



# KENCRO

## CHEMICALS

PHOSPHORIC ACID

### MATERIAL SAFETY DATA SHEET

#### SECTION 1: PRODUCT AND COMPANY INFORMATION

**PRODUCT IDENTIFIER:** PHOSPHORIC ACID  
**PRODUCT USE:** REFER TO TECHNICAL LITERATURE  
**CHEMICAL FAMILY:** INORGANIC  
**SUPPLIER'S NAME AND ADDRESS:** KENCRO CHEMICALS LIMITED  
2172 WYECROFT RD., UNIT #4  
OAKVILLE, ON  
L6L 5V6  
905-827-4133  
**24 HR. EMERGENCY NUMBER:** 613-996-6666 (CANUTEC)

#### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	C.A.S. #	WT.%	LC50 (RAT, IHL)	LD50 (ORAL, RAT)
PHPSPHORIC ACID	7664-38-2	75 – 85	25.5mg/m <sup>3</sup>	1.25g/kg

#### SECTION 3: HAZARDS IDENTIFICATION

##### EMERGENCY OVERVIEW

DANGER.  
CAUSES SEVERE BURNS AND EYE DAMAGE.

##### SIGNS AND SYMPTOMS OF SHORT-TERM EXPOSURE:

**SKIN CONTACT:** CAUSES SEVERE BURNS. REPEATED OR PROLONGED EXPOSURE TO CORROSIVE MATERIALS WILL CAUSE DERMATITIS.

**SKIN ABSORPTION:** N/AV.

**EYE CONTACT:** CORROSIVE. CAN CAUSE PERMANENT DAMAGE TO THE CORNEA AND BLINDNESS. REPEATED OR PROLONGED EXPOSURE TO CORROSIVE MATERIALS OR FUMES MAY CAUSE CONJUNTIVITIS.

**INHALATION:** MAY CAUSE CORROSIVE BURNS – IRREVERSIBLE DAMAGE. REPEATED OR PROLONGED EXPOSURE TO CORROSIVE FUMES MAY CAUSE BRONCHIAL IRRITATION WITH CHRONIC COUGH.

**INGESTION:** CAUSES CORROSION, BURNS TO MOUTH AND ESOPHAGUS, ABDOMINAL PAIN, CHEST PAIN, NAUSEA, VOMITING, DIARRHEA AND SEIZURES. ASPIRATION OF THE SWALLOWED OR VOMITED PRODUCT CAN CAUSE SEVERE PULMONARY COMPLICATIONS.

**POTENTIAL CHRONIC HEALTH EFFECTS:**  
REPEATED OR PROLONGED EXPOSURE TO CORROSIVE MATERIALS OR FUMES MAY CAUSE GASTROINTESTINAL DISTURBANCES.

#### SECTION 4: FIRST AID MEASURES

**INHALATION:** VAPOUR OR MIST MAY CAUSE IRRITATION OF THE NOSE AND THROAT. 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 RSPIRATORY MEDICAL DEVICE. GIVE ARTIFICIAL RESPIRATION IF VICTIM IS NOT BREATHING. MOVE VICTIM TO FRESH AIR.

**SKIN CONTACT:** FOR MINOR SKIN CONTACT, AVOID SPREADING MATERIAL ON UNAFFECTED SKIN. IN CASE OF CONTACT WITH SUBSTANCE, IMMEDIATELY FLUSH SKIN WITH RUNNING WATER FOR AT

**EYE CONTACT:** LEAST 20 MINUTES. CONCENTRATED SOLUTIONS MAY CAUSE SEVERE BURNS IF NOT WASHED OFF IMMEDIATELY. WASH SKIN WITH SOAP AND WATER. REMOVE AND ISOLATE CONTAMINATED CLOTHING AND SHOES. WASH CONTAMINATED CLOTHING BEFORE REUSE. IN CASE OF CONTACT WITH SUBSTANCE. IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR AT LEAST 20 MINUTES. HOLD EYELIDS OPEN DURING FLUSHING. DO NOT TRANSPORT VICTIM UNLESS THE RECOMMENDED FLUSHING PERIOD IS COMPLETED OR CAN BE CONTINUED DURING TRANSPORT. 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:** CORROSIVE TO DIGESTIVE TRACT. CAUSES STOMACH PAIN, DIARRHEA AND CONVULSIONS. 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.

**SECTION 5: FIRE FIGHTING MEASURES**

**FIRE HAZARDS/CONDITION OF FLAMMABILITY:**  
NOT FLAMMABLE OR COMBUSTIBLE.

<b>FLASH POINT:</b>	N/AP.	<b>AUTO IGNITION TEMPERATURE:</b>	N/AP.
<b>FLASH POINT METHOD:</b>	N/AP.	<b>UPPER FLAMMABLE LIMIT:</b>	N/AP.
<b>LOWER FLAMMABLE LIMIT:</b>	N/AP.	<b>(% BY VOL.)</b>	
<b>OXIDIZING PROPERTIES:</b>	NONE KNOWN		
<b>FLAME PROJECTION LENGTH:</b>	N/AP.		

