

# COOPERS ENVIRONMENTAL SCIENCE (PTY) LTD

## Material Safety Data Sheet

### 1. IDENTIFICATION OF THE SUBSTANCE / MISTURE AND OF THE COMPANY

1.1 Product Name: QUICKPHOS BAGS\*, TABLETS, PELLETS

1.2 Use: Stored Grain Fumigation

#### 1.3 Company Name:

Coopers Environmental Science (Pty) Ltd.

Reg. No. 2000/023667/07

P.O. Box 14374

BREDELL 1623

SOUTH AFRICA

TEL: (011) 979-4246/7

#### 1.4 Emergency Contact Numbers:

Tygerberg Poison Centre: +2721 931 6129

Griffon Poison Information Centre - 082 446 8946

### 2. HAZARD IDENTIFICATION



Signal Word: Danger

#### Hazard Classifications

Substances and Mixtures which in contact with water, emit flammable gases –

#### Category 1

Acute Toxicity - Oral - Category 2

Acute Toxicity - Dermal - Category 3

Acute Toxicity - Inhalation - Category 1

Serious Eye Damage/Irritation - Category 1

Acute Hazard to the Aquatic Environment - Category 1

#### Hazard Statements

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

H300 Fatal if swallowed.

H311 Toxic in contact with skin.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

H400 Very toxic to aquatic life.

#### Prevention Precautionary Statements

P102 Keep out of reach of children.

P103 Read label before use.

P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire.

- P231+P232 Handle under inert gas. Protect from moisture.  
P260 Do not breathe dust, fume, gas, mist, vapours or spray  
P264 Wash hands, face and all exposed skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective clothing, gloves, eye/face protection and suitable respirator.  
P284 Wear respiratory protection.

#### **Response Precautionary Statements**

- P101 If medical advice is needed, have product container or label at hand.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position Comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove Contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTRE or doctor/physician.  
P312 Call a POISON CENTRE or doctor/physician if you feel unwell.  
P330 Rinse mouth.  
P335+P334 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.  
P361 Remove/Take off immediately all contaminated clothing.  
P363 Wash contaminated clothing before reuse.  
P391 Collect spillage.

#### **Storage Precautionary Statements**

- P402+P404 Store in a dry place. Store in a closed container.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

#### **Disposal Precautionary Statement**

- P501 Dispose of contents/container in accordance with local, regional, national and international regulations.  
Poison Schedule: S7. Dangerous Poison

### **3. COMPOSITION INFORMATION ON INGREDIENTS:**

<b>CAS NO</b>	<b>HAZARDOUS COMPONENT</b>	<b>CONCENTRATION</b>	<b>GHS CLASSIFICATION</b>
20859-73-8	Aluminium Phosphide	56 - 57%	T+, F, N R-phrase(s): 15/29 26/28 32 21 50

#### 4. FIRST AID MEASURES:

**Inhalation:** In case of headache, dizziness, feeling of constriction, difficult breathing and nausea immediately leave the danger zone and seek fresh air; consult a physician; inhale products for acute treatment following exposition of smoke gas (eg a beclometasone (Ventolair®) spray, a dexamethasone (Auxiloson®) spray).

**Eye contact:** Remove rests of preparation with fluff-free cloth; rinse with plenty of water and apply eye drops only after no more powdery residues are visible.

**Skin contact:** Remove any rests by brushing; only then use water for cleansing  
Special aids required for First Aid measures:  
Have methyl prednisolon (application by physician) and products for acute treatment following exposition of smoke gas (eg a beclometasone (Ventolair®) spray, a dexamethasone (Auxiloson®) spray) available

**There is no specific antidote.**

Treat symptomatically and supportively as and when required. Gastric lavage could be contraindicated due to probable mucosal damage.

#### 5. FIRE FIGHTING MEASURES:

##### 5.1 Fire and explosion hazard:

**Flash point:** > 62 OC  
The product itself does not burn.

**Extinguishing agents:** Extinguish fires in the vicinity with dry sand or powder and then with CO<sub>2</sub>.

##### 5.2 Firefighting:

###### Suitable extinguishing media:

Carbon dioxide, sand, lime, soda ash or dry powder. DO NOT use water.

##### 5.3 Specific hazards:

###### Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

##### 5.4 Further information:

Fires containing phosphine may produce phosphoric acid and phosphorous oxide.

##### 5.5 Personal protective equipment:

Fire may produce irritating or poisonous vapours, mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

## **6. ACCIDENTAL RELEASE MEASURES:**

### **6.1 Personal precautions:**

Use personal protective clothing and a self-contained breathing apparatus (SCBA). Avoid contact with the skin, eyes and clothing. Remove contaminated clothes, undergarments and shoes immediately.

### **6.2 Environmental precautions:**

Do not discharge into the subsoil/soil.

Do not discharge into drains/surface waters/groundwater.

Notify authorities if the product enters sewers and public waters.

### **6.3 Methods for cleaning up or taking up:**

Prevent dispersion and clean up the remainder carefully. Do not use water for cleaning, the area should be kept secure and aerated until checked for zero gas concentration using appropriate gas sampling equipment. Remove as hazardous waste, according to national and local regulations.

