SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Chemical Name: **PHOSPHORIC ACID (50%)**
Preparation Date: 05/18/22

Manufacturer's Name & Address
Roberts Chemical Co., Inc.
330-B Victor Road
Attleboro, MA 02703
TEL: 508-409-0220
FAX: 508-222-2752
www.robertschem.com

Emergency Telephone Number:
CHEMTREC **24-HourToll Free** (800) 424-9300

SECTION 2: HAZARD(S) IDENTIFICATION

Signal Word: Danger!
Hazard Statement:
Causes eye and skin burns
Harmful if swallowed
Respiratory Tract Irritant
Pictogram – Exclamation, Corrosion, and Health Hazard
Prevention –
Do not breathe mist.
Wash hands thoroughly after handling.
Wear protective gloves, protective chemical resistant clothing and goggles.
Response –
If swallowed: Seek medical attention immediately.
If on skin or hair: Wash with soap and water.
If inhaled: Remove to fresh air.
If in eyes: Flush eyes for at least 15 minutes.
Storage: In cool dry place away from reducing agents.
Disposal: Dispose of contents/container in accordance with local, regional, national, or international regulations.

SECTION 3: COMPOSTION/ INFORMATION ON INGREDIENTS

PRODUCT	CAS#	% BY WEIGHT
Phosphoric Acid	7664-38-2	50
Water	7732-18-5	50

SECTION 4: FIRST-AID MEASURES

EYES: Immediately flush eyes with running water for a minimum of 20 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport.
SKIN: Flush immediately under running water for minimum of 20 minutes. If redness or irritation persists, repeat flushing. Seek immediate medical attention.
INGESTION: If ingested material may cause damage to internal tissues, immediately call physician and seek medical attention.
INHALATION: Remove subject to fresh air. Seek medical aid if lung irritation persists or if breathing becomes difficult. If breathing stops, begin artificial respiration. If no breathing and no pulse, begin CPR.

DO NOT INDUCE VOMITING

SECTION 5: FIRE-FIGHTING MEASURES

Fire extinguishing media: water, alcohol foam, carbon dioxide, dry chemical, water/fog spray.

Special fire-fighting procedures: Protective clothing and self-contained breathing apparatus should be worn by firefighters in areas where this product is stored. Avoid flushing to sewers or streams.
Unusual fire & explosion hazards: Potential for formation of flammable gases if reacted with aldehydes, cyanides, mercaptans and sulfides. Reacts with many metals and chlorides to liberate hydrogen gas which can form explosive mixtures with air. Can accumulate to explosive concentrations inside drums, or any types of steel containers or tanks upon storage.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILLS/LEAKS: Isolate spill area. Evacuate non-essential personnel to a safe distance. Personnel responding to spill must be properly trained. Avoid unnecessary exposure and remove all material from eyes, skin, and clothing. Do not ingest or inhale mists. Wear proper PPE. Contain and recover liquid material when possible. Collect all contaminated materials in containers compatible with corrosives.
Waste Disposal Method: Recycle in process if possible. Do not sewer. Dispose of via licensed waste hauler.

SECTION 7: HANDLING AND STORAGE

HANDLING: Wear chemical splash-type mono-goggles, a facemask, an apron and rubber or neoprene gloves and chemical resistant shoes.
Wash thoroughly after handling.

STORAGE: Keep container closed when not in use. Store in properly labeled containers. Store containers in cool, dry, well-ventilated area away from heat, moisture, direct sunlight and incompatibles. Store above freezing point. Keep away from alkalis, sulfides, cyanides, metal powders, and fluorine.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: Respiratory protection is not required under normal use. Use NIOSH/MSHA approved respirator where mist or spray may be generated above TLV limits.
VENTILATION: Use adequate local exhaust ventilation where mist or spray may be generated, to maintain levels below TLV limits.
PROTECTIVE CLOTHING: Wear impervious rubber or alkaline resistant gloves and rubber apron.
EYE PROTECTION: Chemical safety goggles or face shield.
WORK PRACTICES: Skin that becomes contaminated with this substance should be immediately washed or showered with soap and water.
HYGIENIC PRACTICES: Eating, drinking, or smoking should not be permitted in areas where any chemical substances are handled, processed, or stored. Employees who handle these materials should wash their hands thoroughly with soap and water before eating, drinking, smoking, or using toilet facilities.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

