



SUPREME PETRO
CHEMICALS

IMPORTER & DISTRIBUTOR OF INDUSTRIAL CHEMICALS ·
SINCE 1997

No. 145, 1st Floor, Raja Muthiah Road,
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SAFETY DATA SHEET (SDS)

Phosphoric Acid *SDS*

CAS 7664-38-2 EC 231-633-2 SIGNAL WORD DANGER

REV 3.1
29 JULY 2026
GHS REV.11 (2025)

GHS05

Corrosive

GHS06

Acute Toxicity

GHS07

Harmful / Irritant

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE
COMPANY

Product Name	Phosphoric Acid
Product Type	Corrosive / irritant inorganic acid
Chemical Family	Inorganic acid — phosphoric acid
CAS No.	7664-38-2
EC No.	231-633-2
Intended Use	Industrial / professional use as described on the SPC product page.
Restrictions on Use	Industrial / professional use only. Confirm suitability for final application before use.
Supplier	Supreme Petro Chemicals
Address	No. 145, 1st Floor, Raja Muthiah Road, Periyamet, Chennai – 600003, India
Emergency Contact	Sanketh — +91 86087 80096 · Sudarshan — +91 81979 47045
Email	admin@supremepetrochemicals.com
Product Page	https://www.supremepetrochemicals.com/products/phosphoric-acid
SDS Revision	July 2026
SDS Version	3.1

SECTION 2 HAZARD IDENTIFICATION

Met. Corr. 1; Skin Corr. 1; Eye Dam. 1; Acute Tox. 4 (oral); Acute Tox. 3 (inhalation); STOT SE 3



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Signal Word	DANGER
GHS Pictograms	GHS05 (Corrosive) · GHS06 (Acute Toxicity) · GHS07 (Harmful / Irritant)

HAZARD STATEMENTS

- H290 — May be corrosive to metals
- H302 — Harmful if swallowed
- H314 — Causes severe skin burns and eye damage
- H318 — Causes serious eye damage
- H331 — Toxic if inhaled
- H332 — Harmful if inhaled
- H335 — May cause respiratory irritation

PRECAUTIONARY — PREVENTION

- P233 — Keep container tightly closed.
- P260 — Do not breathe vapours or spray.
- P271 — Use only outdoors or in a well-ventilated area.
- P272 — Contaminated work clothing should not be allowed out of the workplace.
- P273 — Avoid release to the environment.
- P280 — Wear protective gloves / eye protection / face protection.

PRECAUTIONARY — RESPONSE / STORAGE / DISPOSAL

- P301+P310 — IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- 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 person to fresh air and keep 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.
- P312 — Call a POISON CENTER or doctor if you feel unwell.
- P331 — Do NOT induce vomiting.
- P403+P235 — Store in a well-ventilated place. Keep cool.
- P405 — Store locked up.



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- P501 — Dispose of contents/container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	EC NO.	% W/W	GHS CLASSIFICATION
Phosphoric Acid	7664- 38-2	231- 633-2	≤100 (confirm grade with supplier)	Met. Corr. 1; Skin Corr. 1; Eye Dam. 1; Acute Tox. 4 (oral); Acute Tox. 3 (inhalation); STOT SE 3

Percentages are by weight. Commercial grades are typically 75–85% w/w aqueous solution; confirm exact concentration from supplier COA. Full text of H-statements listed in Section 16.

SECTION 4 FIRST AID MEASURES

Inhalation	Remove person immediately to fresh air. Keep comfortable for breathing. If breathing is difficult, administer oxygen. Seek medical attention if symptoms (coughing, irritation) persist.
Skin Contact	Remove contaminated clothing immediately. Flush affected skin with large amounts of water for at least 15 minutes. Wash with soap and water. Seek medical attention if burns or irritation develop.
Eye Contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention — serious eye damage may occur.
Ingestion	Rinse mouth with water. Do NOT induce vomiting. Call a POISON CENTER or doctor immediately. If conscious, give water to drink. Do not give anything by mouth to an unconscious person.
Note to Physician	Treat symptomatically. Corrosive to mucous membranes, skin, and eyes. Monitor for respiratory distress after inhalation exposure.

