

Date : November 28, 2024

Subject: **RENEWAL OF REGISTRATION OF FUMAPHOS FUMIGATION TABLETS**

To Whom It May Concern,

We; **SHERWOOD MIDDLE EAST PESTICIDE TRADING**; the exclusive distributor of the product **FUMAPHOS FUMIGATION TABLETS** confirms that the renewal of the registration at MOCCA of said product is currently on process under Request Number: AD-28112024-2805387

The new registration certificate will be shared once our application is approved by the Ministry.



Confirmed:

MUSAAB AL FARAH  
CEO  
SHERWOOD MIDDLE EAST PESTICIDE TRADING  
+971 506728877

**ABU DHABI BRANCH:**

📍 E45 Bldg #1, GF, Navy Gate, Tourist Club Area  
📍 P.O.Box 34632, Abu Dhabi, UAE  
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**DUBAI BRANCH:**

📍 Al Quoz Industrial Area-1, Real Estate Int'l. Bldg.  
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☎ +971 4 3300151  
✉ info@sherwoodpst.com



AUD-AD-140-2012 : رقم التسجيل  
17-11-2019 : التاريخ

قطاع المجتمعات المستدامة  
إدارة الشؤون البلدية

شهادة تسجيل مبيد حشري

مبيد افانترامية (حشري/ للمخزن و الصوامع)

تشهد وزارة التغير المناخي والبيئة بأن المبيد بالمواصفات التالية

الاسم التجاري للمبيد : Fumaphos FumigationTablets

بلد التسجيل: الصين

المواد الفعالة وتركيزها : Aluminium Phosphide 560 g/kg

CAS RN : 20859-73-8

صورة المستحضر : Tablet

حجم العبوة : جرام 90,900,1000

بلد (التسجيل/المنشأ) والشركة المنتجة : الصين - Jining High Technology Development Zone

الشركة المحلية المستوردة : شيرود الشرق الاوسط لتجارة المبيدات

تاريخ إصدار الشهادة : 17-11-2019 : صالحة حتى : 15-11-2024

ملاحظات : لا يوجد

وجد مطابقا لنظام تسجيل المبيدات المتبع لديها وقد أعطيت له هذه الشهادة بناء على ذلك.

ملاحظات :

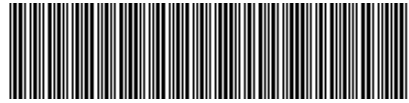
- يعاد تقييم المبيد كل خمس سنوات حتى يتم تجديد هذه الشهادة بعد ذلك.
- تلغى هذه الشهادة في حالة شطب أو سحب المبيد من قبل المنظمات والهيئات العالمية المختصة في تسجيل المبيد أو ثبت للوزارة تدهور المبيد أثناء فترة صلاحيته تحت الظروف البيئية للدولة أو ثبت أن لديه آثار جانبية ضارة

سددت الرسوم 3063.06 درهم

رقم إيصال الشهادة : 190088826155

تاريخ إيصال الشهادة : 26-10-2019

مدير إدارة الشؤون البلدية



AUD-AD-140-2012

UNITED ARAB EMIRATES  
MINISTRY OF CLIMATE CHANGE  
& ENVIRONMENT



الإمارات العربية المتحدة  
وزارة التغير المناخي  
والبيئة



AUD-AD-140-2012

طريقة الاستخدام:

يتكون المنتج من فوسفيد الألومنيوم بنسبة ≤ 56٪  
يزن كل قرص 3 جرام. تتحول الأقراص إلى فوسفيد الألومنيوم عالي السمية وقابل للاحتراق عند تعرضها للحمض أو الهواء الرطب. يمكن استخدام المنتج لمنع ومكافحة آفات البضاعة المخزنة بفعالية.

تقنيات وطرق الاستخدام:

1. الحبوب السائبة: قم بتقسيم المبيد إلى حزم صغيرة في كل حزمة حوالي 25 قرص ثم قم بتوزيعها بشكل متساوي بمسافة 1.5 إلى 2 متر و حوالي 20 إلى 30 سنتيمتر تحت سطح الحبوب. يمكنك استخدام أنبوب مسبار بالنسبة للطبقات الوسطى.
2. أكياس الحبوب المرصوفة: قم بتقسيم المبيد إلى حزم صغيرة في كل حزمة حوالي 25 قرص ثم قم بتوزيعها بشكل متساوي على أسطح أكياس الحبوب المرصوفة والطبقات الوسطى. 3/2 (ثلاثان) بالنسبة للأسطح و 3/1 (ثلاث) بالنسبة للطبقات الوسطى.
3. الكمية المطلوبة من المبيد: كمية أكياس الحبوب المرصوفة + المساحة.
4. يمكن فقط التعامل مع بقايا المبيد بعد سده بإحكام لمدة 5 إلى 7 أيام وتعرضه للهواء لمدة 3 أيام.

