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School Materials Safety Manual: No. 289 Potassium Phosphate, Dibasic

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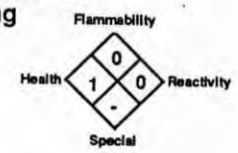
♦SECTION 1 INTRODUCTION

Material Potassium Phosphate, Dibasic, ca 100%
Synonyms Dikalium phosphate; dipotassium hydrogen phosphate; dipotassium orthophosphate; dipotassium phosphate; DKP; potassium monophosphate.
Chemical Formula K_2HPO_4
CAS Number 7758-11-4
DOT Classification *Not* listed as a Hazardous Material for Transportation (49 CFR 172.101)
EPA Classification *Not* listed as a RCRA Hazardous Waste (40 CFR 261.33), a CERCLA Hazardous Substance (40 CFR 302.4), a SARA Extremely Hazardous Substance (40 CFR 355), or a SARA Toxic Chemical (40 CFR 372.65)
OSHA Classification *Not* listed as an Air Contaminant (29 CFR 1910.1000, Subpart Z)
NFPA Hazard Rating Not found
Genium Hazard Rating
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Minimum



HMIS
H 1
F 0
R 0

Description Hygroscopic, white crystals or powder. Prepared by the action of phosphoric acid on potassium carbonate. Used as a laboratory reagent, a buffer in antifreezes, a nutrient for penicillin culturing, a humectant, an ingredient of "instant" fertilizer; in foods as a buffer, sequestrant, and yeast food; and in pharmaceuticals.
Overview Most common area of school use is the biology or chemistry lab, often as an ingredient of buffering solutions. Potassium phosphate, dibasic, presents few hazards if used with care and reasonable precaution.
Manufacturer Always request an up-to-date MSDS from your chemical supplier. That sheet should include the substance's manufacturer and emergency phone numbers. This *Manual's* Resources/Manufacturers Index lists some larger manufacturers and available emergency phone numbers.

♦SECTION 2 USE AND STORAGE DATA

Preliminary Planning Considerations *Plan and provide for safe disposal of all school-generated chemical waste.* Check applicable regulations prior to use. Contact lens use in the laboratory is controversial. In some cases, soft lenses can actually protect eyes from chemicals. In other cases, chemical entrapment is presumed a possible hazard. Particles adhering to contact lens surfaces can cause corneal damage. For safety, always wear safety glasses or goggles. Wear rubber gloves to minimize skin contact. Employees and students should know the location of eyewash and shower facilities near where chemicals are used. Be sure eyewash stations and safety showers are in good working order.
Usage Precautions and Procedure Before using, *read this material's container label* and follow all precautions. Do not smoke in usage or storage areas. Practice good housekeeping procedures. Do not allow chemical residue or dust buildup in lab or work areas. Wear safety glasses or goggles and appropriate protective clothing to work with this substance. Keep this material away from notebooks, textbooks, and personal belongings to avoid transporting chemical residues from the lab/work area. After working with chemical materials, and before eating, drinking, or smoking, always wash hands and face. Remove and launder contaminated clothing before reusing.
Additional Data Potassium phosphate, dibasic, is stable at room temperature under dry conditions. It does not polymerize.
Preferred Storage Location and Methods Storage areas should be cool, dry, and well ventilated, and the containers tightly closed and out of direct sunlight. To separate incompatible chemicals, store by chemical family, not by alphabetical name. Protect all chemical containers from physical damage. Prohibit smoking in chemical storage areas. Purchase amounts equal to only a year's needs, if at all.

♦SECTION 3 SPILL/DISPOSAL PROCEDURES

If Spilled Ventilate spill area. Clean up spilled material promptly and thoroughly. Cleanup personnel should protect against skin or eye contact and inhalation. For liquid (solution) spills, cover with an inert solid absorbent (vermiculite, dry sand, etc.) and scoop into appropriate disposal containers (with a secure lid) for disposal in accordance with existing regulations. Dike the spill area with an inert absorbent material, as needed, to contain the spilled material. For dry spills, carefully collect and scoop the spilled dry material into secure disposal or reclamation containers. Avoid creating airborne dust conditions. Vacuum (with an appropriate filter) or wet mop to minimize dust dispersion.
Disposal of Small Quantities *Handle emptied containers carefully since residues may remain.* Always check regulations before disposal. Investigate recycling or reclamation rather than disposal of untreated waste to a landfill. If this method is not practical, feasible, or in accord with existing regulations, contact your supplier or a licensed disposal contractor for specific treatment/disposal procedures.
Disposal of Larger Amounts Contact your supplier or a licensed disposal company.

Follow all applicable local, state, and Federal regulations for all waste disposal.

♦SECTION 4 HEALTH HAZARDS

Potassium phosphate, dibasic, is relatively nonhazardous. Due to its slightly alkaline pH, it may be slightly irritating to skin and eyes. Although rarely by mouth (since potassium usually induces vomiting or is rapidly excreted), potassium poisoning is serious because it lowers blood calcium levels, causes tetany, and may result in disturbances of the heart's rhythm.

1991-92 ACGIH TLV 8-hr TWA: None reported
1990 NIOSH REL 10-hr TWA: None reported
1990 OSHA PEL 8-hr TWA: None reported
1985-6 Toxicity Data None listed
Carcinogenicity Not listed by the NTP, IARC, or OSHA
Acute Effects None reported
Chronic Effects None reported

♦SECTION 5 FIRST AID PROCEDURES

Eye Contact Promptly flush eyes with plenty of running water

for at least 15 min, including under the eyelids. Get prompt medical attention.
Skin Contact After flushing with large amounts of water, wash exposed areas with soap and water.
Inhalation Remove victim from exposure to fresh air and support breathing as necessary.
Ingestion Get *prompt* medical attention. Never give anything by mouth to an unconscious or convulsing person. Ingestion of large amounts may induce vomiting.

Get proper in-school, paramedic, or community medical attention and support.

♦SECTION 6 FIRE PROCEDURES AND DATA

Fire Hazards Fire may produce toxic fumes. Ignition converts potassium phosphate, dibasic, to pyrophosphate. For major fires, or for fires involving large quantities, firefighters should wear appropriate protective clothing and respirators. A self-contained breathing apparatus (SCBA) is recommended.
Flash Point and Method None reported
Autoignition Temperature None reported
Flammability Limits in Air (vol. %) None reported
Hazardous Decomposition Products When heated to decomposition, it may emit toxic fumes of phosphorus oxides (PO_x).
Extinguishing Media Use water fog, carbon dioxide, dry chemical, alcohol-type foam, or other media appropriate to surrounding fire conditions.

♦SECTION 7 PHYSICAL DATA

Solubility in Water (at 25 °C) Very soluble
pH of Aqueous Solution Slightly alkaline; a 5% solution at 25 °C has a pH of 8.5 to 9.6
Molecular Weight 174.18

References 101, 124, 126,132, 527
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