United Phosphorus, Inc.

Safety Data Sheet

Preparation Date 02-Mar-2016 **Revision date** 20-May-2016 **Revision Number:** 2

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier

Product Description: Weevil-Cide Tablets, Weeil-Cide Pellets

Other means of identification

Item#: 12U-142CAN
UN-No UN1397
Synonyms Not Available
Registration number(s) PMRA 29455 (Tablets) and 30013 (Pellets)

Recommended use of the chemical and restrictions on use

Recommended use Restricted Use Pesticide. The use of this product is STRICTLY PROHIBITED within 500 meters of residential areas such as single family homes (except farm house), multi-family residential properties and nursing homes. schools, daycare facilities, hospitals, assisted living facilities, in-patient clinics, prisons, athletic fields, golf courses, cemeteries, and parks and recreational areas.

Uses advised against Activties contrary to label recomendation labeled activities

Details of the Supplier of the Safety Data Sheet

Supplier Address
United Phosphorus Inc.
630 Freedom Business Center
Suite 402
King of Prussia, PA 19406

Emergency telephone number

Company Phone Number 1-800-438-6071
Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 2
Acute toxicity - Inhalation (Gases)	Category 1
Acute toxicity - Inhalation (Vapors)	Category 1

Label elements

EMERGENCY OVERVIEW

DANGER

hazard statements
Fatal if inhaled
FATAL IF SWALLOWED
Harmful in contact with skin

appearance light gray To Translucent White

Physical state solid Pellet/tablet

Odor Sulfourous Pure phosphine gas is odorless but a garlic odor might be detected due to a contaminant. Since odor may not be detected under certain circumstances, the absence of a garlic odor does not mean that phosphine gas is absent.

Precautionary Statements - Prevention
Do not eat, drink or smoke when using this product
Do not handle until all safety precautions have been read and understood
Protect from moisture
Wear eye/face protection
Wear protective gloves
Wash hands thoroughly after handling

IF INHALED
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Refer to manufacturer/supplier for information on recovery/recycling

Hazards Not Otherwise Classified (HNOC)
OTHER INFORMATION
• Very toxic to aquatic life
• May be harmful in contact with skin

3. Composition/information on Ingredients

Chemical name	CAS-No	Weight %	Trade secret
Aluminum phosphide	20859-73-8	60	

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Immediate medical attention is required.

Skin contact Brush or shake off material. Wash contaminated skin with soapy water in a well ventilated area.
Do not leave contaminated clothing in occupied or confined areas such as car or van.
Brush or shake off clothes. Allow clothes to aerate prior to laundering. Remove and wash

contaminated clothing before re-use.

Inhalation Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Keep warm and make sure person can breathe freely.

Ingestion Call a physician or poison control center immediately. Do not induce vomiting without medical advice. Vomiting may off-gas and release phosphine, which could pose a risk of secondary contamination. Never give anything by mouth to an unconscious person.

Protection of First-aiders Use personal protective equipment.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects Headache. Dizziness. Nausea. Difficulty in breathing. Diarrhea.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Aluminim phosphide- This product reacts with moisture from air, water, acids and many other liquids to release hydrogen phosphide (phosphine) gas. Symptoms of severe poisoning may occur within a few hours to several days. Phosphine poisoning may result in; pulmonary edema, liver elevated serum GOT, LDH and alkaline phosphatase, reduced prothrombin, hemmorhage and jaundice, and kidney hematuria and anauria. Pathology is characterized by hypoxia.
Mild inhalation exposure causes malaise, ringing of ears, fatigue, nausea, and pressure in the chest, which is relieved by removal to fresh air. Moderate poisoning causes weakness, vomiting, and pain just above the stomach, chest pain, diarrhea and dyspnea. Symptoms of severe poisoning may occur within a few hours to several days, resulting in pulmonary edema and may lead to dizziness, cyanosis, unconsciousness and death.
In sufficient quantity, phosphine affects the liver, kidneys, lungs, nervous system, and circulatory system. Inhalation can cause lung edema, and hyperemia. Ingestion can cause lung and brain symptoms but damage to the viscera is more common. Phosphine poisoning may result in (1) pulmonary edema, (2) liver elevated serum GOT, LDH and alkaline phosphatase, reduced prothrombin, hemorrhage and jaundice and (3) kidney hematuria and anuria. Pathology is characterized by hypoxia. Frequent exposure to subacute concentrations over a period of days or weeks may cause poisoning. Treatment is symptomatic.

5. Fire-fighting measures

Suitable extinguishing media
Carbon dioxide (CO2). Water. Foam.
Aluminum phosphide is not flammable; however, it reacts with water to produce hydrogen phosphide (phosphine) gas which may ignite spontaneously at concentrations above the LE of 1.8% v/v.