الاستخدامات:

المحصول أو النطاق	الآفات	الكمية المطلوبة	طرق الاستخدام
البضائع	الخنائس والسوس الموجودة في البضاعة المخزنة	5 - 10 أقراص / 1000 كجم	التبخير المحكم
الأماكن المفتوحة	آفات متنوعة	1 - 4 أقراص / متر مكعب	التبخير المحكم
الحبوب	الخنائس والسوس وحفارة الحبوب في الحبوب المخزنة	3 - 10 أقراص / 1000 كجم	التبخير المحكم
البذور	الخنائس والسوس في البذور المخزنة	3 - 10 أقراص / 1000 كجم	التبخير المحكم

**الضمان:** تضمن الشركة المنتجة ثبات المواصفات الكيميائية والفيزيائية لهذا المبيد وسلامة عيراته الأصلية في التخزين العادي طيلة فترة صلاحيته تحت ظروف دولة الإمارات العربية المتحدة وحسب طريقة التخزين المشار إليها.

يقوم المصنع والموزع بإغلاق الحاويات الأصلية بختم الضمان لضمان السلامة والتسليم وفقاً لشروط النشرة. يقوم المستهلك بالشراء هو مع معرفة كاملة. إن الشركة مسؤولة عن استبدال المنتج في حالة وجود خلل به.

طريقة الاستخدام:

The product is made of aluminum phosphide with content ≥56%.  
One tablet weights 3g. Tablets will turn into highly toxic and combustible aluminum phosphide when they are exposed to acid or air moisture. The product can be used for preventing and controlling storage pests effectively.

Usage techniques & methods:

1. Bulk Grain: Divide the pesticide into small packages with around 25 tablets each pack, and distribute them evenly with a distance of 1.5 to 2 meters, 20 to 30 centimeters underneath grain surfaces. You may use a probe tube for middle layers.
2. Stack Grain: Divide the pesticide into small packages with around 25 tablets each pack, and distribute them evenly on stack surfaces and middle layers. 2/3 for surfaces and 1/3 for middle layers.
3. Required Amount of Pesticide: Stack amount + Space amount.
4. One can only handle the residue after being sealed for 5 to 7 days, exposed in the air for 3 days.

Uses:

Crop (or scope)	Pests	Rates	Methods of application
Goods	Beetles and Weevils Found in Stored Products	5-10 Tablets / 1000 kg	Sealed fumigation
Space	Various Pests	1-4 Tablets / cubic meter	Sealed fumigation
Grain	Stored Grain Beetles, Weevils and Borer	3-10 Tablets / 1000 kg	Sealed fumigation
Seeds	Stored Seed Beetles and Borer	3-10 Tablets / 1000 kg	Sealed fumigation

**Warranty:** Our company warrants the quality of the pesticides; provided that it is sold in the original package. Our company is not responsible for any incident that may occur due to incorrect storing, using, and mixing or non-compliance with technical instructions. The manufacturer and distributor guarantee the contents of the original container tightly closed and the warranty seal intact according to the terms of the label and leaflet. Consumers buy the product with full knowledge. The Company limits its liability in the sale of this product to the replacement thereof if it finds defective.

P/Date:  
E/Date:  
Batch No.:

تاريخ الإنتاج:  
تاريخ الانتهاء:  
رقم التشغيل:

**المبيد مقيد الاستخدام بشدة**

**ليعبه ولاستخدامه فقط من قبل فنيين مرخصين أو تحت إشرافهم الفني المباشر**

**VERY RESTRICTED USE PESTICIDE**

**Strictly for use by highly trained applicator or usage must be under supervision of a licensed personnel**

## فومافوس أقراص تبخير FUMAPHOS FUMIGATION TABLETS

**مبيد حشري تبخير لمنع ومكافحة آفات المخازن**

**Fumigating Insecticide for preventing and controlling storage pests**

نوع التجهيزة ونسبة المواد الفعالة	المحتويات
النسبة المئوية Percentage	المادة الفعالة Active Ingredient
560 g/kg	ألومنيوم فوسفيد Aluminium Phosphide
440 g/kg	المواد الخاملة Inert Ingredients
1000 g/kg	المجموع Total

**شديد السمية  
Very Toxic**



**لا يستخدم هذا المبيد في المباني السكنية والشقق**

**Not for use in residential buildings & flats**

**المبيد محظور كمبيد صحة عامة**

**Prohibited as public health insecticide**

**رقم تسجيل المبيد بوزارة التغير المناخي والبيئة**

**MOCCA Registration Number  
AUD-AD-140-2012**

الشركة المنتجة  
Manufacturing Company  
Jining High Technology  
Development Zone, Yongfeng  
Chemical Plant, Jining City,  
Shandong Province, China

