

1 Identification

Product Name: TITAN ALUMINIUM PHOSPHIDE TABLETS

Other Means of Identification: Mixture

Recommended Use of the Chemical and Restriction on Use: Agricultural insecticide

Details of Manufacturer or Importer:

Titan Ag Pty Ltd
Suite 15 / 16 Princes Street
Newport NSW 2106

Phone Number: 02 9999 6655

Emergency telephone number: 02 9999 6655

2 Hazard(s) Identification

Hazardous Nature:

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition).



flame

Water-react. 1

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



skull and crossbones

Acute Toxicity (Oral) 2

H300 Fatal if swallowed.

Acute Toxicity (Dermal) 3

H311 Toxic in contact with skin.

Acute Toxicity (Inhalation) 1

H330 Fatal if inhaled.



environment

Aquatic Acute 1

H400 Very toxic to aquatic life.

Aquatic Chronic 1

H410 Very toxic to aquatic life with long lasting effects.

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.

H330 Fatal if inhaled.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P223 Do not allow contact with water.

P231+P232 Handle and store contents under inert gas. Protect from moisture.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

Safety Data Sheet

according to WHS Regulations

Printing date 23.01.2019

Revision: 23.01.2019

Product Name: TITAN ALUMINIUM PHOSPHIDE TABLETS

(Contd. of page 1)

- P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to 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/ doctor.
 P330 Rinse mouth.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312 Call a POISON CENTER/doctor if you feel unwell.
 P320 Specific treatment is urgent (see on this label).
 P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
 P335+P334 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
 P370+P378 In case of fire: Use to extinguish: CO₂, sand, extinguishing powder.
 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 contents/container in accordance with local/regional/national regulations.

Additional Information

AUH029 Contact with water liberates toxic gas.

AUH032 Contact with acids liberates very toxic gas.

3 Composition and Information on Ingredients

Chemical Characterization: Mixtures**Description:** Mixture of substances listed below with nonhazardous additions.**Hazardous Components:**

CAS: 20859-73-8	Aluminium phosphide	33%
	Water-react. 1, H260; Acute Toxicity (Oral) 2, H300; Acute Toxicity (Dermal) 3, H311; Acute Toxicity (Inhalation) 1, H330; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	

4 First Aid Measures

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. DO NOT give direct mouth-to-mouth resuscitation. To protect the rescuer use a on-one mask or other respiratory device. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

Skin Contact:

In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and soap. Seek medical attention if symptoms occur.

Eye Contact:

In case of eye contact, hold eyelids open and rinse with water for at least 15 minutes. Seek medical attention if symptoms occur.

Ingestion:

If swallowed, do not induce vomiting. Immediately rinse mouth with water. Give a glass of water. Give activated charcoal if directed. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Symptoms Caused by Exposure:

Inhalation: Fatal if inhaled. May cause chest tightness, restlessness, agitation, chills, cyanosis, breathing difficulties, pulmonary oedema, tachycardia, hypotension, respiratory failure and possibly death.

Skin Contact: Toxic in contact with skin. May cause skin irritation.

Eye Contact: May cause eye irritation.

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 23.01.2019

Revision: 23.01.2019

Product Name: TITAN ALUMINIUM PHOSPHIDE TABLETS

(Contd. of page 2)

Ingestion: Fatal if swallowed. This product reacts with water and stomach acid to produce phosphine gas. May cause nausea, diarrhoea, abdominal pain and symptoms similar to inhalation.

5 Fire Fighting Measures

Suitable Extinguishing Media:

Dry agent only. Water must NOT be allowed to come into contact with this product. Contact with water liberates toxic and flammable phosphine gas.

Specific Hazards Arising from the Chemical:

Hazardous combustion products include phosphine gas, aluminium oxides, phosphorous oxides and other phosphorous compounds.

Contact with water releases flammable gases which may ignite spontaneously.

Containers close to fire should be removed if safe to do so.

Special Protective Equipment and Precautions for Fire Fighters:

When fighting a major fire wear self-contained breathing apparatus and protective equipment.

6 Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear approved dust/particulate filter respirator and full protective clothing. Evacuate all non-essential personnel from affected area. Do not breathe dust. Ensure adequate ventilation. Avoid generating dust.

