

## SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

## Safety Data Sheet

Date Effective: September 20, 2017

SPI Catalog # 02530-AB

SPI-Chem™ Potassium Phosphate Monobasic

### Section 1.1: Identification

Chemical Name/Synonyms ..... Potassium phosphate monobasic; Potassium dihydrogen phosphate

Product or Trade Name ..... SPI-Chem™ Potassium Phosphate Monobasic

CAS #'s ..... 7778-77-0

Chemical Formula.....  $\text{KH}_2\text{PO}_4$

Formula Weight ..... 136.09

### Section 1.2: Relevant Uses/Restrictions

Laboratory chemical used in making buffer solutions.

### Section 1.3: Supplier of the Safety Data Sheet

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### Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

### Section 2: Hazard Identification

2.1 Classification of the substance

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

2.2 Label elements: Not classified  
Pictogram: Not applicable.  
Signal Word: Not applicable.  
Hazard statements: Not applicable.  
Precautionary statements: Not applicable.

Hazards not otherwise classified (HNOC): Not applicable.

Hazardous Material Information System USA  
Health ..... 1  
Fire Hazard ..... 0  
Reactivity ..... 0  
Personal Protection .....

NFPA Rating (estimated)  
Health ..... 1  
Flammability ..... 0  
Reactivity ..... 0

**Section 3: Composition**

3.1 Substances:

Potassium Phosphate Monobasic      CAS# 7778-77-0      EC# 231-913-4      100%

3.2 Mixtures: Not applicable.

**Section 4: First Aid Measures**

**4.1 Description of first aid measures:**

**General advice:** Poison information centers in each Stat capital city can provide additional assistance for scheduled poisons. In the US, call 1-800-222-1222 or visit [www.aapcc.org](http://www.aapcc.org).

**Skin contact:** Wash off immediately with sap and plenty of water, removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye contact:** Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

**Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

**4.2 Most important symptoms and effects, both acute and delayed:**

May cause eye/ skin irritation. May cause digestive (gastrointestinal) tract irritation. May cause abdominal discomfort. May cause nausea and vomiting. May cause diarrhea.

**4.3 Indication of any immediate medical attention and special treatment needed:**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders:** Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

## ***Section 5: Fire Fighting Measures***

### **5.1 Extinguishing media:**

**Suitable Extinguishing Media:** The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

**Unsuitable Extinguishing Media:** No information available.

### **5.2 Specific hazards arising from the chemical:**

**Hazardous combustion products:** If involved in a fire, the following can be released: oxides of phosphorus and potassium.

**Specific hazards:** No information available.

### **5.3 Advice for firefighters:**

**Special protective equipment and precautions for firefighters:** As in any fire, wear self-contained breathing apparatus, pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**Specific methods:** No information available.

## ***Section 6: Accidental Release Measures***

### **6.1 Personal precautions:**

Ensure adequate ventilation.  
Use personal protective equipment.  
Avoid contact with skin, eyes, and clothing.  
Avoid dust formation.

### **6.2 Environmental precautions:**

Prevent further leakage or spillage if safe to do so.  
Prevent entry into waterways and sewers.

### **6.3 Methods and material for containment and cleaning up:**

**Methods for containment:** Stop leak if you can do so without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up:** Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

### **6.4 Reference to other sections:**

For disposal, see Section 13.

## ***Section 7: Handling and Storage***

### **7.1 Precautions for safe handling:**

**Protective measures:** Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

**Advice on general hygiene conditions:** Wear personal protective equipment. Avoid contact with skin, eyes, and clothing. Avoid dust formation. Do no ingest. Do not breathe vapors/dust. Handle in accordance with good industrial hygiene and safety practice.

**7.2 Conditions for safe storage, including any incompatibilities:**

**Technical Measures/ Storage Conditions:** Hygroscopic. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

**Incompatible Materials:** Strong bases. Strong oxidizing agents.

**7.3 Specific end uses:**

Laboratory chemical used in making buffer solutions.

