Potassium phosphate monobasic SDS/MSDS (Safety Data Sheet)

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

* Product Name: Potassium phosphate monobasic
* Catalog Number: E0166
* CAS Number: 7778-77-0
* IUPAC Name: Phosphoric acid, potassium salt (1:1)

Relevant identified uses and uses advised against

* Identified uses: For research and development use only; laboratory chemicals; manufacture of substances.
* Uses advised against: Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

* Company: Selleck Chemicals
* TollFree: +1 877 796-6397
* Tel: +1 832 582-8158
* Fax: +1 832 582-8590

Emergency telephone number

* Emergency phone #: +1 832 582-8158

2. HAZARDS IDENTIFICATION

2.1 GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

Not classified as a hazardous substance according to GHS.

2.2 GHS Label elements, including precautionary statements

Hazard Pictogram(s)	None.
Signal Word	Not applicable
Hazard statement(s)	None.
Precautionary statement(s)	None.

2.3 Other hazards

None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Product name: Potassium phosphate monobasic

CAS Number: 7778-77-0

PubChem CID: 516951

Molecular formula: H2KO4P

Molecular weight: 136.086 g/mol

IUPAC name: potassium dihydrogen phosphate

3.2 Mixtures

Not applicable (pure substance).

4. FIRST-AID MEASURES

4.1 Description of first aid measures

Inhalation: Fresh air, rest.

Skin contact: Rinse skin with plenty of water or shower.

Eye contact: First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Ingestion: Rinse mouth. Give one or two glasses of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 (Toxicological Information).

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact a poison control center or physician for severe exposure.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: Water spray, dry chemical, carbon dioxide (CO2), alcohol-resistant foam.

Unsuitable: None known.

5.2 Specific hazards arising from the substance or mixture

In case of fire in the surroundings, use appropriate extinguishing media.

Water spray, dry chemical, carbon dioxide, or foam as appropriate for surrounding fire and materials.

As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.

5.3 Advice for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective clothing.

Fight fire from upwind. Cool containers with water spray until fire is extinguished.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate personal protective equipment (see Section 8).

Avoid breathing dust/vapor. Ensure adequate ventilation.

Evacuate personnel to safe areas. Keep people away from and upwind of spill.

6.2 Environmental precautions

Prevent product from entering drains, waterways, or soil.

Contain spill with inert absorbent material.

6.3 Methods and materials for containment and cleaning up

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers.

Wear approved respiratory protection, chemically compatible gloves and protective clothing. Wipe up spillage or collect spillage using high efficiency vacuum cleaner. Avoid breathing dust. Place spillage in appropriately labeled container for disposal. Wash spill site.

SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational harm/injury/toxicity or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal and plant life; and conformance with environmental and public health regulations.

As a general rule, when handling USP Reference standards avoid all contact and inhalation of dust, mist and or vapors associated with the material. Wash thoroughly after handling.

This material is assumed to be combustible. As with all dry powders it is advisable to ground mechanical equipment in contact with dry material to dissipate the potential build up of static electricity.

/Wear/ chemically compatible gloves, safety glasses or goggles and protect exposed skin.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Separated from strong bases.

Store at 20 to 25 °C (68 to 77 °F); excursions permitted to 15 to 30 °C (59 to 86 °F).

Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

Potassium phosphates injection should be stored at controlled room temperature. /Potassium phosphates/

7.2 Conditions for safe storage, including any incompatibilities

Separated from strong bases.

Store at 20 to 25 °C (68 to 77 °F); excursions permitted to 15 to 30 °C (59 to 86 °F).

Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

Potassium phosphates injection should be stored at controlled room temperature. /Potassium phosphates/

Store away from incompatible materials (see Section 10).

[Note: Specific storage temperature not available in public databases. Refer to supplier Certificate of Analysis (COA) for exact storage conditions.]

Store in original container. Keep upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure controls

8.1.1 Occupational exposure limits (OEL)

OSHA PEL: Not established.

ACGIH TLV: Not established.

NIOSH REL: Not established.

No occupational exposure limit values are established for this substance.

Use the lowest feasible exposure level (ALARA principle).

8.1.2 Appropriate engineering controls

Use in a well-ventilated area. Chemical fume hood recommended for powder handling.

8.2 Individual protection measures

8.2.1 Eye/face protection

Wear safety glasses with side shields.

8.2.2 Skin protection

Wear protective gloves. Recommended material: Nitrile rubber.

Wear suitable protective clothing (lab coat).

8.2.3 Respiratory protection

Respiratory protection usually not required under normal use with adequate ventilation.

Use N95 respirator for large-scale powder handling.