الموزع المحلي  
Local Distributor  
  
شيوود الشرق الأوسط  
SHERWOOD MIDDLE EAST  
Abu Dhabi, UAE  
Tel.: +971 2 6718812  
Fax: +971 2 6718813

Net Content

المحتوى الصافي

**90g x 10 tubes**

التحذيرات:

1. Avoid damp, fire and other combustible material. Do not store aluminum phosphide with acid or strong oxidants and avoid direct exposure to the sun. Keep the pesticide storage ventilated.
2. The product is highly toxic, hence make sure you wear a gas mask or canister whiling using it.
3. While using it, please follow strictly the usage standards and procedures.
4. Do not face the bottle mouth towards anyone as you open it. While using the product, please immediately discontinue working and rest in fresh air if you suffer from a headache, nausea, chest distress and etc. If severe, one must be sent to hospital immediately.
5. The density of aluminum phosphide can be tested with a professional gas detector or detector tube.
6. Avoid contact with children, pregnant women, and lactating women.
7. Processing with food or fodder is strictly forbidden.

**التسمم والإسعافات الأولية**

**POISONING & FIRST-AID MEASURES**  
1. Accidental eating will cause the symptoms of gastrointestinal tract, and fever, headache, dizziness. Measures such as drink enough warm water, emetic, gastric lavage, sending to a nearby hospital can be adopted.  
2. Absorbing aluminum phosphide will lead to headache, dizziness, nausea, weakness, chest distress and etc. And the patient must be brought out of the site to somewhere cool, ventilated immediately, and take oral atropine, Vitamin B6, drink glucose water; if severe, must be taken to hospital.

**التخزين والشحن**

**STORAGE & SHIPPING**  
The product must be stored in cool, dry, ventilated poison storage, away from food, drinks, grain, fodder, oxidant, acid and handled gently during loading and unloading and avoid spilling, and shipped in dangerous goods transport vehicles in clear days.

1. تجنب الرطوبة والنار وغيرها من المواد القابلة للاحتراق. لا تقم بتخزين فوسفيد الألومنيوم مع المواد الحامضة أو المؤكسدات القوية وتجنب تعرضه لضوء الشمس المباشر. حافظ على تهوية موقع تخزين المبيدات.

2. هذا المنتج سام للغاية ولهذا يجب التأكد من ارتداء قناع الوقاية من الغازات أثناء استخدامه.

3. يرجى التقيد بصرامة بمعايير وإجراءات الاستخدام خلال التعامل مع المبيد.

4. لا توجه فتحة الزجاجاة باتجاه أي شخص عند فتحه. كما يرجى التوقف فوراً عن الاستخدام إذا تم الشعور بأي من أعراض الصداع أو الغثيان أوضيق التنفس وغيرها من الأعراض، وخذ قسطاً من الراحة في الهواء النقي، وإذا اشتدت هذه الأعراض يجب الذهاب فوراً إلى المستشفى.

5. يمكن اختبار كثافة فوسفيد الألومنيوم بواسطة كاشف غاز مهني أو أنبوب الكشف.

6. تجنب ملامسته للأطفال والنساء الحوامل والمرضعات.

7. يمنع منعاً باتاً خلطه بالطعام أو العلف.

طريقة الاستخدام:

يتكون المنتج من فوسفيد الألومنيوم بنسبة ≤ 56٪  
يزن كل قرص 3 جرام. تتحول الأقراص إلى فوسفيد الألومنيوم عالي السمية وقابل للاحتراق عند تعرضها للحامض أو الهواء الرطب. يمكن استخدام المنتج لمنع ومكافحة آفات البضاعة المخزنة بفعالية.

تقنيات وطرق الاستخدام:

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P/Date:  
E/Date:  
Batch No.:

تاريخ الإنتاج:  
تاريخ الانتهاء:  
رقم التشغيل:

**المبيد مقيد الاستخدام بشدة**

**ليعبه ولاستخدامه فقط من قبل فنيين مرخصين أو تحت إشرافهم الفني المباشر**

**VERY RESTRICTED USE PESTICIDE**

**Strictly for use by highly trained applicator or usage must be under supervision of a licensed personnel**

## فومافوس أقراص تبخير FUMAPHOS FUMIGATION TABLETS

**مبيد حشري تبخير لمنع ومكافحة آفات المخازن**

**Fumigating Insecticide for preventing and controlling storage pests**

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440 g/kg	المواد الخاملة Inert Ingredients
1000 g/kg	المجموع Total

