1. Identification

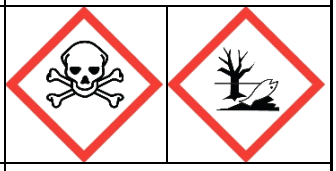
1.1. Product identifier		
Product Identity	Zinc Phosphide on Oats	
Alternate Names	USEPA Reg# 4271-16	
1.2. Relevant identified uses of the substance or mixture and uses advised against		
Intended use	See Technical Data Sheet.	
Application Method	See Technical Data Sheet.	
1.3. Details of the supplier of the safety data sheet		
Company Name	R&M Exterminators, Inc.	
	24212 S. D Street	
	Cheney, Washington 99004	
Emergency		
CHEMTREC (USA)	(800) 424-9300	
Customer Service: R&M Exterminators, Inc.	(509) 239-4411	

2. Hazard(s) identification

2.1. Classification of the substance or mixture	
Acute Tox. 3;H301	Toxic if swallowed.
Aquatic Acute 1;H400	Very toxic to aquatic life.
Aquatic Chronic 2;H411	Toxic to aquatic life with long lasting effects.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

1. USEPA / FIFRA	• OSHA - GHS
"CAUTION"	
	Danger

H301 Toxic if swallowed.
H400 Very toxic to aquatic life
H411 Toxic to aquatic life with long lasting effects.

Prevention:
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
Response:
P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.
P321 Specific treatment (see information on this label).
P330 Rinse mouth.

P391 Collect spillage.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Zinc phosphide **CAS Number: 0001314-84-7**	**1.0 - 10**	**Waterreact. 1;H260** **Acute tox. 2;H300** **Aquatic Acute 1;H400** **Aquatic Chronic 1;H410**	**[1]**
Lecithin **CAS Number: 0008002-43-5**	**1.0 - 10**	**Not Classified**	**[1]**

[1] Substance classified with a health or environmental hazard.
[2] Substance with a workplace exposure limit.
[3] PBT-substance or vPvB-substance.
*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures	
General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	Call a poison control center or doctor immediately for treatment advice or transport the patient to the nearest hospital. **DO NOT DRINK WATER**. Do not administer anything by mouth. Do not induce vomiting unless told to do so by the poison control center or doctor.
4.2. Most important symptoms and effects, both acute and delayed	
Overview	Ingested or inhaled phosphine gas can cause pulmonary edema, CHS depression, toxic myocarditis, and circulatory collapse. Survivors suffer liver and kidney injury. Ingested phosphine gas causes gastrointestinal irritation, liver, kidney, and heart problems. Contains the phosphine-producing active, Zinc Phosphide. Probable mucosal damage may contraindicate the use of gastric lavage. For animals ingesting bait and/or showing poisoning signs, induce vomiting by using hydrogen peroxide. Sodium bicarbonate can be given orally to neutralize the stomach acidity. The

	stomach and intestinal tract can be evacuated, oxygen administered and cardiac and circulatory stimulants given. See section 2 for further details.
Note to physician	There is no specific antidote. Very thorough gastric lavage is usually indicated. 3% - 5% sodium bicarbonate lavage has been suggested. Treat supportively and symptomatically.
Ingestion	Toxic if swallowed.

5. Fire-fighting measures

5.1. Extinguishing media	
Recommended extinguishing media; alcohol resistant foam, CO_2, powder. Do not use; water	
5.2. Special hazards arising from the substance or mixture	
Hazardous Decomposition Products: May react with acids or water to release toxic and spontaneous flammable phosphide gas. Oxides of phosphorus and zinc.	
5.3. Advice for fire-fighters	
Potentially hazardous in fire. Wear self-contained breathing apparatus. Fight fire from upwind and evacuate downwind area as appropriate. Zinc Phosphide reacts violently with acids or acid fumes of formulated materials, thus emitting highly toxic and flammable phosphine gas under the fire conditions.	
ERG Guide No.	----

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Put on appropriate personal protective equipment (see section 8).
6.2. Environmental precautions
This product is toxic to wildlife and fish. Birds and other wildlife feeding in treated area may be killed. Dogs and other predatory and scavenging mammals might be poisoned if they feed upon animals that have eaten this bait. Use with care when applying in areas frequented by wildlife or adjacent to any body of water. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. This product shall not be applied over bodies of water, in areas inhabited by livestock or where a hazard exists to rare or endangered species. Do not contaminate water when disposing of equipment wash water or reinstate.
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.
6.3. Methods and material for containment and cleaning up
Completely sweep up spilled materials, and either use according to label directions, or place in a dry, sealed container and take to a pesticide disposal site. Dispose of in accordance to local, state, and federal regulations at a pesticide disposal site. Dispose of containers likewise, do not reuse containers.

