

Material Safety Data Sheet (MSDS)

Product Name: Monopotassium Phosphate (Potassium Dihydrogen Phosphate)
Agriculture Grade

MSDS Generate Date: 20-05-2017

Revision Date: 30-12-2024

Supplier:

Rawpharma Biz Pvt Ltd
1101- City Centre 2,
Science City Road,
Sola Ahmedabad Gujarat,
India - 380060.

Contact No.: +91 97272 88479

Email: info@rawpharmabiz.com

Website: www.rawpharmabiz.com

1. Identification of the Substance/Preparation and Company

- **Product:** Monopotassium Phosphate (Potassium Dihydrogen Phosphate) — Agriculture Grade
- **Intended use:** Fertiliser, soil amendment; agricultural applications

2. Hazards identification

- **GHS Classification:** Not classified as a hazardous substance under GHS for the supplied agricultural grade material.
- **Main hazards:** May cause mechanical irritation to eyes, respiratory tract and skin if present as dust. Ingestion in large quantities may cause gastrointestinal discomfort. Not flammable or explosive.
- **Signal word / Pictograms:** None required for normal packaged product; use caution for dust generation.
- **Hazard statements (precautionary):**
 - H315 — May cause skin irritation (possible in sensitive individuals or on prolonged exposure to dust).

- H319 — May cause serious eye irritation if dust gets into eyes.
- H335 — May cause respiratory irritation if inhaled as dust.

3. Composition / information on ingredients

- **Substance:** Monopotassium Phosphate (KH_2PO_4)
- **CAS number:** (commonly 7778-77-0) — include on product label if required.
- **EC / List number:** Not applicable for straightforward agricultural grade.
- **Concentration:** Typically 98%+ (specification depends on supplier batch). Impurities: trace metals, moisture not exceeding specification. Exact composition available on Certificate of Analysis (COA).

4. First aid measures

- **Inhalation:** Move person to fresh air. If breathing is difficult or symptoms persist, seek medical attention. If unconscious, place in recovery position and seek immediate medical help.
- **Skin contact:** Brush off excess. Wash affected area with soap and water. If irritation develops or persists, get medical attention.
- **Eye contact:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
- **Ingestion:** Rinse mouth. Do not induce vomiting unless directed by medical personnel. If large amounts ingested, seek medical advice.

5. Firefighting measures

- **Suitable extinguishing media:** Product is non-combustible. Use extinguishing media appropriate for surrounding fire (water spray, foam, dry chemical, CO_2).
- **Unsuitable extinguishing media:** None specific to the product.
- **Special hazards from the substance:** None known — product is not flammable and will not support combustion; however decomposition of packaging materials may create hazards in a fire.
- **Protective equipment for firefighters:** Self-contained breathing apparatus and full protective clothing if fighting a fire involving packaging or other materials.

6. Accidental release measures

- **Personal precautions:** Avoid dust formation. Use appropriate PPE (dust mask or respirator, safety glasses, gloves). Keep unauthorized persons away.
 - **Environmental precautions:** Prevent large quantities entering drains, surface water or soil. Notify authorities if product enters waterways.
 - **Methods for cleaning up:** Sweep or shovel up dry material, minimise dust. For dust control, lightly moisten before sweeping if safe to do so. Collect into suitable labelled containers for recovery or disposal. Clean area thoroughly. Avoid creating airborne dust.
-

7. Handling and storage

- **Handling:** Avoid contact with eyes and prolonged skin contact. Do not breathe dust. Use local exhaust or general dilution ventilation to control dust. Use good housekeeping to avoid dust build-up.
 - **Storage:** Store in a cool, dry, well-ventilated area away from incompatible materials (strong bases — though MKP is somewhat acidic; strong oxidisers are not typical incompatibles). Keep containers tightly closed and protected from moisture. Store away from foodstuffs. Use first-in, first-out batch control.
 - **Incompatibilities:** Strong bases and strong oxidising agents — avoid mixing in concentrated form. Moisture will cause caking.
-

