

ALUPHOS 560 TABLETS

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ALUPHOS 560 TABLETS
Other identifier: Aluminium Phosphide
Recommended use: Fumigant
Restrictions on use: Agriculture - Farming + Grain storage
Supplier: Universal Crop Protection (Pty) Ltd.
Co. Reg. No.: 1983/008184/07
 PO Box 801,
 Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:

24 Hr Transport / Spill emergency no:

Envirosure. +27 31 205 4918
 (Hazcall24) +27 86 044 4411
 (Client: Villa Crop Protection)
 Griffon Poison Information Centre +27 82 446 8946
 (Client: Villa Crop Protection)

Poisoning Emergency telephone numbers:

Griffon Poison Information Centre +27 82 446 8946
 Poisons Information Centre +27 861 555 777

Villa Crop Protection Emergency number:

National Safety, Health and Environmental Manager:
 +27 63 698 0668

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
Physical		
Emit flammable gases	Water-react. 1	H260
Health		
Oral	Acute Tox. 2	H300
Dermal	Acute Tox. 3	H311
Eye	Eye Dam. 1	H318
Inhalation	Acute Tox. 1	H330
Environment		
Aquatic acute	Aquatic acute 1	H400

The most important adverse effects:

Physicochemical effects: In contact with water releases flammable gases, which may ignite spontaneously.

Human health effects: Fatal if swallowed. Causes serious eye damage. Fatal if inhaled.

Label elements:



Signal word: Danger.

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.

Precautionary statements:

P223: Do not allow contact with water.
 P232: Protect from moisture.
 P260: Do not breathe mist/spray.
 P264: Wash hands and face thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.
 P273: Avoid release into the environment.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P284: In case of inadequate ventilation, wear respiratory protection.
 P301+P310: IF SWALLOWED: Immediately call a POISON CENTER.
 P302+P335+P334: IF ON SKIN: Brush off loose particles from skin and immerse in cool water.
 P302/352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305/351/338: 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.
 P312: Call a poison centre/doctor if you feel unwell.
 P330: Rinse mouth.
 P361/364: Take off immediately all contaminated clothing and wash before reuse.
 P391: Collect spillage.
 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.

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P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Special labelling of certain mixtures: None known.

Other hazards: None known.

Toxicity:

Classification according to GHS: Cat. 1

Classification according to WHO: Cat. Ib

Classification according to GPIC (Active): Cat. FM

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.

Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Aluminium Phosphide TC (85% min.)	20859-73-8	65.9 %	Water-react. 1 (H260) Acute Tox. 2 (H300) Acute Tox. 3 (H311) Acute Tox. 1 (H330) Aquatic Acute 1 (H400)
Ammonium carbamate	1111-78-0	<30 %	Acute Tox. 4 (H302) Eye Dam. 1 (H318)

4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. Immediately consult a doctor.

Inhalation: If vapours or mists have been inhaled, move victim to fresh air and remove source of contamination if safe to do so. If patient is unconscious, place in semi-prone recovery position or otherwise maintain the airway. If the patient is conscious, but have difficulty breathing, treat in a seated position and give oxygen if available. Otherwise, allow the patient to recline with the legs slightly elevated. Apply artificial respiration and/or closed heart massage if needed. Obtain medical attention immediately. Do not give anything by mouth to an unconscious person. The patient should be kept under observation. **Obtain medical attention immediately.**

Skin: Brush or shake material off clothes and shoes in a well-ventilated area. Allow clothes to aerate in a ventilated area prior to washing them. Wash skin gently and thoroughly with cold water and non-abrasive soap. Obtain medical attention if irritation persists.

Eyes: Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove

contact lenses after 5 minutes and continue rinsing.

Obtain medical attention immediately.

Ingestion: Do not give anything by mouth to an unconscious person. Do not apply mouth-to-mouth resuscitation if patient swallowed TABLETS. Do not give milk, fats, or saline emetics by mouth. If the patient is conscious, induce vomiting by touching back of throat with finger. After 20 minutes (or after vomiting), administer activated charcoal (50g in water by mouth) if available. Keep under medical supervision. **Obtain medical attention immediately.**

Anticipated acute effects: Fatal if swallowed. Toxic in contact with skin. Causes serious eye damage. Fatal if inhaled.