CHEMICAL FORMULA: H_3PO_4 (50%) solution
MOLECULAR WEIGHT: 98.00
PHYSICAL STATE: Liquid
APPEARANCE AND ODOR: Clear, colorless, odorless viscous liquid
ODOR THRESHOLD: Not applicable
pH: 1.5
SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY: 1.6850 g/cm3
VAPOR DENSITY: Not applicable
BOILING POINT: 158 deg C @ 760 mm Hg
MELTING POINT/FREEZING POINT: 42.35 deg C
VAPOR PRESSURE: 2.2 mm Hg @ 20 deg C
EVAPORATION RATE: Not applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions of storage and handling. Phosphorus oxides may form when heated to decomposition.
Conditions to avoid: Incompatible materials. Avoid contact with metals and chlorides, which may liberate flammable hydrogen gas that can produce and explosion in confined vessels. Avoid contact with materials such as sulfides and sulfites, which could release toxic gases. Be cautious when mixing with strong bases because high heat of reaction can generate steam.
Polymerization: Will not occur.
Incompatibility: Aldehydes, amines, amides, alcohols and glycols, azo-compounds, caustics, combustible materials, carbamates, epoxides, esters, explosives, ketones, organophosphates, organic peroxides, phenols and cresols, and unsaturated halides.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICITY:
Product is corrosive and known to cause tissue destruction on contact with skin or eyes. Ingestion of phosphoric acid may be FATAL.

Inorganic phosphate ion is naturally found in the human body. If absorbed into the body, phosphoric acid enters the phosphate pool and is typically excreted in the urine.

TARGET ORGANS:
Eyes, skin, respiratory tract, liver, blood, bone marrow.

REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) NUMBER:
TB6300000

MUTAGENCITY DATA:
Phosphoric acid has been shown to be without effect in genotoxicity studies *in vitro* in the Ames test using various strains of *Salmonella typhimurium.*

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY:
Phosphoric acid reacts chemically with soil to form phosphate ion. Phosphate ion is primary supplier of phosphorous to plants. Under anaerobic conditions in presence of certain micro-organisms, phosphate may undergo reduction to phosphine.

Under acidic soil conditions, phosphates tend to become soluble and may mitigate to water. Due to high mobility, product may reach ground water.

Phosphoric acid undergoes ionic disassociation in water to form phosphate ion.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: This product is used in conjunction with sodium cyanide. Use a waste disposal method proper for the disposal of sodium cyanide solutions.
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORTATION INFORMATION

SHIPPING NAME: Phosphoric Acid, Liquid
HAZARDOUS CLASSIFICATION: 8
IDENTIFICATION NUMBER: UN 1805
PKG GROUP: PG III
DOT GUIDE: ERG 154

SECTION 15: REGULATORY INFORMATION

OSHA:
Meets criteria for hazardous material as defined by the Occupational Safety and Health Administration (OSHA) in 29 CFR 1910.1200.

TSCA: We certify that all components of this product are registered under the regulations of Toxic Substances Control Act (TSCA).

SECTION 16: OTHER INFORMATION

All information, recommendations and suggestions appearing herein concerning this product are based upon data believed to be reliable; however, it is the user's responsibility to determine the safe handling and suitability for the use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by **Roberts Chemical** as to the effects of such use, the results obtained, or the safety and toxicity of the product, nor does **Roberts Chemical** per se assume any liability arising out of use, by others, of the product referred to herein. Nor is the information herein to be construed as complete since more information may be desirable or necessary when particular or exceptional conditions or circumstances exist, or because of applicable laws or government regulations.