Environmental Precautions:

In the event of a major spill, prevent spillage from entering drains or water courses.

Methods and Materials for Containment and Cleaning Up:

Pick up large pieces and clean up the small pieces and dusts with a vacuum or by sweeping. Avoid generating dust. Contact with water or acids liberates very toxic and flammable phosphine gas.

To decontaminate spill areas ensure adequate ventilation and wash with large amounts of soapy water or dilute acid until bubbling ceases. Collect wash solution and dispose of according to local requirements.

7 Handling and Storage

Precautions for Safe Handling:

Use of safe work practices are recommended to avoid eye or skin contact and inhalation of dust.

Open containers only in well ventilated areas away from ignition sources. Product may react with moisture in air during storage, causing a build up of toxic and flammable phosphine gas. Consequently there is a risk of ignition when a container is opened.

Food, beverages and tobacco products should not be stored or consumed where this material is in use.

Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

Conditions for Safe Storage:

Store in a cool, dry and well ventilated area. Keep container tightly closed when not in use. Protect from excessive humidity, heat, sparks, open flames and other sources of ignition. Keep away from water, acids and bases. Contact with water or acids liberates very toxic and flammable phosphine gas. Store in a locked area well away from dwellings, animals, animal feed, seeds and fertilisers. Do not store or transport in vehicle cabins.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 23.01.2019

Revision: 23.01.2019

Product Name: TITAN ALUMINIUM PHOSPHIDE TABLETS

(Contd. of page 3)

8 Exposure Controls and Personal Protection

Exposure Standards:**CAS: 20859-73-8 Aluminium phosphide**NES TWA: 2 mg/m³
as AlWES TWA: 2 mg/m³
as Al**CAS: 7803-51-2 Phosphine**NES STEL: 1.4 mg/m³, 1 ppm
TWA: 0.42 mg/m³, 0.3 ppmWES STEL: 1.4 mg/m³, 1 ppm
TWA: 0.42 mg/m³, 0.3 ppm

(Phosphine gas is liberated by this product on contact with moisture)

Engineering Controls:

Maintain air concentration below occupational exposure standards, providing adequate ventilation. Use explosion-proof ventilating equipment.

Respiratory Protection:

Use an approved vapour respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapour, inadequate ventilation, development of respiratory tract irritation) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin Protection:

Elbow-length PVC gloves. See Australian/New Zealand Standard AS/NZS 2161 for more information.

When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered.

Occupational protective clothing (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard AS/NZS 4501 for more information.

Eye and Face Protection:

Eye and face protectors for protection against splashing materials or liquids. See Australian/New Zealand Standard AS/NZS 1337 for more information.

9 Physical and Chemical Properties

Appearance:**Form:**

Solid tablets.

Colour:

White

Odour:

Product releases phosphine gas which has a carbide-like odour.

Odour Threshold:

No information available

pH-Value:

No information available

Melting point/freezing point:

<0 °C

Initial Boiling Point/Boiling Range:

No information available

Flash Point:

No information available

Flammability:

Contact with water liberates extremely flammable gases.

Auto-ignition Temperature:

No information available

Decomposition Temperature:

No information available

Explosion Limits:**Lower:**

No information available

(Contd. on page 5)

Safety Data Sheet

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Printing date 23.01.2019

Revision: 23.01.2019

Product Name: TITAN ALUMINIUM PHOSPHIDE TABLETS

(Contd. of page 4)

Upper:	No information available
Vapour Pressure:	No information available
Relative Density:	~1.1
Vapour Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	Reacts vigorously with water.
Partition Coefficient (n-octanol/water):	No information available

10 Stability and Reactivity

Possibility of Hazardous Reactions:

In contact with water releases flammable gases which may ignite spontaneously.
Contact with water or acids liberates very toxic and flammable phosphine gas.

Chemical Stability: Stable at ambient temperature and under normal conditions of use.

Conditions to Avoid: Excessive humidity, heat, sparks, open flames and other sources of ignition.

Incompatible Materials: Water, acids and bases.

Hazardous Decomposition Products:

Phosphine gas, aluminium oxides, phosphorous oxides and other phosphorous compounds.