Unsuitable extinguishing media Water.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating gases and vapours.
Metal phosphides: Hydrogen phosphide (phosphine)/air mixtures at concentrations above the lower flammable limit may ignite spontaneously. Ignition of high concentrations of hydrogen phosphide can produce a very energetic reaction. Explosions can occur under these conditions and may cause personal injury. NEVER allow build up of hydrogen phosphide to exceed explosive concentrations. Containers of metal phosphides should be opened in open air and never in a flammable atmosphere. Do not confine spent or partially spent dust as slow release of hydrogen phosphide may result in formation of an explosive atmosphere. Spontaneous ignition may occur if large quantities of aluminum phosphide are piled in contact with liquid water. Fires containing metal phosphides or hydrogen phosphide will produce phosphoric acid by the following reaction: 2PH3 + 4O2 = H2O + P2O5 = 2H3PO4.

Hazardous combustion products Phosphine gas.

Explosion data
Protective equipment and precautions for firefighters

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with skin and eyes. An accidental spill/release of material may produce high levels of gas. A NIOSH/MSHA approved full face gas mask with phosphine cartridge of SCBA must be employed during wet deactivation of partially spent material. Wear protective gloves and clothing. Wear protective gloves/protective clothing and eye/face protection.

Environmental Precautions

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinenet environmental permits.

Methods and material for containment and cleaning up

Methods for Clean-Up Damaged aluminum foil pouches should be transferred to a sound dry metal cotainer and immediately seal and properly label as aluminum phosphide. Do not use water at any time during clean-up. Damaged aluminum flasks should be transferred to a sound dry metal container and immediately seal and properly label as aluminum phosphide.

7. Handling and Storage

Precautions for safe handling

Handling Use of this product is STRICTLY PROHIBITED on single and multifamily residential properties and nursing homes, schools (except athletic fields) daycare facilities and hospitals. Keep out of reach of children. Do not eat, drink or smoke when using this product. Remove all sources of ignition. Wear personal protective equipment. It is recommended that the gas-tight, aluminum flask be opened in open air or near a fan, which exhausts outside immediately. Never open in a flammable atmosphere as the product may, although rare, flash. When opening, point container away from the face and body. These precautions will reduce the applicators potential for exposure to hydrogen phosphide (phosphine) gas. Do not expose product to atmospheric moisture any longer than is necessary.

Conditions for safe storage, including any incompatibilities

Storage Keep out of the reach of children. Protect from moisture. Store in original container.

incompatible materials Water. Hydrogen phosphide may react with certain metals (gold, silver, brass, other precious metals and their alloys) and cause corrosion especially at high temperatures and relative humdities. Small electric detectors, brass sprinkler heads, batteries and battery chargers, forklifts, temperature monitoring systems, electrical switch gear, communication devices, computers, calculators, watches and other electronic equipments shoul dbe protected or removed before fumigation.

8. Exposure Controls/Personal Protection

Exposure guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering controls Ensure adequate ventilation, especially in confined areas. Measurements of the concentration Aluminium phosphide in the air must be provided and used to verify the concentration in the atmosphere.

Personal protective equipment

Eye/Face Protection Use eye protection to avoid eye contact. Where there is potential for eye contact have eye

	flushing equipment available. Safety glasses with side-shields.
Skin protection	Wear protective gloves/clothing. Socks and footwear.
Respiratory protection	A NIOSH/MESA approved full face mask with approved canister for phosphine may be employed for concentrations up to 15 ppm. At concentrations above that level, or when concentrations are unknown, NIOSH/MESA approved SCBA or equivalent must be worn.

General hygiene considerations
Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	solid Pellet/tablet		
appearance	light gray To Translucent White	**Odor**	Sulfourous Pure phosphine gas is odorless but a garlic odor might be detected due to a contaminant. Since odor may not be detected under certain circumstances, the absence of a garlic odor does not mean that phosphine gas is absent.
color	No information available		

Property	**VALUES**	**Remarks/ • Method**
pH	No information available	
Melting point/freezing point	No information available	
Boiling Point/Range	No information available	
Flash Point		
Evaporation Rate	No information available	
flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	No information available	
Vapor Density	No information available	
Specific gravity	2.85	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	
decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

OTHER INFORMATION

Softening point	No information available
molecular weight	No information available
VOC Content	No information available
density	No information available
Bulk density	No information available

10. Stability and Reactivity

Reactivity
Water reactive

Chemical stability
Stable under recommended storage conditions.
Reacts with water to form hydrogen phosphide (phosphine) gas.
Possibility of hazardous reactions
None under normal processing.
Hazardous polymerization Hazardous polymerisation does not occur.

Conditions to avoid
Exposure to moisture. Protect from water.
incompatible materials
Water. Hydrogen phosphide may react with certain metals (gold, silver, brass, other precious metals and their alloys) and cause corrosion especially at high temperatures and relative humdities. Small electric detectors, brass sprinkler heads, batteries and battery chargers, forklifts, temperature monitoring systems, electrical switch gear, communication devices, computers, calculators, watches and other electronic equipments shoul dbe protected or removed before fumigation.
Hazardous decomposition products
Phosphine gas.