Anticipated delayed effects: None known.

Most important symptoms/effects: None known.

Advice to physician: Aluminium phosphide in ALUPHOS 560 TABLETS reacts with moisture from the air, water, acids and many other liquids to release hydrogen phosphide (phosphine) gas. In the case of inhalation, give oxygen by mask if required; perform base line chest X-ray and examine chest. Treat shock conventionally. The patient should be observed for 48-72 hours, as onset of pulmonary oedema may be delayed. In severe respiratory distress, give methylprednisolone 30 mg/kg, or equivalent, intramuscularly, preferably within 4hrs of exposure. If pulmonary oedema occurs, treat by positive and expiratory pressure ventilation. Antibiotics should only be given if secondary infection is present. Treat any fits conventionally; give general supportive care with particular attention to fluid balance. In the case of ingestion, consider tracheal intubation and gastric lavage with 2% sodium bicarbonate solution. Activated charcoal medicinal liquid paraffin may limit absorption of phosphine and may be administered by mouth or stomach tube. Monitor and support vital functions, particularly hepatic and renal function. Treat shock conventionally.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish fires with carbon dioxide, dry powder or sand. Ventilate the area to reduce the concentration below flammable limits (1.8% v/v).

Unsuitable Extinguishing Media: DO NOT USE WATER ON METAL PHOSPHIDE FIRES.

Specific hazards: Aluminium phosphide is not flammable. However, it reacts readily with water to produce hydrogen phosphide (phosphine, PH₃) gas, which may ignite spontaneously at air concentrations above the LEL of 1.8% v/v.

Special Fire Fighting Procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do

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not scatter the burning material. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

Personal protective equipment: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid contact with skin and eyes. Do not breathe in spray or fumes. Ventilate area of spill or leak, especially in contained areas.

Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.

Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified to be very toxic to aquatic organisms. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water/Environmental Affairs.

Methods and Materials for Containment: Contain spilled product.

Methods and Materials for Clean-up: Contain spilled product by picking up with an electrically protected vacuum cleaner. Do not create a powder cloud by using a brush or compressed air. Do not use water at anytime during clean up. Wear gloves when handling aluminium phosphide. Damaged aluminium flasks should be transferred to a sound dry metal container and immediately sealed and properly labelled as aluminium phosphide. Follow all label instructions for disposal of residual material and/or metal containers. Keep spectators away.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: Fatal if swallowed. Avoid contact with eyes. Ensure adequate ventilation during handling and use. Do not handle broken containers without protective equipment. Immediately clean up spills that occur during handling. Keep containers tightly closed when not in use. In the case of contact with the product, refer to First Aid Measures – Section 4.

General occupational hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.

Storage: Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled

container tightly closed, in an isolated, dry, cool and well-ventilated area. Avoid excessive heat. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Refer to product label.

Packaging material: Packed in metal flasks & containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Components	Exposure limits	Type of exposure limit	Source
Silicates: Talc (containing no asbestos), reparable dust	2 mg/m ³ (resp.)	8-hour TWA	OSHA PEL

Engineering Controls: It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

Personal Protective Equipment:

Respiratory Protection: Wear an organic cartridge respirator suitable for protection from mists/ vapours of pesticides if inhalation is likely to occur.

Hand Protection: Wear chemically resistant gloves when handling this product.

Eye Protection: Wear a face shield when handling the concentrate and when applying the product. The use of safety goggles is recommended if a face shield is not used.

Skin and Body Protection: Wear protective clothing e.g. coveralls to prevent skin contact with this mixture.

Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this mixture; the employer should provide an eyewash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid pellet (Brownish).