8. Exposure controls / personal protection

- **Occupational exposure limits:** No specific internationally harmonised OEL universally assigned for KH_2PO_4 ; follow local/national rules. If dust present, control to minimize exposures — typical dust limits (e.g., total inhalable/respirable dust TLVs) should be observed per local regulations.
- **Engineering controls:** Use local exhaust ventilation at points where dust may be generated. Maintain good general ventilation.
- **Personal protective equipment (PPE):**
 - Respiratory protection: Where dust generation is likely, use a dust respirator (e.g., N95 or equivalent) or suitable respirator per regulatory requirements.
 - Eye protection: Safety goggles.
 - Skin protection: Gloves (nitrile or other chemically resistant) and long sleeves for prolonged handling.
 - Hygiene measures: Wash hands after handling; do not eat/drink/smoke in work areas.

9. Physical and chemical properties

- **Appearance:** White to off-white crystalline powder or granules (agriculture grade).
- **Odour:** Odourless.
- **pH (10% solution):** Slightly acidic (approx. pH 4–5 depending on concentration).
- **Melting point / decomposition:** Decomposes on strong heating (no sharp melting point typical).
- **Boiling point:** Not applicable.
- **Flash point:** Not applicable — non-flammable.
- **Evaporation rate:** Not applicable.
- **Vapour pressure / Density / Solubility:** Soluble in water (good solubility), bulk density depends on granulation (typical bulk density 0.9–1.2 g/cm³ depending on grade).
- **Partition coefficient (log K_{ow}):** Not applicable (inorganic salt).

10. Stability and reactivity

- **Chemical stability:** Stable under normal ambient conditions if stored dry.
- **Conditions to avoid:** Moisture (causes caking), dust formation in confined spaces (inhalation risk). Avoid excessive heat.
- **Materials to avoid:** Strong bases, strong oxidisers (avoid mixing/contamination).
- **Hazardous decomposition products:** None under normal conditions; decomposition at very high temperatures may produce phosphorous oxides or potassium compounds from packaging decomposition — unlikely in normal use.

11. Toxicological information

- **Acute toxicity:** Low acute oral toxicity for the agricultural grade product at typical exposure levels. Ingestion of large amounts may cause gastrointestinal upset.
- **Skin corrosion / irritation:** May cause mild irritation on prolonged contact if dust present.
- **Serious eye damage / irritation:** Dust can cause mechanical irritation and redness.
- **Respiratory / skin sensitisation:** Not expected to be a sensitiser.

- **Chronic toxicity / Carcinogenicity / Reproductive toxicity:** No evidence of chronic systemic toxicity at typical exposure levels in normal agricultural use. Not listed as a carcinogen by major agencies based on available information. (If occupational exposure is a concern, consult local health regulations and medical surveillance guidance.)

12. Ecological information

- **Ecotoxicity:** Low acute toxicity to aquatic life at environmental concentrations typical from normal agricultural use. However, high concentrations of phosphate in water can contribute to eutrophication — avoid release of large quantities to water bodies.
- **Persistence and degradability:** Inorganic — does not biodegrade; phosphate persists as a nutrient in the environment.
- **Bioaccumulative potential:** Not expected to bioaccumulate (inorganic salt).
- **Mobility in soil:** Soluble in water and can move with soil water; can contribute to nutrient loading in groundwater/surface water if misused.

13. Disposal considerations

- **Disposal methods:** Dispose of in accordance with local and national regulations. Product is not hazardous waste when unused, but avoid disposing large quantities to waterways (risk of eutrophication). Prefer recovery/recycling when possible; otherwise dispose to licensed landfill or incineration of packaging per local rules.
- **Contaminated packaging:** Empty containers may contain residues — dispose or recondition in accordance with local regulations. Do not reuse containers for foodstuffs.

14. Transport information — DETAILED (requested detailed information)

Summary: Monopotassium phosphate (KH_2PO_4) agriculture grade is **generally not classified as a dangerous good for transport** under major transport regulations when transported as a dry, packaged agricultural commodity. Below are detailed remarks and recommended practices for road, rail, sea and air transport. Always verify with the relevant national competent authority and carrier before shipment.

