Safety Data Sheet

Preparation Date 10-May-2015 **Revision date** 04-Aug-2023 **Revision Number:** 1

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

Identification of the product

Product Description Weevil-Cide Pellets

Other means of identification

Internal SDS code CAN-20230804
UN/ID no UN1397
Registration number(s) PMRA 30013

Recommended use of the chemical and restrictions on use

Recommended use Restricted Use Pesticide. This product can only be used in conjunction with a detailed fumigation management plan. The use of this product is strictly prohibited within 500 meters of residential areas, such as single family homes (except the farm house), multi-family residential properties and nursing homes, schools, daycare facilities, hospitals, assisted living facilities, in-patient clinics, prions, athletic fields, golf courses, cemeteries and parks and recreational areas.
For application use specific to rodent burrows restrictions of 30 meters as noted on the product label.

Uses advised against Activities contrary to label recommendation Non labeled activities
Do not apply to burrows that open or may open under or into occupied buildings not for use in areas while open to the public.

Details of the Supplier of the Safety Data Sheet

Supplier Address
UPL AgroSolutions Canada Inc.
c/o UPL NA 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 and Drug Safety (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
Substances or mixtures which, in contact with water, emit flammable gases	Category 1

Label elements

EMERGENCY OVERVIEW

DANGER

Hazard Statements
Fatal if inhaled

FATAL IF SWALLOWED
Harmful in contact with skin
In contact with water releases flammable gases which may ignite spontaneously

Appearance Tablet/pellet **Physical state** solid **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
Obtain special instructions before use
Protect from moisture
Wash hands thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

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-%
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.

5. Fire-fighting measures

Suitable extinguishing media
Carbon dioxide (CO_2). Foam. Do not use water.
Aluminum phosphide is not flammable; however, it reacts with water to produce hydrogen phosphide (phosphine) gas which may ignite spontaneously at concentrations above the LEL 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: $2PH_3 + 4O_2 = H_2O + P_2O_5 = 2H_3PO_4$.

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. Aluminum phosphide is not flammable by itself. However it reacts readily with

water to produce phosphine gas (hydrogen phosphide PH3) which may ignite spontaneously in air in concentrations above its LEL of 1.8% v/v (18,000 ppm) The UEL of phopshine gas (hydrogen phosphide PH3) is unknown.

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 pertinent 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 within 100 feet of any building where humans and/or domestic animals do or may reside 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.
For application use specific to rodent burrows restrictions of 30 meters as noted on the product label.

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 - moisture. 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 0.1 ppm TLV

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 5 ppm. Air 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

9.1 Information on basic physical and chemical properties

Appearance	Tablet/pellet
Physical state	solid
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	light Gray to white

Property	VALUES	Remarks/ Method
pH		None known
Melting point/freezing point		None known
Boiling Point/Range		None known
Flash Point	No information available	None known
Evaporation Rate		None known
Flammability (solid, gas)		**Burning rate 100mm UNITS**
None known		**Specific gravity** 2.85
None known		**Bulk density**
None known		**Water solubility**
None known		**Solubility in Other Solvents** insoluble
None known		**Partition coefficient: n-octanol/water**
None known		**Autoignition temperature**
None known		**Decomposition temperature** Decomposes at ambient conditions when moisture is present.
None known		**Viscosity**
None known		

9.2 OTHER INFORMATION

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 - moisture. 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.

Components 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 data 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 data available.
STOT - Repeated Exposure no data 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 data available.

Bioaccumulation/ Accumulation
Does not bioaccumulate.

Other Adverse Effects
no data 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 - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Aluminum phosphide		P006		

14. Transport Information

DOT

When shipped in bulk or internationally the marine pollutant marking must also be added to the package.

Aluminum flasks are covered under DOT special permit DOT -SP 13307
the following description is to be used:
UN3048
Aluminum phosphide pesticides
6.1
PG I
When shipped in cases the following description is to be used:

UN/ID no	UN1397
Proper shipping name	Aluminum phosphide mixture
Hazard class	4.3
Subsidiary class	6.1
Packing group	PG I
Reportable Quantity (RQ):	100 lbs

TDG

UN/ID no	UN1397
Proper shipping name	Aluminum phosphide mixture
Hazard class	4.3

Subsidiary class	6.1
Packing group	PG I

IATA

UN/ID no	UN1397
Proper shipping name	Aluminum phosphide mixture
Hazard class	4.3
Subsidiary class	6.1
Packing group	PG I
Description	
	Forbidden by passenger aircraft

IMDG

UN/ID no	UN1397
Proper shipping name	Aluminum phosphide mixture
Hazard class	4.3
Subsidiary class	6.1
Packing group	PG I
EmS No.	F-G, S-N
Environmental hazards	Marine pollutant

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. Keep out of Reach of Children. 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.
READ ENTIRE LABEL AND APPLICATOR MANAUAL.

International Inventories

USINV	Present
DSL/NDSL	Present
EINECS/ ELINCS	Present
ENCS	Not Present
China	Present
KECL	Not Present
PICCS	Present
AICS	Not Present
TSCA	Present

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 Title 40 of the Code of Federal Regulations, Part 372:

CERCLA
Not applicable

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.		X	Present

State Regulations

California Proposition 65 This product does not contain any Proposition 65 chemicals

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Aluminum phosphide - 20859-73-8	X	X	X		

International regulations

U.S. EPA Label information
EPA Pesticide registration number PMRA 30013

16. Other Information

NFPA **HEALTH** 4 **flammability** 4 **Instability** 2 **Physical hazard** W/

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Revision Summary
Update logo Update section 1 Update section 15
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End of SDS