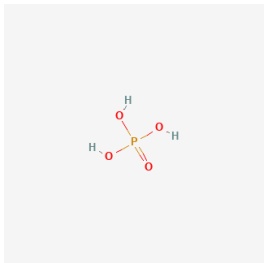


Phosphoric Acid

50% ACS Grade

ACS · 50%

GHS Revision
Rev. 9 (2021)Reviewed
2026-07-17Emergency
Chemtel 1-800-255-3924 (24/7)

CAS number 7664-38-2	UN number UN1805	Hazard class · packing group 8 · PG III
 Structure · PubChem	Grade ACS · 50%	Signal word Danger
Hazards Corrosive H290 H314		
Proper shipping name Phosphoric acid solution		
Phosphoric Acid 50% ACS Grade is regulated for transport under DOT 49 CFR — see the shipping classification below.		

1 Identification

Product Identifier

Phosphoric Acid 50% ACS Grade

Grade	ACS
Concentration	50%
CAS Number	7664-38-2
Manufacturer	Alliance Chemical 204 South Edmond Street, Taylor, TX 76574
Emergency Phone	Chemtel 1-800-255-3924 (24/7)
Recommended Use	Industrial / laboratory chemical. See Section 7.

2 Hazard Identification



Corrosive

Signal Word	Danger
Hazard Statements	H290 May be corrosive to metals H314 Causes severe skin burns and eye damage
Precautionary Statements	P234 Keep only in original packaging. P260 Do not breathe dust, fume, gas, mist, vapours or spray. P264 Wash hands and face thoroughly after handling. P280 Wear protective gloves, protective clothing, and eye/face protection. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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. P310 Immediately call a POISON CENTER or doctor. P321 Specific treatment (see first-aid information on this label). P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents and container in accordance with local, regional, national, and international regulations.

Hazard (H) and precautionary (P) statements and pictograms conform to GHS Rev. 9. The full classification rationale is in the downloadable SDS PDF.

3 Composition / Information on Ingredients

Component	CAS No.	Formula	Concentration
Phosphoric Acid 50% ACS Grade	7664-38-2	—	50% (w/w)

Concentrations are nominal; lot-specific values appear on the Certificate of Analysis. Components not contributing to classification are omitted.

4 First-Aid Measures

Eyes	Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.
Inhalation	Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5 Fire-Fighting Measures

Suitable Extinguishing Media	Dry chemical, CO ₂ , water spray. Use water spray to cool containers.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Hazardous Combustion Products	May include carbon oxides and other toxic fumes. See Section 10.

6 Accidental Release Measures

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental Precautions	Prevent leakage or spillage from entering drains,

Containment & Cleanup

sewers, or waterways.

Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7 Handling and Storage

Safe Handling

Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling.

Keep container closed when not in use.

Safe Storage

Store in a cool, dry, well-ventilated area. Use corrosion-resistant containers. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.

8 Exposure Controls / Personal Protection

Occupational Exposure Limits

Limit	Value
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OSHA PEL	1 mg/m ³ TWA
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NIOSH REL	1 mg/m ³ TWA / 3 mg/m ³ STEL
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IDLH	1000 mg/m ³
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Engineering Controls

Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.

Eye/Face Protection

Wear chemical safety goggles or face shield.

Skin Protection

Wear chemical-resistant gloves and protective clothing.

Respiratory Protection

For mist or aerosol applications (e.g., spray, atomization, pressure washing), use a NIOSH-approved half-face air-purifying respirator with combination acid gas / P100 cartridges. For dust

exposure, an N95 or P100 particulate filter is acceptable. Ensure local exhaust ventilation.

Exposure limits sourced from NIOSH Pocket Guide and OSHA 29 CFR 1910.1000. Hazard classification from ECHA Classification and Labelling Inventory (CLP Annex VI).

9 Physical & Chemical Properties

Appearance	Clear, viscous liquid
Odor	No data available
Odor Threshold	No data available
pH	No data available
Melting Point / Freezing Point	< 0 °C (< 32 °F), freezing point (aqueous solution)
Boiling Point	approx. 110 °C (230 °F) (aqueous solution)
Flash Point	No data available
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper/Lower Flammability or Explosive Limits	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	1.331 - 1.341
Solubility	No data available
Partition Coefficient (n-octanol/water)	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Particle Characteristics	Not applicable

Values shown reflect product-specific canonical data. Lot-specific ranges may vary; see the Certificate of Analysis for the shipped lot.

10 Stability and Reactivity

Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing conditions.

Conditions to Avoid	Heat, sparks, open flame, and incompatible materials.
Incompatible Materials	Strong acids, strong bases, reactive metals, water (for some concentrated forms).
Hazardous Decomposition Products	May produce carbon oxides and other toxic fumes when heated to decomposition.

11 Toxicological Information

See Section 2 for GHS hazard classification.

Carcinogen Classification

Agency	Status
IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12 Ecological Information

Ecotoxicity	Algae ErC50: 77.9 mg/L (72 h, <i>Pseudokirchneriella subcapitata</i> — pH-driven; ErC50 (growth rate)); Daphnia EC50: > 376 mg/L (48 h, <i>Daphnia magna</i> — pH-driven; >376 mg/L WITH pH adjustment (pH 7.53–7.95)); Fish LC50: 75.1 mg/L (96 h, <i>Oryzias latipes</i> — pH-driven (pH 3.39–4.45, no pH adjustment))
Persistence & Degradability	Not applicable (inorganic; dissociates to phosphate ions). Phosphate may persist and contribute to eutrophication.
Bioaccumulative Potential	log Kow -2.15 (measured); -0.77 (estimated)
Mobility in Soil	High (miscible with water)

13 Disposal Considerations

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

14 Transport Information

US DOT (49 CFR)

UN Number	UN1805
Proper Shipping Name	Phosphoric acid solution
Hazard Class	8
Packing Group	III

IMDG / IATA classifications may differ. Refer to the downloadable SDS PDF for international transport details. Verify current regulations before international shipment.

15 Regulatory Information

Inventory / List	Status
California Proposition 65	Not listed
US EPA TSCA Active Inventory	Listed
EPCRA SARA 313 (TRI)	Not listed

SARA 311/312 hazard categories correspond to the GHS classification in Section 2. Data retrieved as of: California Proposition 65 2026-09-02; US EPA TSCA Active Inventory 2026-09-02; EPCRA SARA 313 (TRI) 2026-09-02.

16 Other Information

Revision Date	2026-07-17
GHS Format	GHS Rev. 9 (2021), 16-section format per OSHA HCS 2024 (29 CFR 1910.1200).

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