11 Toxicological Information

Toxicity:**LD₅₀/LC₅₀ Values Relevant for Classification:****CAS: 20859-73-8 Aluminium phosphide**Oral LD₅₀ 0.4 mg/kg (rat)**Acute Health Effects****Inhalation:**

Fatal if inhaled. May cause chest tightness, restlessness, agitation, chills, cyanosis, breathing difficulties, pulmonary oedema, tachycardia, hypotension, respiratory failure and possibly death.

Skin: Toxic in contact with skin. May cause skin irritation.

Eye: May cause eye irritation.

Ingestion:

Fatal if swallowed. This product reacts with water and stomach acid to produce phosphine gas. May cause nausea, diarrhoea, abdominal pain and symptoms similar to inhalation.

Skin Corrosion / Irritation: Based on classification principles, the classification criteria are not met.

Serious Eye Damage / Irritation: Based on classification principles, the classification criteria are not met.

Respiratory or Skin Sensitisation: Based on classification principles, the classification criteria are not met.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

Carcinogenicity: This product does NOT contain any IARC listed chemicals.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Single Exposure:

Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

Based on classification principles, the classification criteria are not met.

Aspiration Hazard: Based on classification principles, the classification criteria are not met.

(Contd. on page 6)

Safety Data Sheet

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Product Name: TITAN ALUMINIUM PHOSPHIDE TABLETS

(Contd. of page 5)

Chronic Health Effects: Causes damage to the central nervous system, liver and kidneys.**Existing Conditions Aggravated by Exposure:** No information available**Additional toxicological information:** No information available

12 Ecological Information

Ecotoxicity: Contact with water liberates very toxic and flammable phosphine gas.**Aquatic toxicity:**

Very Toxic to aquatic life with long lasting effects.

CAS: 7803-51-2 PhosphineLC₅₀ 0.041 mg/l (rainbow trout)**Persistence and Degradability:** This product will rapidly degrade.**Bioaccumulative Potential:** Bioaccumulation is not expected to occur.**Mobility in Soil:** No further relevant information available.**Other adverse effects:** No further relevant information available.

13 Disposal Considerations

Disposal Methods and Containers: Dispose according to applicable local and state government regulations.**Special Precautions for Landfill or Incineration:**

Please consult your state Land Waste Management Authority for more information.

14 Transport Information

UN Number	UN1397
ADG, IMDG, IATA	
Proper Shipping Name	ALUMINIUM PHOSPHIDE, ENVIRONMENTALLY HAZARDOUS
ADG	ALUMINIUM PHOSPHIDE, MARINE POLLUTANT
IMDG	ALUMINIUM PHOSPHIDE
IATA	
Dangerous Goods Class	
ADG Class:	4.3 Substances which, in contact with water, emit flammable gases.
Subsidiary Risk:	6.1 Toxic Substances.
Packing Group:	I
ADG, IMDG, IATA	
Marine pollutant:	Yes Symbol (fish and tree)
EMS Number:	F-G,S-N
Hazchem Code:	4WE
Limited Quantities:	0
Packagings & IBCs - Packing Instruction:	P403

(Contd. on page 7)

Safety Data Sheet

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Product Name: TITAN ALUMINIUM PHOSPHIDE TABLETS

(Contd. of page 6)

15 Regulatory Information

Australian Inventory of Chemical Substances:

CAS: 20859-73-8 | Aluminium phosphide

Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule:

Poisons Schedule: 7

16 Other Information

Date of Preparation or Last Revision: 23.01.2019**Prepared by:** MSDS.COM.AU Pty Ltdwww.msds.com.au

Abbreviations and acronyms:

ADG: Australian Dangerous Goods

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC₅₀: Lethal concentration, 50 percentLD₅₀: Lethal dose, 50 percent

IARC: International Agency for Research on Cancer

STEL: Short Term Exposure Limit

TWA: Time Weighted Average

NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)

Water-react. 1: Substances and mixtures, which in contact with water, emit flammable gases. Hazard Category 1

Acute Toxicity (Oral) 2: Acute toxicity – Category 2

Acute Toxicity (Dermal) 3: Acute toxicity – Category 3

Acute Toxicity (Inhalation) 1: Acute toxicity – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment, short-term (Acute). Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment, long-term (Chronic). Category 1

Disclaimer

This SDS is prepared in accord with the Safe Work Australia document “Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals - February 2016”

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