This material is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

**Section 8: Exposure Controls and Personal Protection**

**8.1 Control parameter and Personal Protection:**

**Workplace exposure limits:**

**US Occupational Exposure Limits:** Not determined.

Potassium Phosphate Monobasic, CAS # 7778-77-2:

OSHA: none  
NIOSH: none  
ACGIH: none  
AIHA WHEEL: none

**Canada Occupational Exposure Limits:** Not determined.

Potassium Phosphate Monobasic, CAS # 7778-77-0:

Alberta: none  
British Columbia: none  
Ontario: none  
Quebec: none

**Australia and Mexico: Not determined**

Potassium Phosphate Monobasic, CAS# 7778-77-0:

Australia: none  
Mexico: none

**Biological limit values:** No information available.

**8.2 Exposure controls**

**8.2.1 Appropriate engineering controls:**

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**8.2.2 Individual protection measures:**

**Personal Protective Equipment:**

Eye protection: Safety glasses with side-shields.  
Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.

Respiratory protection: Effective dust mask. Wear respirator with dust filter.  
Hygiene measures: Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink, or smoke.

**8.2.3 Environmental exposure controls:** No additional information available.

## ***Section 9: Physical and Chemical Properties***

### **9.1 Information on basic physical and chemical properties**

Appearance: White crystalline powder

Odor: Odorless

Odor threshold: No information available.

pH: 4.1 – 4.5 (pH of a 5% solution)

Melting point/Freezing point: 253 °C (487.4 °F)

Boiling point/Boiling point range: No information available

Flash Point: No information available

Evaporation rate: No information available

Flammability (solid, gas): No information available

Upper/lower flammability or explosive limits: No information available

Vapor Pressure: No information available

Vapor density: No information available

Relative density: No information available

Solubility: in water: 25 g/100 ml @25°C; insoluble in alcohol

Partition coefficient (n-octanol/water): No information available

Auto-ignition temperature: No information available

Decomposition temperature: No information available

Viscosity: No information available

Explosive properties: No information available

Oxidizing Properties: No information available

**9.2 Other information: No further relevant information available.**

## ***Section 10: Stability and Reactivity***

### **10.1 Reactivity:**

Reactive with oxidizing agents.

Reactive with bases.

### **10.2 Chemical Stability:**

Stable under normal conditions.

### 10.3 Possibility of Hazardous Reactions:

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid:

Exposure to moisture.  
Incompatible materials.

### 10.5 Incompatible materials:

Strong bases.  
Strong oxidizing agents.

### 10.6 Hazardous decomposition products:

Phosphorus oxides.  
Oxides of potassium.

### Other Information:

**Corrosivity:** No information available.

**Special Remarks on Corrosivity:** No information available.

## Section 11: Toxicological Information

### Information on the likely routes of exposure:

Principal routes of exposure: Ingestion. Inhalation.

### 11.1 Information on toxicological effects

#### A. Acute toxicity

Potassium Phosphate Monobasic – CAS# 7778-77-0:

LD50 / oral (rat) = No information available. [Value- Acute Tox Oral]

LD50 / oral (mouse) = 1700 mg/kg [Value – Acute Tox Oral]

LD50 / dermal (rabbit) = >4640 mg/kg [Value – Acute Tox Dermal]

LD50 / dermal (rat) = No information available. [Value – Acute Tox Dermal]

LC50 / inhalation (rat) = No information available.

Value – Vapor = No information available.

Value – Gas = No information available.

Value – Dust/Mist = No information available.

LC50 / inhalation (mouse) = No information available.

Value – Vapor = No information available.

Value – Gas = No information available.

Value – Dust/Mist = No information available.

Other LD50 for LC50 information = 4640 mg/kg Oral LDL (Lowest Lethal Dose) (rat)

#### B. Skin corrosion/irritation:

May cause skin irritation.

#### C. Serious eye damage/irritation:

May cause eye irritation.

**D. Respiratory Inhalation:** May cause irritation of respiratory tract.

**E. Ingestion:** Phosphates are toxic because of their ability to sequester calcium, but they are slowly and incompletely absorbed when ingested, and seldom result in system effects. Furthermore, acute potassium poisoning by mouth is rare because large single doses usually induce vomiting, and because in the absence of pre-existing kidney damage, potassium is rapidly excreted. However, such effects have occurred. Symptoms may include gastrointestinal tract irritation (gastroenteritis) with nausea, vomiting, abdominal discomfort, and diarrhea. May affect behavior/ central nervous system (somnolence, listlessness, mental confusion, convulsions), metabolism (anorexia), cardiovascular system (fall of blood pressure, cardiac arrhythmias, heart block), kidneys (polyuria, polydipsia). May cause mineral imbalance and affect osmotic pressure of body fluids.