A. Regulatory status (general):

- **UN Number:** Not assigned / Not applicable (N/A) for most packaged shipments of KH_2PO_4 — it is not a hazardous substance for transport.
- **Proper shipping name:** Not regulated (when shipped as a dry, packaged agricultural commodity). If a carrier or national regulation requires a descriptor, use: “Not regulated — Monopotassium phosphate” or the scientific name.
- **Hazard class / Division:** Not applicable (N/A).

- **Packing group:** Not applicable (N/A).

B. Road (ADR / national road regulations) / Rail (RID):

- **ADR / RID classification:** Generally not classified as dangerous under ADR/RID when packaged normally. No special labelling required other than standard cargo/product identification for logistic handling.
- **Transport considerations:** Use dry, secure packaging. Protect from moisture to avoid caking. Prevent dust release during loading/unloading. If bulk transport (loose in hopper trailers), ensure adequate measures to control dust and prevent discharge to drains.
- **Segregation:** No special segregation required with most commodities; however, avoid contamination with strong bases and strong oxidisers.

C. Sea transport (IMDG Code):

- **IMDG classification:** Not listed as a dangerous good in IMDG when transported as packaged fertiliser grade material. Not classified as a marine pollutant.
- **Stowage & segregation:** Stow under deck or on deck per cargo preferences of the ship; protect from seawater and moisture. No specific IMDG special provisions typically apply. Use standard fertiliser handling precautions if carrier or port authority requires (some countries regulate fertilisers as “fertiliser” commodity with port-specific handling rules).

D. Air transport (IATA / ICAO):

- **IATA/ICAO classification:** Not classified as a dangerous good under IATA when transported as packaged dry agricultural grade. Carriers may impose packaging/handling requirements — always confirm with airline. Loose bulk powder shipments by air may be restricted; carriers often prefer containerised or bagged shipments.
- **Air transport focus:** Prevent dust emissions and ensure packaging integrity. For carry-on/checked baggage: not relevant (commercial shipments only).

E. Bulk shipments & special cases:

- For **bulk shipments** (loose powder in carrying vessels, big bags or tankers for granular solids) consult the carrier and local regulations: some authorities treat concentrated fertiliser shipments under specific rules for transport of “fertilisers” or “salts” and may require documentation (safety data, declaration of non-hazardous nature).
- **If material is mixed/contaminated** with hazardous substances, a different UN classification may apply — always check composition and COA before transport.

F. Emergency Response & Contact:

- **Emergency contact for transport incidents:** +91 97272 88479 (RawPharmaBiz) — provide product name, quantity, shipper and packaging details to responders. For medical emergency contact local emergency services.

G. Labelling & Documentation recommendations (even if not required):

- **Recommended shipment document line:** “Monopotassium phosphate (KH_2PO_4), Agriculture Grade — Not regulated for transport.”
- **Precautionary handling marks:** “Keep dry”, “Handle to avoid dust”, and standard handling symbols (fragile / keep dry) as appropriate.
- **International shipments:** Verify import country fertiliser regulations and any permit requirements.

H. Marine pollutant: Not classified as a marine pollutant. Avoid discharge to sea and waterways to prevent eutrophication.

15. Regulatory information

- **National / local regulations:** Comply with local agricultural fertiliser regulations, transport rules and environmental discharge limits. This product is an inorganic fertiliser; registration or labelling requirements depend on the importing/receiving country and local agricultural authorities.
- **Chemical inventories:** Supplier should ensure compliance with national chemical inventories and fertiliser registration regimes where applicable.

16. Other information

- **Disclaimer / Note:** The information contained in this MSDS is based on current knowledge and describes the product only with regard to safety requirements. It does not represent a guarantee of product properties and does not constitute a contractual legal relationship. Users should verify suitability for their own intended application.
- **MSDS Generate Date:** 20-05-2017
- **Revision Date:** 30-12-2024
- **Website:** www.rawpharmabiz.com
- MSDS are based on the manufacturer's provided information.