**شديد السمية**

**Very Toxic**



**لا يستخدم هذا المبيد في المباني السكنية والشقق**

**Not for use in residential buildings & flats**

**المبيد محظور كمبيد صحة عامة**

**Prohibited as public health insecticide**

**رقم تسجيل المبيد بوزارة التغير المناخي والبيئة**

**MOCCA Registration Number  
AUD-AD-140-2012**

الشركة المنتجة  
Manufacturing Company  
Jining High Technology  
Development Zone, Yongfeng  
Chemical Plant, Jining City,  
Shandong Province, China

الموزع المحلي  
Local Distributor  
  
شيوود الشرق الأوسط  
SHERWOOD MIDDLE EAST  
Abu Dhabi, UAE  
Tel.: +971 2 6718812  
Fax: +971 2 6718813

Net Content

المحتوى الصافي

**1000 g**

**التحذيرات:**

1. Avoid damp, fire and other combustible material. Do not store aluminum phosphide with acid or strong oxidants and avoid direct exposure to the sun. Keep the pesticide storage ventilated.
2. The product is highly toxic, hence make sure you wear a gas mask or canister whiling using it.
3. While using it, please follow strictly the usage standards and procedures.
4. Do not face the bottle mouth towards anyone as you open it. While using the product, please immediately discontinue working and rest in fresh air if you suffer from a headache, nausea, chest distress and etc. If severe, one must be sent to hospital immediately.
5. The density of aluminum phosphide can be tested with a professional gas detector or detector tube.
6. Avoid contact with children, pregnant women, and lactating women.
7. Processing with food or fodder is strictly forbidden.

**التسمم والإسعافات الأولية**

**POISONING & FIRST-AID MEASURES**  
1. Accidental eating will cause the symptoms of gastrointestinal tract, and fever, headache, dizziness. Measures such as drink enough warm water, emetic, gastric lavage, sending to a nearby hospital can be adopted.  
2. Absorbing aluminum phosphide will lead to headache, dizziness, nausea, weakness, chest distress and etc. And the patient must be brought out of the site to somewhere cool, ventilated immediately, and take oral atropine, Vitamin B6, drink glucose water; if severe, must be taken to hospital.

**التخزين والشحن**

**STORAGE & SHIPPING**  
The product must be stored in cool, dry, ventilated poison storage, away from food, drinks, grain, fodder, oxidant, acid and handled gently during loading and unloading and avoid spilling, and shipped in dangerous goods transport vehicles in clear days.

1. تجنب الرطوبة والنار وغيرها من المواد القابلة للاحتراق. لا تقم بتخزين فوسفيد الألومنيوم مع المواد الحامضة أو المؤكسدات القوية وتجنب تعريضه لضوء الشمس المباشر. حافظ على تهوية موقع تخزين المبيدات.

2. هذا المنتج سام للغاية ولهذا يجب التأكد من ارتداء قناع الوقاية من الغازات أثناء استخدامه.

3. يرجى التقيد بصرامة بمعايير وإجراءات الاستخدام خلال التعامل مع المبيد.

4. لا توجه فتحة الزجاجاة باتجاه أي شخص عند فتحه. كما يرجى التوقف فوراً عن الاستخدام إذا تم الشعور بأي من أعراض الصداع أو الغثيان أوضيق التنفس وغيرها من الأعراض، وخذ قسطاً من الراحة في الهواء النقي، وإذا اشتدت هذه الأعراض يجب الذهاب فوراً إلى المستشفى.

5. يمكن اختبار كثافة فوسفيد الألومنيوم بواسطة كاشف غاز مهني أو أنبوب الكشف.

6. تجنب ملامسته للأطفال والنساء الحوامل والمرضعات.

7. يمنع منعاً باتاً خلطه بالطعام أو العلف.

**1. Identification of Product and Supplier**TCA, Abu Dhabi  
United Arab EmiratesTelephone : (+971) 02 671 8812  
E-mail: info@sherwoodpst.com

**Emergency Tel. No.:** 800 424 (Poison and Drug Information Centre)  
**Active Ingredient:** Aluminium Phosphide (metal Phosphide)  
**Trade name:** **Fumaphos Fumigation Tablets**  
**UN number:** 1397  
**CAS number:** 20859-73-8  
**Product use:** For the control of storage pests – use as described on the product label  
**Document created:** January 2018

**2. Hazards Identification**

**Statement of Hazardous Nature:** This product is classified hazardous according to Ministry of Climate Change and Environment

**GHS Classification:**

Substance or mixture which in contact with water emits flammable gas – Category 1  
Acute toxicity – Category 2  
Hazardous to aquatic environment (acute) – Category 1

Pictograms:



Signal Word:

**DANGER**

Hazard Statements:

In contact with water releases flammable gases, which may ignite spontaneously  
Fatal if swallowed  
Fatal if inhaled  
Toxic in contact with skin  
Very toxic to aquatic life

Human Health Hazard Statements:

Contact with water liberates toxic gas  
Contact with acid liberates toxic gas

Precautionary Statements:

