

WEEVILPHOS 560 PELLETS

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: WEEVILPHOS 560 PELLETS
Other identifier: Aluminium Phosphide
Recommended use: Fumigant
Restrictions on use: Agriculture - Farming + Grain Storage

Supplier: Villa Crop Protection (Pty) Ltd
Co. Reg. No.: 1992/002474/07
 PO Box 10413,
 Aston Manor, 1630, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
 (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

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-reactive 1	H260
Health		
Oral	Acute Toxicity 2	H300
Dermal	Acute Toxicity 3	H311
Eye	Eye Damage 1	H318
Inhalation	Acute Toxicity 1	H330
Environment		
Aquatic acute	Aquatic acute 1	H400

The most important adverse effects:

Physiochemical effects:

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

Human health effects:

Fatal if swallowed or inhaled.
 Toxic in contact with skin.
 Causes serious eye damage.

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 dusts, vapours, fumes or gases.
 P264+P265: Wash hands thoroughly after handling. Do not touch eyes.
 P270: Do not eat, drink or smoke when using this product.
 P271: Use only outdoors or in a well-ventilated area.
 P273: Avoid release into the environment.
 P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
 P284: In case of inadequate ventilation, wear respiratory protection.
 P301+P310: IF SWALLOWED: Immediately call a POISON CENTER.
 P302+P335+P334+P316: IF ON SKIN: Brush off loose particles from skin and immerse in cool water. Get emergency medical help immediately.
 P304+P340+P316: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately.
 P305+P354+P338+P317: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.
 P330: Rinse mouth.
 P361+P364: 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.
 P501: Dispose of content/container to suitable landfill in accordance with local regulations.

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Other hazards: None known.

Toxicity:

Classification according to GHS: Category 1

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.

Composition:

Chemical Name	CAS	Conc. (m/m %)	Classification EC 1272/2008
Aluminium Phosphide	20859-73-8	56 %	Water-reactive 1 (H260) Acute Toxicity 2 (H300) Acute Toxicity 3 (H311) Acute Toxicity 1 (H330) Aquatic Acute 1 (H400)
Ammonium carbamate	1111-78-0	<30 %	Acute Toxicity 4 (H302) Eye Damage 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 product has 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. 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 immediately.

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.

Ingestion: Obtain medical attention immediately or call a poison control centre for treatment advice. Do not give anything by mouth to an unconscious person. Do not apply mouth-to-mouth resuscitation if patient swallowed pellets. 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.

Anticipated acute effects:

Fatal if swallowed or inhaled. Toxic in contact with skin. Causes serious eye damage.

Anticipated delayed effects: None known.

Most important symptoms/effects: None known.

Advice to physician: Aluminium phosphide in WEEVILPHOS 560 PELLETS 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 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 protective gear.

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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid contact with skin and eyes. Do not breathe in dust, gases, fumes or vapours. 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 any time during clean up.** Wear gloves when handling aluminium phosphide. Do not place spilled material back in original container. Do not re-use spilled material. 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. Do not flush spilled material or washings into drains or waterways. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: Fatal if swallowed or inhaled. Avoid contact with skin and 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), respirable 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: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours.

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: Employees must wear appropriate protective impervious clothing, boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.

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.

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Boiling Point: Not available.
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: The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.

Reactivity: None known.

Possibility of Hazardous Reactions: WEEVILPHOS 560 PELLETS 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.

Conditions to Avoid: Avoid contact with water and oxidizing agents. Protect from moisture.

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) > 13 mg/kg (rat).

Dermal LD₅₀ (24 h) > 600 mg/kg (rat).

Inhalation LC₅₀ (4 h) > 0.007 mg/L (rat).

Skin Irritation/Corrosion: Not classified.

Eye Irritation: Causes serious eye damage.

Skin Sensitization: Not classified.

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: Not classified.

Aspiration hazard: Not classified.

Chronic Effects: Not available.

POTENTIAL ADVERSE EFFECTS:

Inhalation: Fatal if inhaled.

Skin contact: Toxic in contact with skin.

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

Ingestion: Fatal if swallowed.

12. ECOLOGICAL INFORMATION

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

ECOTOXICITY DATA:

Fish:

Aluminium phosphide

LC ₅₀ (96 h)	Rainbow trout	9.65 mg/L
	Zebrafish	48 mg/L

Phosphine

LC ₅₀ (96 h)	Rainbow trout	0.0097 mg/L
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Daphnia:

Phosphine

EC ₅₀ (24 h)		0.2 mg/L
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Bees:

Aluminium phosphide

Oral LD ₅₀ (48 h)		0.24 µg/L
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Worms:

Aluminium phosphide

LC ₅₀ (14 d)	<i>Eisenia fetida</i>	664 mg/kg soil
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ENVIRONMENTAL EFFECTS:

Phosphine

Plants: In stored products, phosphine undergoes oxidation to phosphoric acid.

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

Bio-accumulative Potential: Readily absorbed through the lungs, widely distributed and excreted as hypophosphite and phosphite in urine, and as unchanged phosphine through the lungs.

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.

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Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.

Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Once all the pesticide formulation is decanted from the container, leave the cap off and place in a secure spot for at least 24 hours to aerate. Thereafter, the container should be submerged in a large bucket of cold water and left standing for one hour. Remove the container, shake out all the water and allow it to dry in the sun. Puncture or flatten the container and dispose of via an approved recycler. Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: 1397
Road Transport ADR/IRD:
 Class: 4.3 + 6.1
 Packaging group: I
 UN Proper Shipping Name: ALUMINIUM PHOSPHIDE
 (Aluminium phosphide 560 g/kg)
Maritime Transport IMDG/IMO:
 Class: 4.3 + 6.1
 Packaging group: I
 UN Proper Shipping Name: ALUMINIUM PHOSPHIDE
 (Aluminium phosphide 560 g/kg)
Marine Pollutant (Y/N): Yes
Air transport IATA/ICAO:
 Class: 4.3 + 6.1
 Packaging group: I
 UN Proper Shipping Name: ALUMINIUM PHOSPHIDE
 (Aluminium phosphide 560 g/kg)
Special/Environmental Precautions: None known.
Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:
 OSHA 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: Pellets packed in 1 kg to 5 kg metal flasks / containers, labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H302: Harmful if swallowed.
IATA: International Air Transport Association.
IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization.
LD₅₀ value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.
OEL/RL: Occupational exposure limit-recommended limit.
PEL: Permissible Exposure Limits.
TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.
ST/STEL: Short-term exposure limits.
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.