**EXPLOSION DATA: SENSITIVITY TO MECHANICAL IMPACT/STATIC DISCHARGE:**  
NOT EXPECTED TO BE SENSITIVE TO MECHANICAL IMPACT OR STATIC DISCHARGE.

**SUITABLE EXTINGUISHING MEDIA:**  
USE EXTINGUISHING MEDIA SUITABLE FOR SURROUNDING FIRE INCLUDING SELF-CONTAINED BREATHING APPARATUS.

**SPECIAL FIRE-FIGHTING PROCEDURES/EQUIPMENT:**  
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. STRUCTURAL FIRE FIGHTERS' PROTECTIVE CLOTHING PROVIDES LIMITED PROTECTION IN FIRE SITUATIONS ONLY; IT IS NOT EFFECTIVE IN SPILL SITUATIONS WHERE DIRECT CONTACT WITH THE SUBSTANCE IS POSSIBLE.

**HAZARDOUS COMBUSTION PRODUCTS:**  
OXIDES OF PHOSPHORUS. NON-COMBUSTIBLE, SUBSTANCE ITSELF DOES NOT BURN BUT MAY DECOMPOSE UPON HEATING TO PRODUCE CORROSIVE AND/OR TOXIC FUMES.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**LEAK AND SPILL PROCEDURES:**  
VENTILATE ENCLOSED AREAS. DO NOT TOUCH DAMAGED CONTAINERS OR SPILLED MATERIAL UNLESS WEARING APPROPRIATE PROTECTIVE EQUIPMENT. 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. PREVENT ENTRY INTO WATERWAYS, SEWERS, BASEMENTS OR CONFINED AREAS. RUNOFF FROM FIRE CONTROL OR DILUTION WATER MAY CAUSE POLLUTION. 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.

## SECTION 7: HANDLING AND STORAGE

### SAFE HANDLING PROCEDURES:

DO NOT GET ON SKIN OR IN EYES. AVOID BREATHING VAPOURS 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. THIS PRODUCT REACTS VIOLENTLY WITH BASES LIBERATING HEAT AND CAUSING SPATTERING.

### STORAGE REQUIREMENTS:

STORE IN A COOL/LOW-TEMPERATURE, WELL-VENTILATED DRY PLACE. MAY FREEZE AT LOW TEMPERATURES, ESPECIALLY AT HIGH CONCENTRATIONS. STORE LOCKED UP. KEEP AWAY FROM INCOMPATIBLE MATERIALS. VENTILATE ENCLOSED AREAS.

### INCOMPATIBLE MATERIALS:

FLOURINE, STRONG OXIDIZING AGENTS, STRONG REDUCING AGENTS, BASES, METALS, SULPHUR TRIOXIDE, PHOSPHORUS PENTOXIDE.

## SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

### EXPOSURE LIMITS

INGREDIENTS	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
PHOSPHORIC ACID	1mg/m <sup>3</sup>	3mg/m <sup>3</sup>	N/AV.	N/AV.

SEE COMPOSITION/INFORMATION ON INGREDIENTS, SECTION 2.

### ENGINEERING 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.

### GLOVES/TYPE:

WEAR PROTECTIVE GLOVES SELECTED WITH REGARD TO BOTH DURABILITY AS WELL AS PERMEATION RESISTANCE.

### RESPIRATORY/TYPE:

FOLLOW THE OSHA RESPIRATOR REGULATIONS. USE A NIOSH/MSHA APPROVED RESPIRATOR IF EXPOSURE LIMITS ARE EXCEEDED OR SYMPTOMS ARE EXPERIENCED.

### EYE/TYPE:

WEAR FACE SHIELD AND EYE PROTECTION. AN EMERGENCY EYE WASH MUST BE READILY ACCESSIBLE TO THE WORK AREA.

### FOOTWEAR/TYPE:

WEAR RUBBER SAFETY BOOTS.

### CLOTHING/TYPE:

WEAR PROTECTIVE CLOTHING – FULL BODY SUIT. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON, HARD HAT WITH FACE SHIELD OR FULL BODY SUIT WILL DEPEND ON OPERATIONS.

### OTHER/TYPE:

DO NOT GET IN EYES OR ON SKIN OR CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING AND BEFORE EATING, DRINKING OR USING TABACCO. HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. EYE WASH AND SAFETY SHOWER RECOMMENDED IN STORAGE AND HANDLING AREAS.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL STATE:

LIQUID

**APPEARANCE:** COLOURLESS VISCOUS LIQUID

### ODOUR:

NO ODOUR

**ODOUR THRESHOLD:** N/AV.

### PH:

<1

**BOILING POINT:**

135 TO 157.7°C(275-315°F)

### SPECIFIC GRAVITY:

1.573 = 75%

**MELTING/FREEZING POINT:**

75% = -17°C(1.4°F)

1.70 = 80%

85% = 21°C(69.8°F)

### COEFFICIENT OF WATER/OIL

**SOLUBILITY IN WATER:**

MISCIBLE

### DISTRIBUTION:

N/AV.