Prevention:

Keep away from any possible contact with water, because of violent reaction and possible flash fire  
Wear respiratory protection  
Keep out of reach of children

## SAFETY DATA SHEET

Product: Fumaphos Fumigation Tablet  
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Read label before use  
Do not eat, drink or smoke when using this product  
Wear suitable protective clothing and gloves  
Use only outdoors or in a well-ventilated area

### Response:

In case of fire: Use DRY AGENT for extinction. DO NOT use water.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Brush off loose particles from skin  
IF ON SKIN: Wash with plenty of soap and water

### Storage:

Store in a dry place. Store in a closed container  
Store locked up  
Store in a well-ventilated place. Keep cool.  
Store away from oxidising products

### Other Classifications:

**UAE Pesticide classification:** classified as a severely restricted agricultural pesticide for indoor fumigation of raw agricultural commodities in silos and grains warehouses only. Companies and individuals are restricted from trading or using any of the restricted pesticides except under the supervision of a specialized technician or the advice and guidance of an authorized official. This will be done in coordination with relevant authorities in accordance with its terms of reference.

**Transport Hazard Classification:** 4.3 Substances which, in contact with water, emit flammable gases  
6.1 Toxic substances

### Physical description:

Grey-green granular powder. Presented in solid tablet form.

**Odour:** Strong characteristic odour, reminiscent of garlic, carbide or decaying fish.

### Major health hazards:

Aluminium Phosphide is not absorbed through the skin. The main routes of exposure are through ingestion or inhalation. It is highly toxic via both these routes. The reported rodent oral LD50 is 11.5mg/kg for the active ingredient, with that for the technical compound presumably lower. Aluminium Phosphide ingested orally reacts with water and stomach acids to produce phosphine gas, which may account in a large part for the observed toxicity. Very toxic if swallowed or inhaled.

### Potential Health Effects:

See Section 11 for chronic exposure studies

Symptoms of mild to moderate acute Aluminium Phosphide toxicity include nausea, abdominal pain, and tightness in the chest, excitement, restlessness, agitation and chills. Symptoms of more severe toxicity include diarrhoea, cyanosis, difficulty breathing, pulmonary oedema, respiratory failure, tachycardia (rapid pulse) and hypotension (low blood pressure), dizziness and/or death. Convulsions have been reported in laboratory animals exposed to high concentrations of morphine. Mild exposure is reversible.

### Inhalation

**Short-term exposure:** Significant inhalation exposure to Aluminium Phosphide is considered to be unlikely. However, there is a risk of inhalation of phosphine gas in normal use if no protective measures have been taken, and inhaled dust will liberate phosphine by reacting with body moisture. See symptoms above.

**Skin contact**

**Short-term exposure:** Available data indicated that this product may be irritating to the skin. Note however that the product will react with skin moisture, liberating phosphine gas, which is toxic if inhaled. See symptoms above.

**Eye contact**

**Short-term exposure:** Exposure via the eyes is considered to be unlikely. This product will react with eye moisture, liberating phosphine gas, which is toxic if inhaled. See symptoms above.

**Ingestion**

**Short-term exposure:** Significant oral exposure is considered possible due to the nature of the product as sold. Data shows that this product is very toxic. See symptoms above.

**Carcinogen Status**

**NOHSC:** No significant ingredient is classified as carcinogenic by NOHSC.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

**3. Composition/information on ingredients**

Ingredient	CAS number	Conc. (%)	TWA (mg/m3)	STEL (mg/m3)
Aluminium Phosphide	20859-73-8	57	not set	not set
Inerts	confidential	43	not set	not set
Phosphine gas	7803-51-2		0.42	1.4

Note: Phosphine gas exposures are equivalent to 0.3 and 1ppm for TWA and STEL respectively.  
This is a commercial product whose exact ratio of components may vary slightly.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8-hour working day for a 5-day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit should never be exceeded (due to the rapid action of the substance). Every g of formulated product yields a third of a g of phosphine gas.

**4. First Aid Measures****General Information**

**If a patient has swallowed Aluminium Phosphide he/she may be emitting toxic phosphine gas. First aid and medical staff should take precautions against exposure to phosphine emitted by the patient. Contact the Poison and Drug Information Center (PDIC) at (800 424) if there is suspicion of poisoning, burning or irritation from this product. This SDS should be at hand when calling.**

**Inhalation:** Immediately call **Poison and Drug Information Center (PDIC) at (800 424)**. Urgent hospital treatment will likely be required. Remove source of contamination or move victim to fresh air. **DO NOT** administer mouth-to-mouth resuscitation – use other forms of resuscitation. The preferred type is a balloon type resuscitator. **DO NOT** allow the victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48hrs after exposure.