## **7. HANDLING AND STORAGE:**

### **7.1 Handling:**

Operator should not be alone during handling and application of product. Remove sources of naked flame or sparks. Toxic if swallowed and by skin contact, and harmful if inhaled. Avoid contact with eyes and skin and inhalation of fumes. Avoid exposure to spray. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high-water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

### **7.2 Storage:**

Store in its original container in isolated, dry, cool (avoid temperatures above 32 °C) and well-ventilated area. Keep under lock and key out of reach of unauthorised persons, children and animals. Store away from incompatible substances. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

## **8. EXPOSURE CONTROL AND PERSONAL PROTECTION:**

Work place exposure limit is for phosphine is 0.14mg/m<sup>3</sup> long term exposure (8 hour time weighted average) and 0.28mg/m<sup>3</sup> short term exposure (15 minutes reference period)

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.

### **8.1 Personal protective equipment**

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

**Respiratory protection:**

Suitable respiratory protection such as a full-face mask respirator with appropriate gas filters.

**Hand protection:**

Suitable chemical resistant safety gloves also with prolonged, direct contact  
E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other.

**Body protection:**

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit.

**9. PHYSICAL AND CHEMICAL PROPERTIES:**

<b>Appearance:</b>	Formulations include dark grey to yellow pellets, tablets and white bags.
<b>Colour:</b>	Greyish yellowish
<b>Odour:</b>	Garlic or carbide-like
<b>pH-value (20 /C):</b>	N/A
<b>Flash point in °C:</b>	N/A Highly flammable
<b>Inflammability:</b>	In contact with water / humidity, acids an extremely flammable gas is developed
<b>Selfignition:</b>	Contains additives to prevent self-ignition
<b>Lower explosion limit:</b>	Hydrogen phosphide 1.8 1a) (1.79-1.89)
<b>Upper explosion limit:</b>	N.V.
<b>Vapour pressure:</b>	Hydrogen phosphide 34.6 bar (20/C)9)
<b>Relative density:</b>	N/A
<b>Density:</b>	2.3g/m <sup>3</sup>
<b>Specific gravity:</b>	2.85 (25°C)
<b>Melting point:</b>	>1000 °C

**10. STABILITY AND REACTIVITY:**

Stable at normal temperature and pressure. Reacts violently with water to generate toxic and or flammable gas.

**10.1 Conditions to avoid**

Avoid extremes of temperatures. Do not use in wet weather as contact with water will liberate phosphine gas.

**10.2 Materials to avoid**

Avoid contact with water and dilute strong acids. Phosphine is considered to be corrosive to copper, copper alloys, silver and gold.

## 11. TOXICOLOGICAL INFORMATION:

<b>LD50/oral/rat/male/female:</b>	8.7 mg/kg
<b>LC50/by inhalation/rat/male/female:</b>	0.015 mg/l / 4 h
<b>LD50/dermal/rat/male/female:</b>	500 - 1000 mg/kg
<b>Skin irritant:</b>	Not classified as a skin irritant.
<b>Sensitization/guinea pig:</b>	Contains no known skin sensitizers.
<b>Eye irritant:</b>	Contact with water liberates very toxic highly flammable gas which is irritating to the eyes.

## 12. ECOLOGICAL INFORMATION:

### ECOTOXICOLOGY:

<b>Fish:</b>	Moderate toxic.
<b>LC50 (96 hours):</b>	9.7 x 10 <sup>-3</sup> ppm <sub>6</sub> )
<b>Daphnia:</b>	
<b>LC50 (48 hours):</b>	0.2 mg/l <sub>7</sub> )
<b>Ecotoxicity:</b>	phosphine decomposes in the atmosphere within 5 - 28 hours <sub>8</sub> )

## 13. DISPOSAL CONSIDERATIONS:

### 13.1 Disposal of waste product:

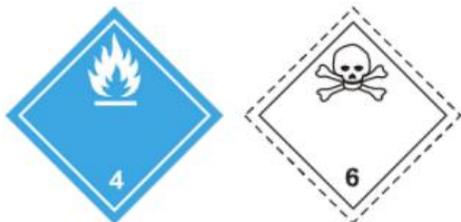
This product is dangerous for the environment. Do not discharge to sewers or drains.  
This product must be disposed of according to local regulations.

### 13.2 Disposal of waste containers:

Handle and store empty containers as if they still contain the product. Flasks must never be rinsed or cleaned but collected in a secure place, and left in the open air for several days. Large numbers of empty containers should be moved to a deep open pit until any phosphine evolution is complete. The containers should then be disposed in accordance with local regulations.

## 14. TRANSPORT INFORMATION:

<b>UN NUMBER:</b>	1397
<b>Road Transport ADR/IRD:</b>	
<b>Class:</b>	4.3
<b>Packing group:</b>	I
<b>Shipping name:</b>	Environmentally hazardous substance, N.O.S. (insecticide – aluminum phosphide)
<b>Maritime Transport IMDG/IMO:</b>	
<b>Class:</b>	4.3
<b>Packing group:</b>	I
<b>Shipping name:</b>	Environmentally hazardous substance, N.O.S. (insecticide – aluminum phosphide) Dangerous when wet 4 = main risk Toxic = subsidiary risk Very toxic to aquatic organisms
<b>Labels:</b>	4.3+6.1



**Hazardous Identification Number:**



## **15. REGULATORY INFORMATION:**

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

### **15.2. Chemical Safety Assessment**

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

## **16. OTHER INFORMATION:**

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.