SECTION 5 FIREFIGHTING MEASURES

Suitable Extinguishing Media	Phosphoric acid is non-flammable. Use extinguishing media appropriate to surrounding fire conditions: water spray, dry chemical, foam, CO ₂ .
Unsuitable Media	High-pressure water jet directed at the material — may spread corrosive liquid.
Specific Hazards	Product itself does not burn. Hazardous decomposition products (phosphorus oxides) may be released on strong heating or in fire.



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Containers may rupture when heated.

Protective Equipment	Wear full protective clothing and self-contained breathing apparatus (SCBA). Chemical-resistant suit, gloves, and boots.
Special Procedures	Evacuate non-essential personnel. Prevent contaminated fire-fighting run-off from entering drains and waterways. Cool containers exposed to fire with water spray.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions	Isolate the area. Keep unnecessary personnel away. Wear full PPE as specified in Section 8 (acid-resistant gloves, goggles, chemical-resistant suit, SCBA if ventilation is poor). Avoid direct contact with spilled material.
Environmental Precautions	Prevent entry into drains, sewers, soil, and watercourses. Phosphoric acid can lower soil and water pH — notify environmental authorities if a significant release occurs.
Containment / Clean-up	Contain spill with inert absorbent material (dry sand, vermiculite, earth). Do NOT use combustible absorbents. Neutralise carefully with sodium carbonate or lime if appropriate. Collect material into labelled, compatible containers for disposal through an approved waste contractor.
Reference to Sections	See Section 8 for PPE, Section 13 for disposal, Section 15 for regulatory information.

SECTION 7 HANDLING AND STORAGE

Handling Precautions	Use adequate local exhaust ventilation. Avoid contact with skin, eyes, and clothing. Avoid breathing mist or vapour. Use only in well-ventilated areas. Handle in acid-resistant equipment. Ground containers during transfer to avoid static build-up.
Hygiene	Wash hands thoroughly after handling. Remove and wash contaminated clothing before reuse. Do not eat, drink, or smoke in handling areas. Provide eyewash and safety shower in the work area.
Storage Conditions	Store in original, tightly closed, acid-resistant containers (glass, polyethylene, stainless steel grade 316 or higher). Inspect containers regularly for leakage or damage.



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Storage Temperature	Ambient temperature (15–35°C). Protect from freezing — pure H_3PO_4 solidifies at ~42°C; dilute aqueous solutions may freeze at sub-zero temperatures.
Incompatible Materials	Strong bases (caustic soda, ammonia, amines), strong oxidising agents, reactive metals (zinc, magnesium, aluminium — produces hydrogen gas), organic materials in large quantities.
Segregation	Segregate from food, drink, animal feed, strong bases, oxidising agents, and incompatible metals. Store separately from flammable materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limit	Phosphoric acid (CAS 7664–38–2): OSHA PEL 1 mg/m ³ (TWA); ACGIH TLV 1 mg/m ³ TWA, 3 mg/m ³ STEL; NIOSH REL 1 mg/m ³ TWA. India MSIHC Schedule: verify current national/state OEL. Use ALARA where no local OEL is established.
Engineering Controls	Use closed handling systems or local exhaust ventilation (LEV) to control mist and vapour. Acid-resistant ductwork and fume extraction where mist generation is possible. Provide eyewash stations and safety showers in the work area.
Respiratory Protection	If ventilation is inadequate or OEL may be exceeded: use a NIOSH/EN-approved acid gas respirator (cartridge type: acid gas/P100 combination). Use full-face SCBA for emergency response or high-concentration environments.
Hand / Eye / Skin	Hands: acid-resistant chemical gloves (butyl rubber, neoprene, or PVC; minimum 0.3 mm thickness; verify breakthrough time). Eyes/face: EN 166/ANSI Z87.1 chemical splash goggles; face shield for bulk transfers or splash risk. Body: acid-resistant apron or full chemical-resistant suit; chemical-resistant boots. Remove and wash contaminated PPE before reuse.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colourless to slightly yellow, viscous liquid (aqueous solution, commercial 75–85% grade); pure anhydrous form is a white crystalline solid
Odour	Odourless (NIOSH, 2024)