**Skin contact:** First remove product with dry cloth and then wash gently and thoroughly with water (use non-abrasive soap if necessary) for 10 minutes or until the chemical is removed. If irritation persists, repeat flushing and obtain medical advice. If any unusual symptoms become evident, or if in doubt, contact Poisons Information Centre or a doctor. Change contaminated clothing.



**Eye contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product has been removed, while holding the eyelid(s) open. Obtain medical advice immediately if irritation occurs or unusual symptoms become evident. Take special care if the exposed person is wearing contact lenses.

**Ingestion:** Rinse mouth thoroughly with water and immediately call **Poison and Drug Information Centre (PDIC) at (800 424)**. Urgent hospital treatment will likely be required. DO NOT give mouth-to-mouth resuscitation as the person may be emitting toxic phosphine gas. First aid and medical staff should take precautions against exposure to phosphine emitted by a patient.

## 5. Fire Fighting Measures

**Fire and Explosion Hazards:** There is little risk of an explosion from this product if commercial quantities are involved in a fire. However, if water is used as an extinguishing agent, an explosion will be likely. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Medium:** Carbon dioxide, dry chemical or lastly, dry sand is recommended. Water MUST NOT be allowed to come into contact with the product since this is likely to result in a dangerous reaction. Ensure that no spillage enters drains or water courses.

**Fire Fighting:** When fighting fires involving significant quantities of the product, wear a fully encapsulated splash suit complete with self-contained breathing apparatus.

**Flash Point:** Not detectable  
**Upper Flammability Limit:** No data  
**Lower Flammability Limit:** No data  
**Flammability:** Phosphine concentration above 3% can cause auto-ignition  
**Flammability Class:** No data

## 6. Accidental Release Measures

In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Immediately call the Fire Brigade. Wear full protective, chemically resistant clothing including gauntlets and self-contained breathing apparatus. See Section 8 regarding UAE standard relating to personal protective equipment. Suitable materials for protective clothing include rubber and PVC. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, goggles.

In the event of a minor spill, the above precautions should still be implemented, but respiratory protection may be reduced to a full-face respirator fitted with a type "B" gas cartridge (usually this is designated by a grey band).

Because of the toxicity of this product, special personal care should be taken in any clean-up operation. Sweep up and shovel or collect recoverable product into labelled containers and dispose of promptly. Under no circumstances should any drum, which contains Aluminium Phosphide, be sealed since flammable concentrations of Phosphine are likely to develop, which could lead to a spontaneous ignition and subsequent explosion. If large quantities need to be disposed of, consider wet deactivation as outlined in Section 13 below. To dispose of small quantities (no more than about 5kg Aluminium Phosphide), spread the product on the ground in an open and remote area to be degraded by atmospheric moisture. Do not heap product. If any material enters drains, evacuate the area and advise emergency services. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise any laundry services of the nature of contamination when sending contaminated clothing to be laundered.

## 7. Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimize the quantities kept in work areas. Ensure that measures outlined in Section 8 of this SDS, relating to protective measures, are followed.

**Storage:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this class of poison. Store the product under lock and key in a secure, cool, dry, well-ventilated separate room, building or covered area. Check containers periodically for leaks. Containers should be kept closed to minimize contamination. The relevant authority- Environment Agency (EAD): 800 555 should be contacted about storage obligations

Phosphine is a powerful reducing agent therefore DO NOT store with oxidising agents. Do not store in the same area as water, food or feeds. Do not store in buildings where humans or domestic animals reside. Keep away from sources of ignition and protect from exposure to fire and heat. Separate from incompatible materials as outlined in Section 10.

## 8. Exposure Controls and Personal Protection

The following Standards will provide general advice regarding safety clothing and equipment:

<b>Respiratory equipment:</b>	DIN EN 141, Type B, code colour grey
<b>Protective gloves:</b>	Nitril and Latex gloves tested according to EN- 374-2 and EN374- 3
<b>Industrial clothing:</b>	suitable protective clothing according to BGR 189 (ATL: "Rules for the use of protective clothing")
<b>Industrial eye protection:</b>	wear safety goggles according to EN 166:2001.
<b>Occupational Protective footwear:</b>	BS EN ISO 20346:2014
<b>Exposure Limit:</b>	Exposures to phosphine must not exceed the 8-hour Time-Weighted Average (TWA) of 0.3 ppm or the 15-minute Short-Term Exposure Limit (STEL) of 1.0 ppm phosphine. All persons are covered by these exposure standards.

**Ventilation:** Handle product in an open space or preferably in a well-ventilated area. Ensure compliance with applicable exposure limits.