7. Handling and storage

7.1. Precautions for safe handling
See section 2 for further details. - [Prevention]:
7.2. Conditions for safe storage, including any incompatibilities
Store in an area that is appropriate for pesticide storage. Store the material in a cool, dry and well-ventilated, secure area out of reach of children and domestic animals. Wash thoroughly after handling and before eating or smoking. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
7.3. Specific end use(s)
No data provided

8. Exposure controls and personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0001314-84-7	Zinc phosphide	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
0008002-43-5	Lecithin	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0001314-84-7	Zinc phosphide	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0008002-43-5	Lecithin	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls	
Respiratory	Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C) and protective eyewear. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.
Eyes	Protective safety glasses recommended. Safety Goggles or Safety Glasses with side-shields.
Skin	Long sleeve shirt and long pants. Shoes plus socks. Waterproof gloves.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If

	these are not sufficient to maintain concentrations of particulates, and any vapor below occupational exposure limits, suitable respiratory protection must be worn.
Other Work Practices	Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Use good personal hygiene practices. Promptly remove soiled clothing and wash thoroughly before reuse.
See section 2 for further details. - [Prevention]:	

9. Physical and chemical properties

Appearance	Dark grey/black Solid	
Odor	Slight garlic	
Odor threshold	Not Measured	
pH	Not Measured	
Melting point / freezing point	420 C Melting point	
Initial boiling point and boiling range	1,100 C	
Flash Point	Not Measured	
Evaporation rate (Ether = 1)	Not Measured	
Flammability (solid, gas)	Not Applicable	
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** Not Measured	
	Upper Explosive Limit: Not Measured	
Vapor pressure (Pa)	Not Measured	
Vapor Density	Not Measured	
Specific Gravity	Bulk Density 34-39 lbs/ft^3	
Solubility in Water	Negligible (product), slowly decomposes in water (active ingredient)	
Partition coefficient n-octanol/water (Log Kow)	Not Measured	
Auto-ignition temperature	Not Measured	
Decomposition temperature	Not Measured	
Viscosity (cSt)	Not Measured	
Bulk Density	5.5 lbs/gal	

9.2. Other information
No other relevant information.

10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.
10.2. Chemical stability
Stable under normal circumstances.
10.3. Possibility of hazardous reactions
Phosphine and oxides of zinc and phosphorous.
10.4. Conditions to avoid
No data available.
10.5. Incompatible materials
Water, alcohol and oxidizing substances.
10.6. Hazardous decomposition products

On Contact with water, may release flammable and /or toxic phosphine gas. May react with acids to produce phosphine gas.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Zinc phosphide - (1314-84-7)	Rat 910 mg/kg body weight	Rabbit >2,000 mg/kg body weight	No data available	No data available	No data available
Lecithin - (8002-43-5)	No data available	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	3	Toxic if swallowed.
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

Very toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

This product is toxic to wildlife and fish. Birds and other wildlife feeding in treated area may be killed. Dogs and other predatory and scavenging mammals might be poisoned if they feed upon animals that have eaten this bait. Use with care when applying in areas frequented by wildlife or adjacent to any body of water. Do not apply directly to water or to areas where surface water is present or to intertidal area

below the mean high water mark. This product shall not be applied over bodies of water, in areas inhabited by livestock, or where a hazard exists to rare or endangered species. Do not contaminate water when disposing of equipment wash water or reinstate.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Zinc phosphide - (1314-84-7)	Not Available	Not Available	Not Available
Lecithin - (8002-43-5)	Not Available	Not Available	Not Available

Toxicity of Other Components

Grains Not Available

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

This product is not regulated by DOT; Freight Class Number is 77.5.

15. Regulatory information

Regulatory Overview	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.	
Toxic Substance Control Act (TSCA)	All components of this material are either listed or exempt from listing on the TSCA Inventory.	
WHMIS Classification	D1B	
US EPA Tier II Hazards	**Fire:**	No
	Sudden Release of Pressure:	No
	Reactive:	No
	Immediate (Acute):	Yes
	Delayed (Chronic):	No
EPCRA 311/312 Chemicals and RQs (lbs):		
Zinc phosphide (100.00)		
EPCRA 302 Extremely Hazardous:		

	Zinc phosphide
EPCRA 313 Toxic Chemicals:	
	Zinc phosphide
Proposition 65 - Carcinogens (>0.0%): To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.	
Proposition 65 - Developmental Toxins (>0.0%): To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.	
Proposition 65 - Female Repro Toxins (>0.0%): To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.	
Proposition 65 - Male Repro Toxins (>0.0%): To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.	
N.J. RTK Substances (>1%):	
	Zinc phosphide
Penn RTK Substances (>1%):	
	Zinc phosphide

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.
The full text of the phrases appearing in section 3 is:
H260 In contact with water releases flammable gases which may ignite spontaneously.
H300 Fatal if swallowed.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.
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