrosive.
- Packaging**
- No data available.

Section 14 - Transportation Information

DOT - United States - Department of Transportation

Shipping Name: Phosphoric acid solution
ID Number: UN1805
Hazard Class: 8
Packing Group: III
Passenger aircraft/rail: 5.00 L
Cargo aircraft/rail: 60.00 L

TDG - Canada - Transport of Dangerous Goods

Shipping Name: PHOSPHORIC ACID, LIQUID
ID Number: UN1805
Hazard Class: 8
Labeling Class: 8
Packing Group: III
Explosive Limit and Limited Quantity Index: 5.00
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index: 5.00

IMO/IMDG -International Maritime Transport

Shipping Name: Phosphoric Acid Solution
ID Number: UN1805
Hazard Class: 8
Labeling Class: 8

ADN - Europe Transport of Dangerous Goods by Road/Inland Waterway

Shipping Name: Phosphoric acid solution
ID Number: 1805
Hazard Class: 8
Labeling Class: 8

ADR - Europe Transport of Dangerous Goods by Road/Inland Waterway

Shipping Name: Phosphoric acid solution
ID Number: 1805
Hazard Class: 8
Labeling Class: 8

Section 15 - Regulatory Information

- SARA Hazard Classifications**
- Acute
- Risk & Safety Phrases**
- R35 Causes severe burns.
 - R41 Risk of serious damage to eyes.
 - S1 Keep locked up.
 - S26 In case of contact with eyes, rinse immediately with plenty of water and seek

medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

Inventory						
Component	CAS	China	New Zealand	Canada DSL	EU EINECS	TSCA
Polyphosphoric acid	8017-16-1	Yes	Yes	Yes	Yes	Yes

Inventory (Con't.)				
Component	CAS	Australia AICS	Korea KECL	Philippines PICCS
Polyphosphoric acid	8017-16-1	Yes	Yes	Yes

Australia

Labor

Australia - Hazardous Substances - Substances Requiring Health Surveillance

None Listed

Australia - High Volume Industrial Chemicals List

None Listed

Australia - List of Designated Hazardous Substances - Classification

None Listed

Australia - Major Hazard Facilities - Threshold Quantity (Table 1)

None Listed

Australia - Major Hazard Facilities - Threshold Quantity for Materials (Table 2)

None Listed

Australia - South Australia - Hazardous Substances Prohibited for Specified Uses

None Listed

Australia - South Australia - Hazardous Substances Requiring Health Surveillance

None Listed

Australia - Tasmania - Workplace Health and Safety - Hazardous Substances Prohibited for Specific Uses

None Listed

Australia - Tasmania - Workplace Health and Safety - Hazardous Substances Requiring Health Surveillance

None Listed

Australia - Western Australia - Hazardous Substances Prohibited for Specified Uses

None Listed

Australia - Western Australia - Hazardous Substances Requiring Health Surveillance

None Listed

Environment

Australia - National Pollutant Inventory (NPI) Substance List

None Listed

Australia - Ozone Protection Act - Scheduled Substances

None Listed

Australia - Priority Existing Chemical Program

None Listed

Other

The Australia Group - Export Control List - Chemical Weapons Precursors

None Listed

Canada

Labor

Canada - List of Prohibited and Restricted Cosmetic Ingredients (The Cosmetic Ingredient Hotlist)

None Listed

Canada - WHMIS - Classifications of Substances

None Listed

Canada - WHMIS - Ingredient Disclosure List

None Listed

Environment

Canada - CEPA - Priority Substances List

None Listed

Canada - Ozone Depleting Substances - Schedule 3

None Listed

China

Environment

China - Ozone Depleting Substances - First Schedule

None Listed

China - Ozone Depleting Substances - Second Schedule

None Listed

China - Ozone Depleting Substances - Third Schedule

None Listed

Other

China - Annex I & II - Controlled Chemicals Lists

None Listed

China - Classification and Labeling of Dangerous Chemical Substances Commonly Used

- Polyphosphoric acid 8017-16-1 > 99% Primary Symbol: 16 Primary Class: corrosive Statements: 5.46, 5.99, 5.112 (with 84% P2O5)

China - Dangerous Goods List

None Listed

Croatia

Environment

Croatia - Air Quality - Emission Limits for Stationary Sources

None Listed

Croatia - Air Quality - Limit Values for Gaseous Pollutants

None Listed

Croatia - Air Quality - Recommended Values for Gaseous Pollutants

None Listed

Croatia - Ozone Depleting Substances - Annex A, Group I

None Listed

Egypt

Environment

Egypt - Air Pollutants - Emissions Limits - Overall Particles

None Listed

Egypt - Air Pollutants - Maximum Limits

None Listed

Europe

Environment

EU - Substances Depleting the Ozone layer (1005/2009) - Annex I Substances

None Listed

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

None Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

None Listed

India

Environment

India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals

None Listed

India - Municipal Waste Regulations - Ambient Air Quality Acceptable Levels

None Listed

India - Ozone Depleting Substances - Schedule I

None Listed

Indonesia

Environment

Indonesia - Hazardous Waste from Non-Specific Sources

None Listed

Indonesia - Hazardous Waste from Specific Sources

None Listed

Japan

Labor

Japan - ISHL Dangerous Substances

None Listed

Japan - ISHL Designated Carcinogens

None Listed

Japan - ISHL Harmful Substances Prohibited for Manufacture

None Listed

Japan - ISHL Notifiable Substances

None Listed

Environment

Japan - Air Pollution Control Law - Emission Standards for Air Pollutants

None Listed

Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)