**Skin Protection:** When opening the container or using the product, wear elbow length PVC gloves.

**Respirator:** Under all normal usage conditions, use respiratory equipment suited to phosphine gas. A full-face mask fitted with a combined dust and gas filter, type "B2P3" cartridge (usually denoted by a grey band) is recommended. A half-face mask, similarly fitted may be used in situations not conflicting label instructions. In the event of an accident, or a spill, use of self-contained breathing apparatus should be considered if large quantities of the product (or phosphine gas) are involved. Safety deluge showers (or running water at a minimum) and eyewash facilities should be provided near to where the product is used.

**Eye protection:** If the respiratory equipment recommended above is used, no further eye protection is required.

## 9. Physical and Chemical Properties

<b>Appearance:</b>	Grey-green granular powder presented in the form of a tablet.
<b>Odour:</b>	Strong characteristic odour similar to garlic, carbide or decaying fish.
<b>Melting Point:</b>	1,000 degrees C
<b>Specific gravity:</b>	2.85
<b>Molecular weight:</b>	57.95
<b>Oxidizing properties:</b>	Strong reducing agent

**Solubility:** Reacts with water yielding phosphine gas

## 10. Stability and Reactivity

**Reactivity:** Will react with water (incl. atmospheric water vapour) liberating toxic, flammable Phosphine gas.

**Conditions to avoid:** Do not store in buildings inhabited by humans or domestic animals. Keep away from water or other liquids. Do not pile up large quantities of the product during fumigation or disposal.

**Incompatibles:** Water and water-based fluids, acids, oxidizing agents.

Phosphine gas may react with certain metals and cause corrosion, especially at elevated temperature and humidity. 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 phosphine gas. Phosphine will also react with certain metallic salts and therefore sensitive items such as photographic film, some inorganic pigments, etc., should not be exposed to the gas.

**Fire decomposition:** Small quantities of carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Oxides of phosphorous and other phosphorous compounds. Water, Aluminium compounds. Nitrogen and nitrogen compounds such as ammonia and nitrogen oxides.

**Polymerisation:** This product will not undergo polymerisation processes.

## 11. Toxicological information

**Toxicity:** A profile for Aluminium Phosphide is available at <http://extoxnet.orst.edu/pips/alumphos.htm>

**Acute Toxicity:** Aluminium Phosphide is not absorbed through the skin. The main routes of exposure are through ingestion or inhalation. It is highly toxic via both these routes. The reported rodent oral LD50 is 11.5mg/kg for the active ingredient, with that for the technical compound presumably lower. Aluminium Phosphide ingested orally reacts with water and stomach acids to produce phosphine gas, which may account in a large part for the observed toxicity. Very toxic if swallowed or inhaled.

Phosphine generated in the gastrointestinal tract is readily absorbed into the bloodstream. It is also readily absorbed through the lung epithelium. The rodent 4-hour inhalation LC50 for phosphine gas is widely reported as 15mg/m<sup>3</sup> (15µg/L, or approximately 10.7ppm). Recent studies indicate that the rodent 4-hour LC50 may exceed 15mg/m<sup>3</sup>. Symptoms of mild to moderate acute Aluminium Phosphide toxicity include nausea, abdominal pain, and tightness in the chest, excitement, restlessness, agitation and chills. Symptoms of more severe toxicity include diarrhoea, cyanosis, difficulty breathing, pulmonary oedema, respiratory failure, tachycardia (rapid pulse) and hypotension (low blood pressure), dizziness and/or death. Mild exposure is reversible.

**Chronic Toxicity:** There is no evidence available that shows cumulative or chronic toxicity symptoms.

**Reproductive effects:** The available evidence for reproductive effects in animals suggest that reproductive effects are not likely in humans under normal conditions.

**Teratogenic Effects:** The available evidence for teratogenic effects in animals suggests that such effects are not likely in humans under normal conditions.

**Mutagenic Effects:** No evidence is available regarding the ability of Aluminium Phosphide or phosphine to cause mutations or increase mutation rate.

**Carcinogenic:** No evidence available that Aluminium Phosphide or phosphine have any carcinogenic effects.

**Organ toxicity:** Acute toxicity resulting from Aluminium Phosphide exposure is apparent almost immediately in the heart and lungs. It may also affect the central nervous system, liver and kidneys.

## 12. Ecological & Environmental Information

**Effects on birds:** The precise oral or inhalation median lethal doses for aluminum Phosphide or phosphine in birds are not known. It is reported that exposure of turkeys and hens to 211 and 224 mg/meters cubed for 74 and 59 minutes respectively resulted in labored breathing, swelling of organs, tonic-clonic convulsions and death. Due to the mechanism of action it is likely that it could similarly affect other bird species at similar levels of exposure. Fortunately, such exposure is not very likely, as phosphine is rapidly dissipated in open air.