**VAPOUR DENSITY (AIR=1):**

N/AV.

### EVAPOURATION RATE:

N/AV.

**VAPOUR PRESSURE (mmHg @ 25°C):** 8.2 FOR 75%

5 FOR 85%

### MOLECULAR WEIGHT:

98

### MOLECULAR FORMULA:

H<sub>3</sub>PO<sub>4</sub>

#### SECTION 10: REACTIVITY AND STABILITY DATA

**STABILITY AND REACTIVITY:**

STABLE UNDER THE RECOMMENDED STORAGE AND HANDLING CONDITIONS PRESCRIBED.

**CONDITIONS TO AVOID:** INCOMPATIBLE MATERIALS: FLOURINE, STRONG OXIDIZING AGENTS, STRONG REDUCING AGENTS, BASES, METALS, SULPHUR. REACTION WITH ALKALIS MAY PRODUCE CONSIDERABLE HEAT. REACTION WITH ACTIVE METALS LIBERATES HYDROGEN WHICH COULD CREATE AN EXPLOSIVE ATMOSPHERE IN A CONFINED SPACE.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

OXIDES OF PHOSPHORUS. HAZARDOUS POLYMERIZATION DOES NOT OCCUR.

#### SECTION 11: TOXICOLOGICAL INFORMATION

**TOXICOLOGICAL DATA:** REFER TO SECTION 2 FOR INDIVIDUAL INGREDIENT LD50'S AND LC50'S.

**CARCINOGENIC STATUS:** THIS PRODUCT DOES NOT CONTAIN ANY INGREDIENT DESIGNATED BY IARC, NTP, ACGIH OR OSHA AS PROBABLE OR SUSPECTED HUMAN CARCINOGENS.

**REPRODUCTIVE EFFECTS:** N/AV.

**TERATOGENICITY:** N/AV.

**MUTAGENICITY:** N/AV.

**SENSITIZATION TO MATERIAL:**  
N/AV.

**SYNERGISTIC MATERIALS:**N/AV.

**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:**

REPEATED OR PROLONGED EXPOSURE TO CORROSIVE MATERIALS MAY HAVE AN AFFECT ON SYSTEMS INVOLVING INHALATION, SKIN, EYES AND INGESTION.

#### SECTION 12: ECOLOGICAL INFORMATION

**ENVIRONMENTAL EFFECTS:**

THIS PRODUCT SHOULD NOT BE ALLOWED TO ENTER DRAINS OR WATER COURSES, OR BE DEPOSITED WHERE IT CAN AFFECT GROUND OR SURFACE WATERS.

**IMPORTANT ENVIRONMENTAL CHARACTERISTICS:**

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.

**ECOTOXICOLOGICAL:**

TOXICITY TO FISH:

LC50/96HR/MOSUITOFISH = N/AP.

FISH = 138 mg/L

#### SECTION 13: DISPOSAL CONSIDERATIONS

**HANDLING FOR DISPOSAL:**HANDLE WASTE ACCORDING TO RECOMMENDATIONS IN SECTION 7.

**METHOD OF DISPOSAL:** DISPOSE OF IN ACCORDANCE WITH FEDERAL, PROVINCIAL AND LOCAL HAZARDOUS WASTE LAWS.

#### SECTION 14: TRANSPORTATION INFORMATION

**PROPER SHIPPING NAME:** PHOSPHORIC ACID, LIQUID

**TDG CLASSIFICATION:** CLASS 8, UN1805, PACKING GROUP III

#### SECTION 15: REGULATORY INFORMATION

**WHMIS CLASSIFICATION:** E (CORROSIVE MATERIAL) 85%  
D2B, E 75%

#### SECTION 16: OTHER INFORMATION

**LEGEND:**

ACGIH

CAS #

IARC

LC

LD

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS

CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER

INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

LETHAL CONCENTRATION

LETHAL DOSE

N/AP.	NOT APPLICABLE
N/AV.	NOT AVAILABLE
NIOSH	NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
NTP	NATIONAL TOXICOLOGICAL PROGRAM
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
STEL	SHORT TERM EXPOSURE LIMIT
TDG	TRANSPORTATION OF DANGEROUS GOODS ACT/REGULATIONS
TWA	TIME-WEIGHTED AVERAGE
WHMIS	WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM

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**MSDS PREPARATION DATE:** (DD/MM/YYYY)  
01/06/2011

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