8.2.4 Thermal hazards

Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance: Liquid; Dry Powder; Other Solid; Large Crystals; CBI

b) Odor: Odorless

c) Odor threshold: No data available

d) pH: Between 4,2 and 4,8 (1 % solution)

e) Melting point/freezing point: 253 °C

f) Initial boiling point and boiling range: No data available

g) Flash point: No data available

h) Evaporation rate: No data available

i) Flammability (solid, gas): No data available

j) Upper/lower flammability or explosive limits: No data available

k) Vapor pressure: No data available

l) Vapor density: No data available

m) Relative density: 2.34 g/cu cm

n) Water solubility: Freely soluble in water. Insoluble in ethanol

o) Partition coefficient: n-octanol/water: Log P: No data available

p) Auto-ignition temperature: No data available

q) Decomposition temperature: No data available

r) Viscosity: No data available

s) Explosive properties: No data available

t) Oxidizing properties: No data available

9.2 Other information

Topological Polar Surface Area (TPSA): 80.6 Å²
Complexity: 61

10. STABILITY AND REACTIVITY

10.1 Reactivity
No specific reactivity hazards identified under normal handling conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No hazardous reactions under normal conditions.

10.4 Conditions to avoid
Avoid heat, sparks, open flames, direct sunlight, and moisture.

10.5 Incompatible materials
Strong oxidizing agents, strong acids, strong bases.

10.6 Hazardous decomposition products
Thermal decomposition may produce: Phosphorus oxides (P□O□).
See also Section 5 (Fire-fighting measures) for combustion products.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity:
No acute toxicity data available.
Skin corrosion/irritation:
No data available.
Serious eye damage/eye irritation:
No data available.
Respiratory or skin sensitization:
No data available.
Germ cell mutagenicity:
No data available.
Carcinogenicity:
No data available.
Reproductive toxicity:
No data available.
Specific target organ toxicity (single exposure):
No data available.
Specific target organ toxicity (repeated exposure):
No data available.
Aspiration hazard:

No data available.

11.2 Additional information

Exposure routes:

The substance can be absorbed into the body by ingestion.

Signs and symptoms of exposure:

Cough.

Redness.

Redness. Pain.

Abdominal pain. Vomiting. Diarrhoea. Nausea.

Data source: Hazardous Substances Data Bank (HSDB) via PubChem.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

LC50; Species: Capitella capitata (Polychaete worm); Conditions: static; Concentration: 2400 ug/L for 28 days

LC50; Species: Neanthes arenaceodentata (Polychaete worm); Conditions: static; Concentration: 1900 ug/L for 28 days

LC50; Species: Neanthes grubei (Polychaete); Conditions: static; Concentration: 920 ug/L for 28 days

LC50; Species: Stauronereis rudolphi (Polychaete); Conditions: static; Concentration: 2100 ug/L for 28 days

For more Ecotoxicity Values (Complete) data for MONOPOTASSIUM DIHYDROGEN PHOSPHATE (7 total), please visit the HSDB record page.

7.80e+04

1.20e+06

2.00e+04

1.5E+01(G)

1.00e+00

Volatile

Mutagen

1

2.30e+05

3.50e+06

6.00e+04

1.5E+01 (G)

1.00e+00

Volatile

Mutagen

1

Monopotassium dihydrogenphosphate sorption was measured on soil and peat with the following results: 440 ug/g (Sceptre soil; 4.5% organic matter; 49% clay); 440 ug/g Melfort soil; 10% organic matter; 46% clay); 375 ug/g (Saskatchewan peat; characteristics not specified)(1).

According to the 2006 TSCA Inventory Update Reporting data, the number of persons reasonably likely to be exposed in the industrial manufacturing, processing, and use of monopotassium dihydrogen phosphate is 1000 or greater; the data may be greatly underestimated(1).

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available.

12.6 Other adverse effects

No other adverse ecological effects identified.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste Treatment Methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers and do not mix with other waste. Handle uncleaned containers in the same manner as the product itself.

14. TRANSPORT INFORMATION

14.1 UN number

Not regulated as dangerous goods (research quantities typically exempt).

14.2 UN proper shipping name

Not subject to transport regulations (small quantities for research use).

14.3 Transport hazard class(es)

Not classified as dangerous goods for transport (research quantities).

14.4 Packing group

Not applicable (not regulated as dangerous goods in typical research quantities).

14.5 Environmental hazards

Marine pollutant: No (not classified as environmentally hazardous per GHS).

14.6 Special precautions for user

Transport in original packaging. Ensure containers are tightly sealed.

For bulk or commercial quantities, consult applicable transport regulations (DOT, IATA, IMDG).

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

US EPA / TSCA: Subject to EPA TSCA regulations

EU ECHA / REACH: Registered (REACH Active)

SARA 302 Components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:

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

SARA 311/312 Hazards:

No SARA Hazards.

Massachusetts Right To Know Components:

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components:

No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know Components:

No components are subject to the New Jersey Right to Know Act.

California Prop. 65 Components:

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

Other regulatory listings:

- The Australian Inventory of Industrial Chemicals: Chemical: Phosphoric acid, monopotassium salt

- FIFRA Requirements: Residues of potassium phosphate are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Use: buffer. Lim

- FDA Requirements: The Approved Drug Products with Therapeutic Equivalence Evaluations List identifies currently marketed prescription drug products, incl potassium phosphate, approved on the basis of safety and effectiveness by FDA under sections 505 of the Federal Food, Drug, and Cosmetic Act.

Potassium phosphates

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this substance.

For research-use-only compounds, no CSA is required under REACH Annex I.

16. OTHER INFORMATION

Revision Date: 2026/09/08

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product. Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.