None Listed

Korea

Labor

Korea - MOE - Harmful Substances

None Listed

Korea - ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying

None Listed

Malaysia

Labor

Malaysia - Control of Industrial Major Accident Hazards - Threshold Quantities

None Listed

Malaysia - Occupational Safety & Health - Risk Phrases

None Listed

Malaysia - Occupational Safety & Health - Safety Phrases

None Listed

Malaysia - Occupational Safety and Health - Prohibition of Use of Substances

None Listed

Environment

Malaysia - Chlorofluorocarbons (CFCs) Prohibition Order

None Listed

Malaysia - Scheduled Wastes

None Listed

Other

Malaysia - Pesticides Act - List of Active Ingredients

None Listed

Mexico

Environment

Mexico - Ecological Criteria for Water Quality - Drinking Water Supply Source

None Listed

Mexico - Ecological Criteria for Water Quality - Protection of Fresh Water Aquatic Life

None Listed

Mexico - Ecological Criteria for Water Quality - Protection of Marine Water Aquatic Life

None Listed

Other

Mexico - Hazard Classifications

None Listed

Mexico - Regulated Substances

None Listed

New Zealand

Other

New Zealand - Ozone Depleting Substances

None Listed

Philippines

Environment

Philippines - Air Quality - Long Term Guidelines for Criteria Pollutants

None Listed

Philippines - Ozone Depleting Substances - Annex A - Group I

None Listed

Other

Philippines - Priority Chemical List

None Listed

Singapore

Labor

Singapore - Factories Act - Medical Examinations

None Listed

Environment

Singapore - Air Impurities Emission Limits

None Listed

Singapore - Hazardous Substance Transport Quantities

None Listed

Singapore - List of Hazardous Substances

None Listed

Singapore - Ozone Depleting Substances - Annex A - Group I

None Listed

Other

Singapore - Corrosive and Explosive Substances - Corrosive Substances

None Listed

South Africa

Labor

South Africa - General Machinery Regulations - Notifiable Substances

None Listed

Taiwan

Environment

Taiwan - Effluent Standards - Maximum Effluent Limitations

None Listed

Taiwan - Toxic Chemical Substances Control Act - Threshold Regulated Quantities

None Listed

Taiwan - Toxic Chemical Substances Control Act - Classification and Control Levels

None Listed

Thailand

Labor

Thailand - Air Contaminant Standards

None Listed

Environment

Thailand - Banned Persistent Organic Pollutants (POPs)

None Listed

Other

Thailand - Hazardous Substances

- Polyphosphoric acid 8017-16-1 > 99% Type 1 Hazardous Substance (concentration >40%)

United States

Environment

U.S. - CAA (Clean Air Act) - Class I Ozone Depletors

None Listed

U.S. - CAA (Clean Air Act) - Class II Ozone Depletors

None Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

None Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

None Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

None Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents

None Listed

U.S. - SDWA (Safe Drinking Water Act) - CCL (Contaminant Candidate List)

None Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

None Listed

U.S. - California - Proposition 65 - Developmental Toxicity

None Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

None Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

None Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

None Listed

Vietnam

Environment

Vietnam - Air Quality - Ambient Air Quality Standards

None Listed

Vietnam - Air Quality - Industrial Emission Standards

None Listed

Vietnam - Air Quality - Maximum Allowable Concentration of Highly Hazardous Chemicals

None Listed

Other

Vietnam - Banned Agrochemicals

Section 16 - Other Information

- Preparation Date** ▪ 05/02/2007
Last Revision Date ▪ 10/25/2010
Disclaimer/Statement of Liability ▪ The information herein is given in good faith but no warranty, expressed or implied, is made.

Key to abbreviations

MSHA	= Mine Safety and Health Administration	TWAEV	= Time-Weighted Average Exposure Value
NIOSH	= National Institute of Occupational Safety and Health	MAK	= Maximale Arbeitsplatz Konzentration is the maximum permissible concentration
OEL	= Occupational Exposure Limit(s)	PEL	=
Germany TRGS	= Technische Regeln für Gefahrstoffe	NAB	= Threshold Values (Indonesia)
STEL	= Short Term Exposure Limits are based on 15-minute exposures	ACGIH	= American Conference of Governmental Industrial Hygiene
STEV	= Short Term Exposure Value	OSHA	= Occupational Safety and Health Administration
TWA	= Time-Weighted Averages are based on 8h/day, 40h/week exposures	NDA	= No Data Available