Other clinical signs and symptoms of oral over-dosage may include: paresthesias of the extremities, weakness or heaviness of the legs, flaccid paralysis, cold skin, gray pallor.

**F. Respiratory or skin sensitization:** No information available.

**G. Germ cell mutagenicity:** No information available.

**H. Carcinogenicity:**

Potassium Phosphate Monobasic, CAS# 7778-77-0

ACGIH Carcinogens: not listed

IARC: not listed

NTP: not listed

OSHA HCS – Carcinogens: not listed

Australia – Prohibited Carcinogenic Substance: not listed

Australia – Notifiable Carcinogenic Substances: not listed

**I. Reproductive toxicity:** No information available.

**J. STOT-single exposure:** No information available.

**K. STOT-repeated exposure:** No information available.

**L. Aspiration hazard:** No information available.

## ***Section 12: Ecological Information***

**12.1 Toxicity:** No data available.

**12.2 Persistence and degradability:** No information available.

**12.3 Bio-accumulative potential:** No information available.

**12.4 Mobility in soil:** No information available.

**12.5 Results of PBT and vPvB assessment:** No information available.

**12.6 Other adverse effects:** No further relevant information available.

## ***Section 13: Disposal Considerations***

**13.1 Waste treatment methods:**

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulations.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recover, or waste disposal.

**RCRA:** Potassium Phosphate Monobasic, CAS# 7778-77-0 is not listed under RCRA.

## ***Section 14: Transport Information***

**DOT:** Not regulated.

**IATA:** Not regulated.

IMDG: Not regulated.

## Section 15: Regulatory Information

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

#### Potassium Phosphate Monobasic, CAS# 7778-77-0:

U.S. TSCA	KOREA KECL	PHILIPPINES(PICCS)	JAPAN ENCS	CHINA	AUSTRALIA(AICS)	EINECS-NO.
Present	Present KE-28633	Present	Present (1)-452	Present [22414]	Present	Present 231-913-4

#### US Regulations: CAS# 7778-77-0

##### California Prop. 65

This product does not contain a chemical requiring a warning under California Prop. 65.

This product is not listed as a Carcinogen, a Developmental Toxin, a Male Reproductive Toxin, or a Female Reproductive Toxin.

#### CERCLA:

CAS# 7778-77-0 is not listed under CERCLA – Hazardous Substances and their Reportable Quantities.

#### SARA 302:

CAS# 7778-77-0 is not listed under Section 302 as an Extremely Hazardous Substance with a TPQ or a RQ.

#### SARA 313:

CAS# 7778-77-0 is not listed under Section 313 – Chemical Category and does not have a reporting de minimis.

#### US TSCA Section 5(a)2:

CAS# 7778-77-0 does not have an SNUR (Significant New Use Rules).

#### US TSCA Section 8(d):

CAS# 7778-77-0 is not listed for Health and Safety Reporting.

#### CANADA:

**WHMIS hazard class:** Not controlled

CAS# 7778-77-0 is an uncontrolled product according to WHMIS classification criteria.

**Canada Controlled Products Regulation:** This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the SDS contains all of the information required by the CPR>

CAS# 7778-77-0 is listed on the Canada DSL.

CAS# 7778-77-0 is not listed on the Canada NDSL.

CAS# 7778-77-0 is not listed on CEPA Schedule I – Toxic Substances.

CAS# 7778-77-0 is not listed on CEPA – 2010 Greenhouse Gases Subject to Mandatory Reporting.

#### EU Classification:

**R-phrases:** Not determined.

**S-phrases:** None

CAS# 7778-77-0: No information as to Concentration Limits.

CAS# 7778-77-0 Indication of Danger: Not dangerous.

This product is classified in accordance with Annex VI to Directive 67/548/EEC.

15.2 Chemical Safety Assessment: Has not been carried out.



Date of Preparation: 20 September 2017.

### **Abbreviations and acronyms**

IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
CMRG: Chemical Manufacturer's Recommended Guidelines  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
AIHA: American Industrial Hygiene Association  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bio-accumulative and Toxicological  
vPvB: very Persistent and very Bio-accumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
STEL: Short Term Exposure Limit  
CEIL: Ceiling

## **Section 16: Other Information**

### **Disclaimer of Liability:**

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.

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