



Material Safety Data Sheet / Safety Data Sheet

Monopotassium Phosphate

Section 1. Chemical Product and Company Identification

Product name	: Monopotassium Phosphate	Manufactured/supplied
Trade name	: Monopotassium Phosphate; Multi-MKP; Hi-M 235.	Haifa Chemicals Ltd. P.O. Box 10809, Haifa Bay 26120, Israel Tel: 972-4-8469961 Fax: 972-4-8469955 Email: industrial@haifachem.co.il
Synonym	: Phosphoric acid, monopotassium salt, MKP.	
Fertilizer formula	: 0-52-34	
Chemical formula	: KH_2PO_4	
Material uses	: Agriculture - fertilizer, component of mixed fertilizers, nutrient supplement. Pharmacopoeia - buffering agent, component of fermentation media. Food processing - buffering agent, mineral nutrient. Industries - metal, textile, paper.	
Emergency telephone number	: 972-4-8469603/4	

Section 2. Hazards identification

Physical state	: Solid. (Crystal powder.)
Emergency overview	: No specific hazard. USE WITH CARE. Follow good industrial hygiene practice. Seal properly after usage. Store under cool dry conditions. Keep out of the reach of children.
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects	
Eyes	: No known significant effects or critical hazards.
Skin	: Practically non-toxic in contact with skin.
Inhalation	: No known significant effects or critical hazards.
Ingestion	: Practically non-toxic if swallowed.
Potential chronic health effects	: Carcinogenic effects: Not classified or listed by IARC, NTP, OSHA, EU and ACGIH. Mutagenic effects: Not applicable. Teratogenic Effects: Not applicable.
Over-exposure signs/symptoms	: Ingestion may cause gastrointestinal irritation, vomiting and diarrhea.
See toxicological information (section 11)	

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Section 3. Composition, Information on Ingredients

	CAS number
United States Monopotassium Phosphate	7778-77-0

This material is classified as not hazardous under OSHA regulations.
See Chapters 8, 11 and 14 for details.

Section 4. First aid measures

Eye contact	: Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.
Skin contact	: Wash with soap and water. Get medical attention if symptoms occur.
Inhalation	: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.
Ingestion	: Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
Notes to physician	: No specific antidote. Medical staff must contact Poison Control Center.

Section 5. Fire fighting measures

Flammability of the product	: Non-flammable.
Products of combustion	: Not combustible. Thermal decomposition products are dependent on temperature conditions. These products are water, oxides of potassium and oxides of phosphorous.
Fire-fighting media and instructions	: Use an extinguishing agent suitable for the surrounding fire.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Special remarks on fire hazards	: Non-combustible.
Special remarks on explosion hazards	: Non-explosive under normal conditions.

Section 6. Accidental release measures




Personal precautions	: Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.
Environmental precautions	: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Methods for cleaning up	: If emergency personnel are unavailable, vacuum or carefully scoop up spilled material and place in an appropriate container for disposal by incineration. Avoid creating dusty conditions and prevent wind dispersal.

Section 7. Handling and storage

Handling	: Wash thoroughly after handling.
Storage	: Keep container tightly closed. Keep container in a cool, well-ventilated area.

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Section 8. Exposure controls, personal protection

- Engineering controls** : Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
- Personal protection**
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Recommended: Safety glasses. 
- Respiratory** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Recommended: Disposable particulate mask 
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
>8 hour/hours (breakthrough time): Disposable vinyl gloves. 
- Skin/Body** : Not applicable.
- Personal protection in case of a large spill** : Safety glasses, goggles or face shield. Impervious gloves. Full suit. Boots. Wear MSHA/NIOSH-approved self-contained breathing apparatus or equivalent and full protective gear.

Product name
United States

Exposure limits

Monopotassium Phosphate

ACGIH TLV (United States).

TWA: 5 mg/m³ 8 hour/hours. Form: Dust

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

- Physical state** : Solid. (Crystal powder.)
- Color** : White.
- Odor** : Odorless.
- Molecular weight** : 136.09 g/mole
- Molecular formula** : KH₂PO₄
- pH** : 4.2 to 4.8 (Conc. (% w/w): 1) [Acidic.]
- Melting/freezing point** : 252.6°C (486.7°F)
- Bulk density** : 0.9 to 1.3 g/cm³
- Vapor pressure** : <0.01 kPa (<0.1 mm Hg) (at 20°C)
- Vapor density** : Non-volatile.
- Volatility** : Non-volatile.
- Odor threshold** : Odorless.
- Evaporation rate** : Non-volatile.
- VOC** : Not an organic solvent.
- Viscosity** : Non-viscous substance.
- LogK_{ow}** : The product is more soluble in water; log(octanol/water) <1.
- Ionicity (in water)** : Amphoteric.
- Solubility** : 25g/100 g of water at 25°C (77°F).

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Section 10. Stability and reactivity

- Stability and reactivity** : The product is stable.
- Conditions of instability** : Temperature >175°C (347°F) - becomes metaphosphate.
- Incompatibility with various substances** : Reactive with acids and alkalis.
- Hazardous decomposition products** : Under fire - oxides of phosphorous, oxides of potassium.
- Hazardous polymerization** : Will not occur.

Section 11. Toxicological information

Toxicity data

<u>Ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Monopotassium Phosphate	LD50	>2000 mg/kg	Oral	Rat
	LD50	>4640 mg/kg	Dermal	Rabbit

Acute Effects

- Eyes** : No known significant effects or critical hazards.
- Skin** : Practically non-toxic in contact with skin.
- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : Practically non-toxic if swallowed.
- Potential chronic health effects** : Carcinogenic effects: Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.
Mutagenic effects: Not applicable.
Teratogenic Effects: Not applicable.
- Special remarks on chronic effects on humans** : Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Section 12. Ecological information

- Biodegradable/OECD** : Not applicable, since inorganic substance. Substances, which have an unfavorable influence on the oxygen balance and can be measured using parameters such as BOD, COD, etc.
- Mobility** : Soluble in water.
- Persistence/degradability** : Not applicable, since inorganic substance.
- Other adverse effects** : Substances, which contribute to eutrophication: Nitrates.

Section 13. Disposal considerations

- Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

Section 14. Transport information

Classification

DOT/ IMDG/ IATA: Not regulated.

Label

Additional information

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Section 15. Regulatory information

United States

U.S. Federal regulations : TSCA 8(b) inventory: Monopotassium Phosphate
 SARA 302/304/311/312 extremely hazardous substances: No products were found.
 SARA 302/304 emergency planning and notification: No products were found.
 SARA 302/304/311/312 hazardous chemicals: No products were found.
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
 Clean Water Act (CWA) 307: No products were found.
 Clean Water Act (CWA) 311: No products were found.
 Clean Air Act (CAA) 112 accidental release prevention: No products were found.
 Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
 Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations : No products were found.

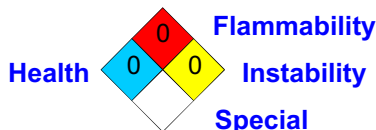
International regulations

International lists : All components listed are listed on major international inventories or exempted from being listed in Australia (AICS), Europe (EINECS/ELINCS), Korea (TCCL), Japan (METI/MOL), Philippines (RA6969).

Section 16. Other information

Hazardous Material Information System (U.S.A.)	Health	0
	Fire hazard	0
	Reactivity	0
	Personal protection	C

National Fire Protection Association (U.S.A.) :



References : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG.

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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.