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Odour Threshold	Not established
pH	Very low (strongly acidic); pH $\approx$ 1.5 for 1 mol/L solution; pH $\approx$ 0.2 for 85% solution — verify from supplier COA/SDS for specific grade
Melting / Freezing Point	42.4°C (108°F) — pure anhydrous H ₃ PO ₄ ; aqueous commercial grades freeze at lower temperatures (NIOSH, 2024)
Boiling Point / Range	>130°C (>266°F) at 760 mmHg — aqueous 85% grade; decomposes/concentrates before true boiling (USCG, 1999)
Flash Point	Not applicable — non-flammable (USCG, 1999)
Auto-ignition Temperature	Not applicable — non-flammable
Flammability Limits	Not flammable (USCG, 1999)
Vapour Pressure	0.03 mmHg at 20°C (NIOSH, 2024); ~0.02 mmHg also cited
Vapour Density (air = 1)	3.4 (calculated for H ₃ PO ₄ vapour; MW 98 g/mol)
Relative Density	~1.685 g/cm ³ at 20°C for 85% aqueous solution; ~1.874 g/cm ³ for pure H ₃ PO ₄ — confirm grade-specific value with supplier
Solubility in Water	Miscible in all proportions (NIOSH, 2024)
Log Pow (Partition Coeff.)	-2.15 (experimental); -0.77 (estimated) — highly hydrophilic, not expected to bioaccumulate
Evaporation Rate	Very low (non-volatile at ambient temperatures)
Viscosity	3.86 mPa·s (40% aqueous solution at 20°C); ~40 mm ² /s at 20°C for concentrated grade — grade-specific; verify with supplier
VOC Content	Negligible / essentially zero — inorganic substance; assess per applicable regional VOC regulations

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage and handling conditions.
Conditions to Avoid	Avoid excessive heat, contamination with incompatible materials, and contact with reactive metals.
Incompatible Materials	Strong bases (NaOH, KOH, ammonia, amines); reactive metals (zinc, aluminium, magnesium — evolve hydrogen gas); strong oxidising agents; concentrated nitric acid or chlorine compounds. Reactive with aluminium chloride (AlCl ₃) under elevated temperature — not a concern under ambient storage.
Hazardous Decomposition	Thermal decomposition above 200°C yields phosphorus pentoxide (P ₂ O ₅) and phosphoric anhydride. Carbon oxides and irritating/toxic fumes may be released in fire conditions.



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Hazardous Reactions

No hazardous polymerisation. Reaction with reactive metals produces flammable hydrogen gas. Neutralisation reaction with strong bases is highly exothermic.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	Classified Acute Tox. 4 (oral) — H302 Harmful if swallowed. LD ₅₀ (rat, oral): ~1530 mg/kg (ECHA/PubChem). Corrosive to mouth, throat, and gastrointestinal tract.
Acute Dermal Toxicity	Corrosive to skin — classified Skin Corr. 1 (H314). Causes severe burns on prolonged or repeated contact.
Acute Inhalation Toxicity	Classified Acute Tox. 3 (inhalation) — H331 Toxic if inhaled; H332 Harmful if inhaled. Mist/vapour causes irritation of the respiratory tract. LC ₅₀ values: confirm with supplier SDS.
Skin Irritation	Causes severe skin burns (H314). Corrosive classification supersedes irritation classification.
Eye Irritation	Causes serious eye damage (H318 / Eye Dam. 1). Irreversible damage may occur without prompt treatment.
Sensitisation	Not classified as a skin or respiratory sensitiser based on available data.
Carcinogenicity	Not classified as carcinogenic by IARC, NTP, or OSHA. Not listed in ACGIH A-group or EU Annex VI as carcinogen.
Mutagenicity	Not classified as mutagenic based on available data.
STOT — Single Exposure	Classified STOT SE 3 (H335) — May cause respiratory irritation via inhalation of mist or vapour.
Aspiration Hazard	Not classified.