Odour: Garlic-like.

pH (1% aqueous dilution): 8.92 +/- 0.07.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

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Flash Point: Not applicable.
Flammability: Not Flammable (but forms flammable gas when in contact with water).
Upper/lower explosion limits: Not explosive.
Vapour Pressure (mm Hg): Not applicable.
Relative Vapour Density: Not available.
Density: 1.1491 + 0.0015 g/ml.
Solubility: Insoluble reacts with water to liberate phosphine; Phosphine gas is slightly soluble.
n-octanol/water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

10. STABILITY AND REACTIVITY

Chemical Stability: ALUPHOS 560 TABLETS is stable for 2 years at ambient temperature and pressure, under normal storage and handling conditions, if containers are tightly sealed. Avoid storage under extreme temperatures and conditions. Store below 50°C, preferably below 30°C, and not for prolonged periods in direct sunlight.
 ALUPHOS 560 TABLETS is stable for most chemical reactions under normal conditions, except for hydrolysis. It will react with moist air, liquid water, acids and some other liquids to produce toxic and flammable hydrogen phosphide gas. Hydrogen phosphide may react vigorously with oxygen and other oxidizing agents.
Reactivity: None known.
Possibility of Hazardous Reactions: None known.
Conditions to Avoid: Avoid contact with water and oxidizing agents.
Incompatible Materials: None known.
Hazardous Decomposition Products: Formation of phosphine gas when in contact with moisture in air, water or some liquids.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS.
Oral LD₅₀ (24 h) rat > 13 mg/kg.
Dermal LD₅₀ (24 h) rat > 455 mg/kg.
Inhalation LC₅₀ (4 h) rat 0.02 mg/l.
Skin Irritation/Corrosion: Not available.
Eye Irritation: Causes serious eye damage.
Skin Sensitization: Not available.
Respiratory Sensitization: Not available.
Reproductive cell mutagenicity: Not available.
Carcinogenicity: Not available.
Reproductive toxicity: Not available.
Specific target organ toxicity – single exposure: Not available.
Specific target organ toxicity – repeated exposure: Not available.
Aspiration hazard: Not available
Chronic Effects: Not available.

POTENTIAL ADVERSE EFFECTS:

Inhalation: Not available.
Skin contact: Skin: Not available.
Eye contact: Due to inerts, this product can cause serious damage to the eyes. **DO NOT WEAR CONTACT LENSES.** Avoid contact with eyes.
Ingestion: Not available.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic organisms, may cause adverse effects in the aquatic environment.

ECOTOXICITY DATA: Active ingredient (Phosphine).

Fish:

LC₅₀ (96 h) Rainbow trout 9.7 x 10⁻³ ppm

Daphnia:

EC₅₀ (24 h) 0.2 mg/l

Plants:

In stored products, phosphine undergoes oxidation to phosphoric acid.

ENVIRONMENTAL EFFECTS:

Persistence and degradability: DT₅₀ in air 5h, degraded by photoreactions; in dark, DT₅₀ c. 28 h. Rapidly degraded in soil.

Bio-accumulative Potential: Not determined.

Mobility in soil: Not determined.

Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATIONS

Waste: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. The product may be taken to a registered waste disposal site or incineration plant. Where possible, recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Container: Emptied flasks/containers retain vapour and product residues. Observe all labelled safeguards until container/bottle is destroyed.

Do not re-use the empty container/flask for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN Number: 1397
Road Transport ADR/IRD:
 Class: 4.3
 Packaging group: I

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UN Proper Shipping Name: **Aluminium phosphide,**
 toxic
(Aluminium phosphide 560 g/kg)

Maritime Transport IMDG/IMO:

Class: 4.3

Packaging group: I

UN Proper Shipping Name: **Aluminium phosphide,**
 toxic

(Aluminium phosphide 560 g/kg)

Marine Pollutant (Y/N): Yes

Air transport IATA/ICAO:

Class: 4.3

Packaging group: I

UN Proper Shipping Name: **Aluminium phosphide,**
 toxic

(Aluminium phosphide 560g/kg)

Special/Environmental Precautions: None known.

Transport in bulk (according to MARPOL 73/78, Annex II and the IBC code): Not available.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:

OHSA 1993 Regulations for Hazardous Chemical Substances.

Relevant information regarding restrictions: None.

EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)

Other national regulations: None.

Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Packaging: Tablets packed in 1 kg or 5 kg metal flasks / containers, labelled according to South African regulations and guidelines.

Additional H-statement (s) (formulants).

H302: Harmful if swallowed.

Disclaimer: The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.