

# PHARMOCHEM COMPANY

A division of BOMA TRADING LTD

POSTAL ADDRESS: PO BOX 302 555 North Harbour, AUCKLAND 0751, NEW ZEALAND

STREET ADDRESS: 6 CEBEL PLACE, ALBANY, AUCKLAND 0632 NEW ZEALAND

Telephone: (64) 9-415 6888

Fax: (64) 9-415 6999

Email: [pharmochem@boma.co.nz](mailto:pharmochem@boma.co.nz)

## MAGTOXIN

### SAFETY DATA SHEET

Issue Date: January 2014

#### 1. Product & Company Identification

Product Name:	Magtoxin
Proper Shipping Name:	Magnesium Phosphide
Synonyms:	Phosphine
Recommended Use:	Fumigant
Molecular Formula:	Mg <sub>3</sub> P <sub>2</sub>
Manufacturer:	DETIA DEGESCH GMBH Werner-Freyberg-Str. 11 LAUDENBACH GERMANY
Telephone Number:	0049 6201 708 412
Fax Number:	0049 6201 708 402
Emergency Phone No. 24 hrs:	(09) 915 3332
Email:	<a href="mailto:pharmochem@boma.co.nz">pharmochem@boma.co.nz</a>
Fax Number:	(09) 415 6999

## 2. Hazard Identification

HSNO class: 4.3



Hazardous Substance (HSNO):

HSNO Classification & Hazard Statements: 4.3A **Dangerous when wet**

H260 - In contact with water releases flammable gases which may ignite spontaneously.

Prevention Statements: P223 - Keep container tightly closed.

P231 & P232 – Handle under inert gas. Protect from moisture.

P280 – Wear protective gloves and eye/face protection

Response Statements: P335 & P334 – Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

P370 & P378 – In case of fire: Evacuate area.

Storage Statements: P402 & P404 – Store in a dry place. Store in a closed container.

Disposal Statements: P501 – After fumigation, the magnesium oxide dust remaining should be disposed of by burying or by immersing it in water to which a small amount of wetting agent or detergent has to be added.

## 3. Composition / Information on Ingredients

Appearance: Dark charcoal grey pellets

CAS No: 12057 – 74 – 78

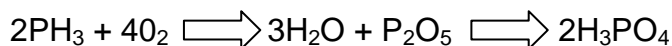
## 4. First Aid Measures

Ingestion:	Call a doctor. Contact National Poisons Centre (0800 POISON). Refer to magnesium phosphide poisoning. Drink or administer one or two glasses of water and induce vomiting by touching back of throat with finger, or if available syrup of ipecae. Do not give anything by mouth if victim is unconscious or not alert.
Inhalation:	Get exposed person to fresh air immediately. Keep warm and make sure person can breathe freely. If breathing has stopped, give artificial respiration by mouth to mouth or other means of resuscitation.
Skin Contact:	Wash skin thoroughly with soap and water.
Eye Contact:	Flush with plenty of water. Seek medical attention.
Note to Physician:	For severe poisoning administration of a cardiac tonic and a drug to stimulate blood circulation is recommended. Under some circumstances blood transfusion or infusion of isotonic solutions of sodium chloride or glucose into the blood system are indicated. Pulmonary oedema and convulsions may occur. Absolute rest is essential.

## 5. Fire Fighting Measures

Specific Hazards:	DO NOT use water on magnesium phosphide.
Extinguishing Media:	Suffocate flames with sand, CO <sub>2</sub> or dry extinguishing chemicals.
Respiratory Protection:	Wear SCBA protection.
Protective Clothing:	Wear gloves when handling Magtoxin.
Usual Fire & Explosion Hazards:	Do not confine partially spent magnesium phosphide gas levels above 1.8% v/v. the gas may ignite spontaneously in the air above this concentration. Open containers of magnesium phosphide fumigants in open air only and never in a flammable atmosphere. Spontaneous ignition may occur if large quantities of Magnesium Phosphide are

piled in contact with liquid water. This is particularly true if quantities of the material are placed in moist or spoiled grain, which can provide partial confinement of the hydrogen phosphide gas liberated by hydrolysis. Fires containing hydrogen phosphide or metal phosphides will produce phosphoric acid.



## 6. Accidental Release Measures

Spill cleanup methods:

- Wear appropriate protective clothing.
- Sweep up spillage and store in gas tight container for further disposal.
- Freshly spilled material which has not been contaminated by water or foreign matter may be replaced into original container.
- Keep away from water.
- Punctured containers may be temporarily repaired using aluminium tape.
- If the age of the spill is unknown or if the product has been contaminated with soil, debris water etc, collect spilled material in small buckets no larger than 5 litres. Do not add more than 0.5 kg to a bucket. If on site wet deactivation is not feasible, transport the uncovered buckets in open vehicles to a suitable area.

## 7. Handling & Storage

Handling:

Wear waterproof gloves when handling Magtoxin. Avoid skin contact. Keep available a gas mask with proper filter against phosphine for emergency cases. Always open in open air. Protect from moisture, open flames or heat. Do not breathe dust or fumes. Do not eat, drink or smoke while using. Wash thoroughly before meals and after work.