**Effects on aquatic species:** The reported acute LC50 is 4.1 µg/L in rainbow trout, indicating very high toxicity. No data were available regarding the specific toxicity of aluminum Phosphide or of phosphine to other fish or aquatic species (e.g. LC50 or EC50 values), but due to the mechanism of action it is likely that it will be very highly toxic to them as well. Such exposure is unlikely; aluminum Phosphide will rapidly react to form phosphine gas, which is somewhat soluble in water, but will mainly bubble up into the air.

**Effects on other animals (non-target species):** No data available.

**Breakdown of chemical in Soil and Groundwater:** Aluminum Phosphide will breakdown spontaneously in the presence of water to form a gaseous product, and so it is non-persistent and non-mobile in the soil environment, and poses no risk to groundwater. The Phosphine gas will also break down to form phosphates.

**Breakdown of chemical in Surface Water:** It is highly unlikely that aluminum Phosphide or phosphine will be found in surface waters.

**Breakdown of chemical in Vegetation:** No data available.

## 13. Disposal Considerations

**Wet deactivation:** If available, prepare a 2% solution of low-foam detergent solution (as this will better wet the hydrophobic surface of the Aluminium Phosphide particles); otherwise use available water. A large container should be filled with this solution (or water) to within a few centimetres of the top rim of the container. The Aluminium Phosphide should then be added slowly to the solution and stirred so as to thoroughly wet the Aluminium Phosphide. This should be done in the open air, and respiratory protection should be worn if necessary. No more than one part Aluminium Phosphide should be added to 3 parts of solution. Allow the mixture to stand, with occasional stirring, for about 48 hours. The resultant slurry will then be safe for disposal. Dispose of the deactivated material, with or without preliminary decanting, at a landfill or other suitable site approved by local authorities.

An alternative method is to place the product into a suitable empty vessel, and then, add water from a suitable distance (this may be achieved with a hose). Again, allow to stand for a few days and dispose as indicated above.

**Disposal:** The product label/leaflet will give general advice regarding disposal of small quantities, as well as on disposal of empty containers. Contact concerned government agencies for proper disposal of hazardous materials. (TADWEER- The Centre for Waste Management Abu Dhabi : 800-555), (Dubai Municipality Waste Management Department : 800-900), (Emirate of Sharjah- Bee'ah: 800-BEEAH)

**14. Transport Information****Land transport (ADR/RID)**

**UN number:** UN1397  
**UN proper shipping name:** ALUMINIUM PHOSPHIDE  
**Transport hazard class(es):** 4.3+6.1  
**Packing group:** I  
**Hazard label:** 4.3+6.1  
**Classification code:** WT2  
**Special Provisions:** 507  
**Limited quantity:** 0  
**Transport category:** 1  
**Tunnel restriction code:** E

**Other applicable information (land transport)**

E0. Mailing: not allowed. Warning board: starting 20 kg net weight

**Inland waterways transport**

**UN number:** UN1397  
**UN proper shipping name:** ALUMINIUM PHOSPHIDE  
**Transport hazard class(es):** 4.3+6.1  
**Packing group:** I  
**Hazard label:** 4.3+6.1  
**Classification code:** WT2  
**Special Provisions:** 507 802  
**Limited quantity:** 0

**Other applicable information (inland waterways transport)**

EO

**Marine transport**

**UN number:** UN1397  
**UN proper shipping name:** ALUMINIUM PHOSPHIDE  
**Transport hazard class(es):** 4.3+6.1  
**Packing group:** I  
**Hazard label:** 4.3+6.1  
**Special Provisions:** -  
**Limited quantity:** 0  
**EmS:** F-G, S-N

**Other applicable information (marine transport)**

EO

**Air transport**

**UN/ID number:** UN1397  
**UN proper shipping name:** ALUMINIUM PHOSPHIDE  
**Transport hazard class(es):** 4.3+6.1  
**Packing group:** I  
**Hazard label:** 4.3+6.1  
**Limited quantity Passenger:** Forbidden

**IATA-packing instructions - Passenger:** Forbidden

**IATA-max. quantity - Passenger:** Forbidden

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IATA-packing instructions - Cargo: 487  
IATA-max. quantity - Cargo: 15 kg  
**Other applicable information (air transport)**

E0  
Forbidden  
Cargo Aircraft only

**Environmental hazards**

Dangerous for the environment: yes

**15. Regulatory Information**

**MOCCA Registration Number : AUD-AD-140-2012**

**16. Acronyms**

CAS Number	Chemical Abstracts Number
Hazchem Number	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighter
NOHSC	National Occupational Health and Safety Commission
NTP	National Toxicology Program
UN Number	United Nations Number

**17. Other Information**

Please read all labels carefully before using this product.

This SDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely use and handle the product in the workplace. Each user should read this SDS and consider the information in the context on how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact the company.

Our responsibility for products sold is subject to our standard terms and conditions which is made known to our customer and a copy available upon request.

**END SDS**