SECTION 12 ECOLOGICAL INFORMATION

Aquatic Toxicity	No GHS aquatic classification identified from reviewed data. Phosphoric acid can significantly lower pH of receiving waters, causing harm to aquatic organisms. Avoid release to natural water bodies.
Persistence / Degradability	Inorganic substance — biodegradation not applicable. Phosphate ions persist and may contribute to eutrophication in waterways.
Bioaccumulation	Not expected to bioaccumulate (log Pow -2.15 — highly hydrophilic). BCF not applicable for inorganic acids.



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Mobility in Soil	High mobility in soil — phosphoric acid and phosphate ions are water-soluble and can leach to groundwater. Adsorbs to soil particles under some conditions (calcium, iron, aluminium soils).
Other Adverse Effects	Eutrophication potential if released to waterways in significant quantities. Avoid uncontrolled release to the environment. Manage under applicable local environmental regulations.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste from Product	Dispose of contents through an authorised hazardous waste contractor in accordance with local, state, and national regulations. Do not pour down drains or discharge to the environment without treatment. Neutralise with dilute alkali (e.g. sodium carbonate solution) under controlled conditions before disposal where permitted.
Contaminated Packaging	Empty containers may retain corrosive residues. Handle as hazardous until cleaned or disposed of by an approved contractor. Rinsate should be treated as hazardous waste.
Indian Regulations	Follow Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (amended). Obtain pollution control board authorisation for storage and disposal. Assign EWC waste code according to actual process and local regulation.

SECTION 14 TRANSPORT INFORMATION

PARAMETER	UN / ADR (ROAD)	IMDG (SEA)	IATA (AIR)
UN Number	UN 1805	UN 1805	UN 1805
Proper Shipping Name	PHOSPHORIC ACID SOLUTION	PHOSPHORIC ACID SOLUTION	PHOSPHORIC ACID SOLUTION
Class	8 (Corrosive)	8 (Corrosive)	8 (Corrosive)
Packing Group	III	III	III
Marine Pollutant	No	No	N/A

UN 1805 applies to phosphoric acid solution. Pure solid phosphoric acid may be classified differently — verify with carrier. Packing Group III is standard for commercial aqueous grades ($\leq 85\%$); confirm from supplier SDS and current IMDG/IATA/ADR editions before shipment. UN-certified packaging required for international transport.



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SECTION 15 REGULATORY INFORMATION

EU / REACH / CLP	Phosphoric acid is listed on ECHA/EINECS (EC No. 231-633-2). Classified and labelled under CLP Regulation (EC) No 1272/2008 per Annex VI (Index No. 015-011-00-6). REACH registration required for EU import/manufacture above 1 tonne/year threshold.
OSHA (USA)	Prepared in OSHA HCS/HazCom aligned 16-section SDS format. OSHA PEL: 1 mg/m ³ (TWA). Listed on TSCA Chemical Substance Inventory.
India	Observe applicable Manufacture, Storage and Import of Hazardous Chemical (MSIHC) Rules, 1989 (amended); Environment Protection Act, 1986; Hazardous and Other Wastes Rules, 2016; Factories Act, 1948 (Schedule); and applicable state Pollution Control Board requirements.
Other Jurisdictions	Canada WHMIS 2015/HPR: classify/label per Section 2 classification; Canadian sale may require bilingual SDS/label. Australia (AICS): check inventory status before import or export. GCC/Middle East: use applicable GHS-aligned local requirements. Final market placement requires confirmation of local OELs, transport class, waste codes, and import restrictions.

SECTION 16 OTHER INFORMATION

Prepared By	Supreme Petro Chemicals — Technical Department
SDS Standard	UN GHS Rev.11 (2025); OSHA HCS/HazCom; EU CLP/REACH Annex II; Canada WHMIS/HPR — 16-section format
Revision Date	24 June 2026
Version	3.0 (supersedes prior issues)
Disclaimer	Information is given in good faith and believed accurate at issue. It does not constitute a specification or guarantee; the user is responsible for safe use, handling and compliance.

FULL TEXT OF H-STATEMENTS

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



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-
- H318 — Causes serious eye damage
-
- H331 — Toxic if inhaled
-
- H332 — Harmful if inhaled
-
- H335 — May cause respiratory irritation
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