ESSENTIAL CHEMISTRY. INNOVATIVE SOLUTIONS.

SAFETY DATA SHEET

Print Date: March 19, 2025

Section 1: Product & Company Information

Product Identifier: **Phosphoric Acid, 75-85% Solution**

Other Means of Identification

Product Number: 125008
125010
100010

Recommended Use and Restrictions on Use

Recommended Use: Not available.
Restrictions on Use: Not known.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.
Address: 4320 Greenway Drive
Knoxville, TN 37918 USA

Information Telephone Number: 1-865-524-4239
Fax Number: 1-865-524-3375
Website: www.corechemInc.com
Contact Person: Regulatory Manager
E-mail: regulatory@corechemInc.com
Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 *(monitored 24 hours/day)*

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Corrosive to Metals - 1

Health Hazard(s)

Corrosion/Irritation, Skin – 1B
Acute Toxicity, Oral - 4

Environmental Hazard(s)

Not classified.

Label Elements

Signal Word

DANGER

Hazard Symbol(s)

Hazard Statement(s)

H290: May be corrosive to metals.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.

Precautionary Statements

General

Not applicable.

Prevention

P234: Keep only in original container.
P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P264: Wash face, hands, and any exposed skin thoroughly after handling.
P270: Do not eat, drink, or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor/physician.
P321: Specific treatment (see supplemental first aid instructions on this label).
P330: Rinse mouth.
P363: Wash contaminated clothing before reuse.
P390: Absorb spillage to prevent material damage.

Storage

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

None known.

Section 3 : Composition/Information on Ingredients

Mixture

Chemical Identity [2]	Common Name/Synonym(s)	CAS # [3]	Weight %	Impurity or Stabilizing Additive
Phosphoric acid	-	7664-38-2	75-85%	No

1. Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as its Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
3. "— "Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Take off immediately all contaminated clothing. Self-protection of the first aider.

Inhalation

If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY. DO NOT use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a
pocket mask equipped with a one-way valve or other proper respiratory medical device.

Skin Contact

If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. Do not apply oils or ointments unless ordered by the physician.

Eye Contact

If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove contact lens if easy to do.

Ingestion

If swallowed: If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Most important symptoms/effects, acute and delayed

Symptoms

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: ulcerations. conjunctivitis. permanent eye damage. blindness.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Contact may cause: dermatitis (inflammation of the skin). ulceration. permanent skin damage.

Skin Absorption: No data available.

Inhalation: May be corrosive to the respiratory tract. Severe irritation and burns may result. Vapors or mists may irritate or burn: respiratory tract. nose. mouth. throat. May cause: persistent coughing, pulmonary edema, chemical pneumonitis, and permanent damage. Effects may be delayed.

Ingestion: CORROSIVE-Causes severe irritation and burns. May irritate or burn: mouth. throat. stomach. esophagus. May cause: abdominal pain. chest pain. nausea. vomiting. diarrhea. seizures. hemorrhaging. permanent damage. Aspiration into the lungs may occur during ingestion or vomiting, resulting in severe pulmonary injury. May be fatal if swallowed.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Treat symptomatically. Symptoms may be delayed.

Section 5: Fire-Fighting Measures

General Fire Hazards

Product is highly acidic. Wear protective gear if spilled during firefighting.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO_2)

Unsuitable Extinguishing Media

water jet

Specific Hazards Arising from the Chemical

Non-combustible. In case of fire may be liberated: Phosphorus oxides (PxOy)

Fire and Explosion Hazards: May react with certain metals to form explosive/flammable hydrogen gas.

Hazardous Combustion Products: Phosphorous oxides. Phosphine. Toxic vapors. Corrosive vapors.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Product generates heat upon addition of water, with possible spattering. Run-off from fire control may cause pollution.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit.

Methods and Materials for Containment and Clean-Up

Contain spill, place into drums for proper disposal. Soak up residue with inert absorbent material. Place in non-leaking containers for immediate disposal. Flush the remaining area with water and neutralize with Soda Ash, Lime or Limestone and dispose of properly. Adequate ventilation is required if soda ash is used, because of the consequent release of carbon dioxide gas. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

Notification Procedures

Notify the relevant authorities.

Environmental Precautions

Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.

Section 7: Handling and Storage

Precautions for Safe Handling

Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. CORROSIVE MATERIAL. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Mixing with strong bases can cause high heat of reaction and generate steam.