Storage:

Do not store with HSNO classes 7. Keep in air tight containers tightly closed and out of reach of children. Store in locked dry, well ventilated area away from heat.

## 8. Exposure Control / Personal Protection

Inhalation Exposure Limits:

COMPONENT	OSHA PEL	ACGIH TLV TWA	ACGIH TLV STEL	IDLH
	(ppm)	(ppm)	(ppm)	(ppm)
Hydrogen Phosphide	0.3	0.3	1.0	200
Ammonia	50	25	35	500
Carbon Dioxide	5000	5000	30,000	50,000

Personal Protection: Wear waterproof gloves. No eye protection required.

## 9. Physical & Chemical Properties

Appearance & Odour: Dark charcoal grey pellets. The gas has an odour described as similar to garlic, carbide or decaying fish.

Solubility in Water: Insoluble

Specific Gravity of Vapours (Air = 1): N/A

Specific Gravity: 2.06

Boiling Point / Melting Point (C): >1000°C

Vapour Pressure: Omm Hg reacts

Flash Point: Magnesium phosphide and Magtoxin are not themselves flammable. However, they react readily with water to produce hydrogen phosphide (phosphine,  $\text{PH}_3$ ) gas, which may ignite spontaneously in air at concentrations above its LEL of 1.8 v/v. UEL of hydrogen phosphide is not known.

## 10. Stability and Reacting

Stability:	Magnesium phosphide is stable to most chemical reactions, except for hydrolysis. Magtoxin will react with most air, liquid water, acids and some other liquids to produce toxic and flammable hydrogen phosphide gas. Magnesium phosphide is more reactive than aluminium phosphide and will liberate hydrogen phosphide more rapidly and more completely at lower temperatures and humidities.
Incompatibility:	Avoid contact with water and oxidising agents.
Corrosion:	Hydrogen phosphide gas may react with certain metals and cause corrosion, especially at higher temperatures and relative humidities. Metals such as copper, brass and other copper alloys and precious metals such as gold and silver are susceptible to corrosion by phosphine. Small electric motors, smoke detectors, brass sprinkler heads, batteries and battery chargers, fork lifts, temperature monitoring systems, switching gears, communication devices, computers, calculators and other electrical equipment may be damaged by this gas. Hydrogen phosphide will also react with certain metallic salts and therefore, sensitive items such as photographic film some inorganic pigments, etc should not be exposed.
Hazardous Polymerization:	Will not occur.

## 11. Toxicological Information

General:	Highly acute toxic substance. The acute oral toxicity of the Magtoxin formulation was found to be 9:1 mg/kg of body weight. Magnesium phosphide is not known to cause chronic poisoning. Dangerous if swallowed or inhaled (absorbed through the skin?)
Ingestion:	Will cause nausea and diarrhoea. Moderate poisoning causes weakness, vomiting, stomach pain, chest pain, diarrhoea and dyspnea (difficulty in breathing).

## 12. Ecotoxicity Information

Nil

## 13. Disposal Consideration

Container Disposal: (Triple) Rinse flush with water. Then crush and bury in sandy landfill or by other procedures provided by local authorities.

Product Disposal:

The Dry Method: Each small sheet on which the powdery residues lie should be folded into a small packet and burned or disposed of in recommended dump sites.

The Wet Method: In this method the powder is mixed into water. To do this, a container is partially filled with water and detergent is added to reduce the surface tension.

Then the powder is slowly mixed into the water by stirring as the dust is being added. Under no circumstances must water be poured on to the residual powders. The TABLET or PELLET residues must be thoroughly mixed with the water. The gas produced must not be inhaled. When bubbles no longer rise, the liquid can be emptied on a rubbish dump. Wear appropriate respiratory protection during wet deactivation of partially spent dust.

## 14. Transport Information

UN No: 2011

HSNO Class: 4

Hazchem Code: 4 WE

Packing Group: 1  
Proper Shipping Name: Magnesium Phosphide Pellets  
Segregation: Do not store with class 7  
Limited Quantities: 1 kg and 100 gms  
Schedule 1 Quantity: Any amount

## 15. NZ Regulatory Information

ERMA Approval Code: HSR 006134  
Group Standard: Fumigants  
HSNO Classification: 4.3A, 6.1A, 6.3B, 6.4A, 6.9A, 9.1A,9.3A  
HSNO Controls: Trigger quantities for this substance by itself in a place

Controlled Substance Licence	-	Required
Approved Handler Test Certificate	-	Required
Hazardous Substance Location	-	1 kg
Location Test Certificate	-	Required > 1 kg
Hazardous Atmosphere Plant	-	Not required
Emergency Plan	-	100 kg (level 3)
Tracking	-	Required
Warning Sign	-	50 kg (solids)
Record of application or discharge	-	Required

## 16. Other Information

Issue Date:

Review Date: