



Phosphoric Acid MSDS

1. Product Identification

Item	Information
Product Name	Phosphoric Acid
Chemical Name	Orthophosphoric Acid
Chemical Formula	H ₃ PO ₄
CAS Number	7664-38-2
EC Number	231-633-2
Molecular Weight	98.00 g/mol
Product Type	Inorganic mineral acid
Common Commercial Concentration	Up to 85%
Supplier	ATDM

2. Hazard Identification

Phosphoric Acid can cause serious irritation or chemical burns, especially in concentrated form.

Main hazards include:

- Causes severe eye damage.
- Can cause skin burns or strong irritation.
- Mist may irritate the respiratory tract.
- Ingestion may damage the mouth, throat, and digestive tract.
- Reacts with strong bases.
- May react with certain metals and release hydrogen gas.

Workers should use appropriate protective equipment and follow safe chemical-handling procedures.



3. Composition / Information on Ingredients

Component	CAS Number	Typical Concentration
Phosphoric Acid	7664-38-2	Approx. 75–85%
Water	7732-18-5	Balance

Actual concentration depends on the supplied product grade.

4. First-Aid Measures

Eye Contact

Immediately rinse the eyes with clean water for at least 15 minutes.

Remove contact lenses if they are easy to remove.

Continue rinsing and seek immediate medical attention.

Skin Contact

Remove contaminated clothing and footwear.

Wash the affected skin thoroughly with plenty of water.

Seek medical attention if burns, pain, or irritation occur.

Inhalation

Move the affected person to fresh air.

Keep the person comfortable and monitor breathing.

Seek medical attention if coughing, breathing difficulty, or irritation continues.

Ingestion

Rinse the mouth carefully with water.

Do not induce vomiting.



Never give anything by mouth to an unconscious person.

Seek immediate medical attention.

5. Fire-Fighting Measures

Phosphoric Acid is not normally flammable.

However, heating may produce irritating or hazardous phosphorus oxide fumes.

Use extinguishing media suitable for the surrounding fire.

Firefighters should:

- Wear suitable chemical-resistant protective clothing.
- Use self-contained breathing apparatus where required.
- Cool exposed containers with water spray when safe.
- Avoid direct contact with the product.
- Prevent contaminated water from entering drains and waterways.

6. Accidental Release Measures

Keep unnecessary personnel away from the affected area.

Provide adequate ventilation.

Wear suitable protective equipment, including gloves, goggles, protective clothing, and footwear.

Prevent the material from entering:

- Drains
- Surface water
- Groundwater
- Soil

Contain the spill using compatible non-reactive materials.

Only trained personnel should perform neutralization or cleanup.

Dispose of collected waste according to applicable regulations.



7. Handling and Storage

Safe Handling

- Avoid contact with skin and eyes.
- Avoid breathing mist or vapors.
- Use adequate ventilation.
- Wear suitable protective equipment.
- Keep containers closed when not in use.
- Use corrosion-resistant equipment.
- Avoid contact with incompatible chemicals.

Storage

Store in a cool, dry, and well-ventilated location.

Keep containers tightly closed and properly labeled.

Protect the product from excessive heat and physical damage.

Keep away from:

- Strong bases
- Reactive metals
- Incompatible chemicals
- Materials that may react with acids

Use suitable corrosion-resistant storage containers.

8. Exposure Controls / Personal Protection

Engineering Controls

Provide adequate workplace ventilation.

Use local exhaust ventilation where mist or aerosol may form.

Provide emergency eyewash stations and safety showers near handling areas.

Eye Protection

Wear chemical safety goggles.

Use a face shield where splash risk is high.



Hand Protection

Wear chemical-resistant gloves suitable for acids.

Body Protection

Wear protective clothing and acid-resistant footwear where necessary.

Respiratory Protection

Use suitable respiratory protection when ventilation cannot adequately control airborne mist.

Follow local occupational exposure requirements.

9. Physical and Chemical Properties

Property	Typical Information
Appearance	Clear, colorless liquid
Odor	Nearly odorless
Physical State	Liquid
Chemical Formula	H ₃ PO ₄
Molecular Weight	98.00 g/mol
Solubility in Water	Completely miscible
pH	Strongly acidic
Density	Depends on concentration
Boiling Point	Depends on concentration
Flammability	Non-flammable
Vapor Pressure	Low at normal conditions

For 85% material, physical values should follow the batch-specific TDS.

10. Stability and Reactivity

Phosphoric Acid remains stable under recommended storage conditions.

Avoid contact with:

- Strong alkalis
- Reactive metals
- Incompatible chemical agents

Reaction with some metals may produce flammable hydrogen gas.

Strong heating may cause decomposition and release phosphorus-containing fumes.

11. Toxicological Information

Possible Exposure Routes

Exposure may occur through:

- Eye contact
- Skin contact
- Inhalation
- Ingestion

Acute Effects

Possible effects include:

- Severe eye irritation or damage
- Skin irritation or burns
- Respiratory irritation
- Coughing
- Gastrointestinal irritation
- Chemical burns after significant exposure

The severity depends on concentration, exposure duration, and contact area.



12. Ecological Information

Large releases may reduce the pH of water or soil.

Significant acidification can harm aquatic organisms and disturb local ecosystems.

Prevent uncontrolled discharge into:

- Rivers
- Lakes
- Drainage systems
- Soil
- Groundwater

Follow applicable environmental regulations during cleanup and disposal.

13. Disposal Considerations

Dispose of Phosphoric Acid and contaminated materials through authorized chemical-waste procedures.

Do not discharge concentrated material directly into drains, soil, or waterways.

Only trained personnel should perform chemical neutralization.

Follow national and local waste-management regulations.

14. Transport Information

Concentrated Phosphoric Acid is generally regulated as a corrosive material during transport.

Typical transport information may include:

Item	Typical Information
UN Number	UN 1805
Proper Shipping Name	Phosphoric Acid Solution
Hazard Class	8



Item	Typical Information
Main Hazard	Corrosive
Packing Group	III, depending on concentration and classification
Marine Pollutant	Usually not classified as such

Always confirm the exact transport classification for the supplied concentration before shipment.

15. Regulatory Information

Phosphoric Acid must comply with applicable rules for:

- Chemical labeling
- Workplace safety
- Storage
- Environmental protection
- Dangerous-goods transport
- Import and export procedures

Customers should verify the regulations that apply in the destination country.

16. Other Information

This MSDS provides general safety information for **Phosphoric Acid**.

Actual hazard statements, concentration limits, transport classifications, and handling requirements may vary according to product grade and concentration.

Therefore, customers should always use the current supplier-issued SDS for the exact material they purchase.

ATDM supplies and exports Phosphoric Acid for industrial and commercial B2B customers and can provide relevant technical, safety, and commercial documentation according to the confirmed product specification.