Conditions for Safe Storage, including any Incompatibilities

CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Do not freeze. May react with certain metals to form explosive/flammable hydrogen gas.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Phosphoric Acid	TWA	1 mg/m3	US. ACGIH Threshold Limit Values
Phosphoric Acid	STEL	3 mg/m3	US. ACGIH Threshold Limit Values
Phosphoric Acid	TWA	1 mg/m3	US OSHA Table Z-1
Phosphoric Acid	IDLH	1000 mg/m3	US OSHA Table Z-1
Phosphoric Acid	REL	1 mg/m3	NIOSH
Phosphoric Acid	STEL	3 mg/m3	NIOSH

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

General room ventilation and local exhaust are required. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Individual protection measures, such as personal protective equipment (PPE)

General Information

Good general ventilation (typically 10 air changes per hour) 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. Eye wash facilities and emergency shower must be available when handling this product.

Eye/Face Protection

Use safety goggles with side protection. Wear face protection.
Do not wear contact lenses.

Skin Protection

Hand Protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Impervious. Chemical-resistant.

Other

Wear appropriate chemical resistant clothing. Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Protective clothing.

Respiratory Protection

Respiratory protection necessary at: Aerosol or mist formation. Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved respirator. DO NOT exceed limits established by the respirator manufacturer.

Hygiene Measures

Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes. Avoid contact with skin.

Section 9: Physical and Chemical Properties

Appearance:

Physical State:	Liquid
Color:	Colorless to Yellowish
Odor:	No data available.
Odor Threshold:	No data available.
pH:	.5 – 1.5
Melting Point/Freezing Point:	21 °C (70 °F)

Initial Boiling Point and Boiling Range:	158 °C (316 °F) at 1,013 hPa
Flash Point:	Not applicable.
Evaporation Rate (butyl acetate=1)**:**	No data available.
Flammability (solid, gas):	Non-flammable/non-combustible
Upper/Lower Limit on Flammability or Explosive Limits	
Flammability Limit – Upper:	No data available.
Flammability Limit – Lower:	No data available.
Explosive Limit – Upper:	Not explosive.
Explosive Limit – Lower:	Not explosive.
Vapor Pressure:	0.13 kPa (1mm Hg) at room temperature
Vapor Density (air =1)**:**	3.4 (air = 1)
Relative Density (water=1)**:**	1.7
Solubility(ies):	
Solubility in water:	miscible in any proportion
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Viscosity:	Kinematic (room temperature): 0.42 to 0.72 cm2/s (42 to 72 cSt)

Other Information:

Molecular Weight:	98 g/mol
Formula:	H3PO4

Section 10: Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical Stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of Hazardous Reactions

Violent reaction with: Alkali (lye)

Dangerous/dangerous reactions with: Metals, Light metals (due to the release of hydrogen in an acid/alkaline medium). Hazardous polymerization will not occur under normal conditions. May react with certain metals to form explosive/flammable hydrogen gas. Mixing with strong bases can cause high heat of reaction and generate steam. Phosphoric acid forms flammable gases with sulfides, mercaptans, cyanides and aldehydes. Phosphoric acid forms toxic fumes with cyanides, sulfides, fluorides, organic peroxides, and halogenated organics. Phosphoric acid mixtures with nitromethane are explosive.

Conditions to Avoid

No data available. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. Avoid high temperatures.

Incompatible Materials

Different Metals. Strong oxidizing agents. Strong reducing agents. Sulfides. Sulfites. Bases. Fluorine. Sulfur trioxide. Phosphorous pentoxide. Sodium tetrahydroborate. Aldehydes. Amines. Amides. Alcohols. Azo-compounds. Carbamates. Esters. Caustics. Phenols. Cresols. Ketones. Organophosphates. Epoxides. Explosives. Combustible materials. Unsaturated halides. Organic peroxides. Mercaptans. Cyanides. Nitromethane. Glycols. Fluorides. Halogenated organics. Sulfur. Aluminum. Copper. Mild steel. Brass. Bronze. Steel.

Hazardous Decomposition Products

Phosphorus oxides. Phosphine. Reactions with other materials may liberate toxic and/or explosive gases.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: Causes severe irritation and burns. May irritate or burn: mouth. throat. stomach. esophagus. May cause: abdominal pain. chest pain. nausea. vomiting. diarrhea. seizures. hemorrhaging. permanent damage. Aspiration into the lungs may occur during ingestion or vomiting, resulting in severe pulmonary injury. May be fatal if swallowed.