11. Toxicological Information

Information on Likely Routes of Exposure

Inhalation	Respiratory, gastrointestinal, and nervous system symptoms were noted in workers exposed to mean phosphine concentrations less than 10 ppm. Fatal if inhaled.
Eye contact	Irritating to eyes.
Skin contact	Reacts, PH3 generated is slightly soluble. Harmful in contact with skin.
Ingestion	MAY BE FATAL IF SWALLOWED.
Component Information	Aluminum phosphide - Acute oral LD50 = 11.5 mg/kg Acute dermal LD50 = >5,000 mg/kg (1 hr exposure) Sensitization = Not a sensitizer Hydrogen phosphide (phosphine) gas - Inhalation = LC50 190 ppm (1 hour)

Information on Toxicological Effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

sensitization	No information available.
Mutagenic effects	No information available.
Carcinogenicity	Aluminum phosphide: Chronic effects = Not expected to produce target organ effects Mutagenicity = No data Carcinogenicity = Not classified as a carcinogen by IARC, OSHA, or NTP Reproductive and Developmental Effects = Not expected to produce reproductive or developmental effects. Hydrogen phosphide (phosphine) gas - Chronic effects = In a 2-year study, rats were exposed to 48-90 g/m^3 of feed and no overt systemic toxicity was noted. Mutagenicity = Increased frequency of cells with structural chromosomal aberrations noted in an invitro cytogenetic assay with Chinese hamster ovary cells. Carcinogenicity = Not classified as a carcinogen by IARC, OSHA or NTP Reproductive and developmental effects = Not expected to product reproductive or developmental effects.
Reproductive effects	Not Available.
STOT - Single Exposure	No information available.
STOT - repeated exposure	No information available.

Target organ effects Respiratory System, EYES, skin.
Aspiration hazard No information available.

Numerical Measures of Toxicity - Product information

mg/l
LD50 Oral 11.5 mg/kg (rat)
LD50 Dermal > 5000 mg/kg (rat)
LC50 Inhalation: Inhalation LC50 190 ppm

12. Ecological Information

ecotoxicity

Highly toxic to wildlife

Persistence/Degradability
No information available.

Bioaccumulation/ Accumulation
Does not bioaccumulate.

Other Adverse Effects
No information available

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method Follow label for proper disposal instructions.

Contaminated packaging Refer to product label.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Aluminum phosphide	P006			

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Aluminum phosphide		P006		

14. Transport Information

DOT
UN-No UN1397
Hazard class 4.3
Subsidiary class 6.1
Packing group PG I
Reportable Quantity (RQ): 100 lbs

TDG
UN-No UN1397
Proper shipping name Aluminum phosphide
Hazard class 4.3
Subsidiary class 6.1
Packing group PG I

ICAO

UN-No	UN1397
Proper shipping name	Aluminum phosphide
Hazard class	4.3
Subsidiary class	6.1
Packing group	PG I

IATA

UN-No	UN1397
Proper shipping name	Aluminum phosphide
Hazard class	4.3
Subsidiary class	6.1
Packing group	PG I

IMDG/IMO

UN-No	UN1397
Proper shipping name	Aluminum phosphide
Hazard class	4.3
Subsidiary class	6.1
Packing group	PG I
EmS No.	F-G, S-N

15. Regulatory Information

This chemical/product is a pesticide product registered by the PMRA and is subject to specific label requirements under these regulations. The requirements may differ classification and hazard information required for safety data sheets and for labels of non-pesticide products. The following is information as required on the registered product label.

signal word DANGER!

Restricted. POISON. Forms Extremely Hazardous Gas. Keep out of reach of children and prevent access by unauthorized personnel. Fatal if inhaled, swallowed or absorbed through the skin. DO not eat, drink, or smoke while handling. DO NOT inhale dust or gas. DO NOT ingest tablets or dust.

International Inventories

USINV	Not determined
DSL/NDSL	Not determined
EINECS/ ELINCS	Complies
ENCS	Does not comply
China	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
TSCA	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part

372:

Chemical name	SARA 313 - Threshold Values
Aluminum phosphide - 20859-73-8	1.0

SARA 311/312 Hazardous Categorization

Acute health hazard	yes
Chronic health hazard	NO
Fire hazard	yes
Sudden release of pressure hazard	No
Reactive Hazard	yes

Chemical name	RQ	CERCLA EHS RQs	RQ
Aluminum phosphide 20859-73-8	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ

CERCLA

Component	RQ
Aluminum phosphide 20859-73-8 (60)	100 lb

SARA Product RQ 0

Component	CERCLA EHS RQs
Aluminum phosphide 20859-73-8 (60)	100 lb

RCRA

Component	RCRA - D Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Aluminum phosphide 20859-73-8 (60)		P006	

Pesticide Information

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Aluminum phosphide 20859-73-8 (60)	Under further evaluation as sole active ingredient for agricultural crop uses No mixtures registered.			

State Regulations

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Aluminum phosphide	X	X	X		

International regulations

U.S. EPA Label information

EPA Pesticide registration number PMRA Nos. 29455 and 30013

16. Other Information

NFPA **HEALTH** 3 **flammability** 4 **Instability** 0 **Physical hazard** -

Preparation Date 02-Mar-2016
Revision date 20-May-2016
Revision Summary
Update to GHS format

Disclaimer

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End of MSDS