Inhalation: May be corrosive to the respiratory tract. Severe irritation and burns may result. Vapors or mists may irritate or burn: respiratory tract. nose. mouth. throat. May cause: persistent coughing. pulmonary edema. chemical pneumonitis. permanent damage. Effects may be delayed.

Skin Contact: Causes severe irritation and burns. Contact may cause: dermatitis (inflammation of the skin). ulceration. permanent skin damage.

Eye Contact: Causes serious eye damage. Causes severe irritation and burns. May cause: ulcerations. conjunctivitis. permanent eye damage. blindness.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

LD50 – Rat – 1,530 mg/kg

Dermal

LD50 – Rabbit – 2,740 mg/kg

Inhalation

LC50 – Rat – 850 mg/m3

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

Causes severe skin burns and eye damage.

Serious Eye Damage/Eye Irritation

Causes serious eye damage.

Respiratory/Skin Sensitization

Shall not be classified as a respiratory or skin sensitizer.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

US. National Toxicology Program (NTP) Report on Carcinogens

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity

In Vitro

No mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

None known.

Specific Target Organ Toxicity – Single Exposure

None known.

Specific Target Organ Toxicity – Repeated Exposure

None known.

Aspiration Hazard

Not classified.

Other Effects

Phosphoric Acid has a low vapor pressure at room temperature and is not expected to present a significant inhalation hazard under ambient conditions. Phosphoric Acid can, however, be irritating to the respiratory tract if inhaled as a mist or if the material is vaporized. The American Conference of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV) for Phosphoric Acid. For further information on this material, please refer to the current edition of the Documentation of The Threshold Limit Values and Biological Exposure Indices.

[redacted]

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

EC50- Aquatic Invertebrates- >100 mg/l -48h

Toxicity to Aquatic Plants

ErC50- algae- >100 mg/l - 72 h

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

No data available.

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

No data available.

Mobility in Soil

No data available.

Other Adverse Effects

No data available.

Section 13: Disposal Considerations

Disposal Instructions

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging

Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary, before disposing of waste product container.

US Department of Transportation (DOT)

UN Number:	UN1805
UN Proper Shipping Name:	Phosphoric acid solution
Technical Name:	
Hazard Class:	8
Subsidiary Hazard Risk:	-
Packing Group:	III
DOT Label/Placard Exemptions:	Not determined
Special Provisions:	A7, IB3, N34, T4, TP1
Packaging Exceptions:	49CFR 173.154
Packaging Non-Bulk:	49CFR 173.203
Packaging Bulk:	49CFR 173.241
Reportable Quantity (RQ):	5000lb (2270kg)
Marine Pollutant:	No
Poison Inhalation Hazard:	No
Special precautions for user:	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #:	154

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

The following chemical(s) in this material are subject to reporting levels established by CERCLA:

Phosphoric Acid (CAS# 7664-38-2)

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard:	No
Sudden Release of Pressure:	No
Reactive:	Yes
Acute (Immediate) Health Hazard:	Yes
Chronic (Delayed) Health Hazard:	Yes

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard:	**3**
Chronic Health Hazard:	*****
Flammability:	**0**
Physical Hazard:	**0**

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard:	**3**
Fire Hazard:	**0**
Reactivity Hazard:	**0**
Special:	**N/A**

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

Prepared By:	Regulatory Manager
Version #:	001
Issue Date:	September 23, 2015
Last Revised By:	Regulatory Assistant C
Last Revision Date:	7/22/2022
Current Revision:	02
Sections Revised:	2-11, 15-16

Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate
BCF - Bioconcentration Factor
EC50 - Effective concentration, 50%
IDHL – Immediately Dangerous to Life and Health
Kg – Kilogram
l – Liter
lb – Pound
ACGIH - American Conference of Industrial Hygienists
AIHA – American Industrial Hygiene Association
BEI - Biological Exposure Indices
CAS – Chemical Abstracts Service
DOT – US Department of Transportation
EPA – US Environmental Protection Agency
GHS - Globally Harmonized System of Classification and Labelling of Chemicals

LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%
mg - milligram
ml – milliliter
N/A – Not Applicable
N/D – Not Determined
PEL – Permissible Exposure Limit
REL – Recommended Exposure Limit
STEL – Short-term Exposure Limit
TWA - Time weighted average
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC - Intermediate Bulk Container
IMDG - International Maritime Dangerous Goods
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OSHA – US Occupational Health and Safety Administration
SARA – US EPA Superfund Amendments and Reauthorization Act
TSCA – US EPA Toxic Substances Control Act
UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

The information in this SDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS. The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.