Integrated Pest Management Plan

When completed, this template meets the Healthy Schools Act requirement for an integrated pest management (IPM) plan. An IPM plan is required if a child care center uses pesticides[1]

Contacts

Vallecitos Elementary School District	5211 Fifth Street, Fallbrook, CA 92028	
Child Care Center Name	Address	
Meliton Sanchez	(760) 728-7092	msanchez@vallecitossd.net
Center IPM Coordinator	IPM Coordinator's Phone Number	Email Address

IPM statement

It is the goal of Vallecitos Elementary School District to implement IPM by focusing on long-term prevention or suppression of pests through accurate pest identification, by frequent monitoring for pest presence, by applying appropriate action levels, and by making the habitat less conducive to pests using sanitation and mechanical and physical controls. Pesticides that are effective will be used in a manner that minimizes risks to people, property, and the environment, and only after other options have been shown ineffective.

Our pest management objectives are to: *(Example: Focus on long-term pest prevention)*

Ensure our students, staff, and visitors are in a safe and healthy environment for teaching and learning.

IPM team

In addition to the IPM Coordinator, other individuals who are involved in purchasing, making IPM decisions, applying pesticides, and complying with the Healthy Schools Act requirements, include:

Name and/or Title	Role in IPM program
Meliton Sanchez	Superintendent / Chief Business Official
Cheri Wheeler	Business Manager
Giuseppe Giannola	School Custodian
Miguel Ortiz	School Custodian

Pest management contracting

☑ Pest management services are contracted to a licensed pest control business.

Pest Control Business name(s): Black Knight Termite and Pest Control

☑ Prior to entering into a contract, the school district has confirmed that the pest control business understands the training requirement and other requirements of the Healthy Schools Act.

Pest identification, monitoring and inspection

Pest Identification is done by: District Staff and Black Knight Termite and Pest Control

(Example: College/University staff, Pest Control Business, etc.)

Monitoring and inspecting for pests and conditions that lead to pest problems are done regularly by Custodians and Teachers and results are communicated to the IPM Coordinator.

(Example: District staff title, e.g. Maintenance staff)

Specific information about monitoring and inspecting for pests, such as locations, times, or techniques include:

(Example: Sticky monitoring boards are placed in the kitchen and are checked weekly by custodial staff.)

Custodial staff monitors the site regularly to ensure that we do not leave out any food or other items that attract pests. We clean all areas of the campus regularly and immediately report any sighting of pest infestations. We then work with our partners at Black Knight Termite and Pest Control to eradicate any pests observed on campus. This occurs daily.

Pests and non-chemical management practices

This child care center has identified the following pests and routinely uses the following non-chemical practices to prevent pests from reaching the action level:

Pest	Remove food	Fix leaks	Seal cracks	Install barriers	Physical removal	Traps	Manage irrigation	Other
Gophers	☑	☐	☐	☐	☐	☐	☐	
Ground Squirrels	☑	☐	☐	☐	☐	☐	☐	
Spiders/Insects	☑	☑	☑	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	☐	

Chemical pest management practices

If non-chemical methods are ineffective, the school district will consider pesticides only after careful monitoring indicates that they are needed according to pre-established action levels and will use pesticides that pose the least possible hazard and are effective in a manner that minimizes risks to people, property and the environment.

This child care center expects the following pesticides (pesticide products and active ingredients) to be applied during the year. (This list includes pesticides that will be applied by school district staff or licensed pest control businesses.):

Baiting program for gophers (strychnine). Also, please see attached safety data sheets for more information related to our pest management plan.

Healthy Schools Act

☑ This child care center complies with the notification, posting, recordkeeping, and all other requirements of the Healthy Schools Act.(Education Code Sections 17608 - 17613, 48980.3; Food & Agricultural Code Sections 13180 - 13188)

Training

Every year child care center employees who make pesticide applications receive the following training prior to pesticide use:

☑ Pesticide specific safety training (Title 3 California Code of Regulations 6724)

☑ School IPM training course approved by the Department of Pesticide Regulation (Education Code Section 16714; Food & Agricultural Code Section 13186.5).

Submittal of pesticide use reports

☑ Reports of all pesticides applied by child care center staff during the calendar year, except pesticides exempt[1] from HSA recordkeeping, are submitted to the Department of Pesticide Regulation at least annually, by January 30 of the following year, using the form provided at www.cdpr.ca.gov/schoolipm. (Education Code Section 16711)

Notification

This child care center has made this IPM plan publicly available by the following methods (check at least one):

☑ This IPM plan can be found online at the following web address: www.vallecitossd.net

☐ This IPM plan is sent out to all parents, guardians and staff annually.

Review

☑ This IPM plan will be reviewed (and revised, if needed) at least annually to ensure that the information provided is still true and correct.

Date of next review: June 1, 2023

I acknowledge that I have reviewed this school district's IPM Plan and it is true and correct.

Signature: Milton Sanchez Date: June 1, 2023

[1] These pesticides are exempt from all Healthy Schools Act requirements, except the training requirement: 1) products used in self-contained baits or traps, 2) gels or pastes used as crack and crevice treatments, 3) antimicrobials, and 4) pesticides exempt from U.S. EPA registration. (Education Code Section 17610.5)

Date: 06/01/23 09:10 AM
System Date: 06/01/23

Black Knight Termite & Pest Control

Page: 1
User: KEVIN

Material Report

Start Date:	[01/01/23]	Material:	[All]	Technician:	[All]	Zip Code:	[All]
End Date:	[05/31/23]	Branch:	[All]	Location:	[105726]	State:	[All]
Manufacturer:	[All]	Street:	[All]	[Current Records]			
Service:	[All]	Route:	[All]	Target:	[All]		
Sorted by:	[Material Code, Work Date]			Location County:	[All]		

-	Dil. Quantity
Material Code: AVALON	27 OZ
Material Code: BIFEN	2 GA
Material Code: FUMI	44 EA
Material Code: WIS GRAN	144 OZ
Report Totals	217.0000

AMVAC®
An American Vanguard Company

SAFETY DATA SHEET

1. Identification

Product identifier	**WISDOM® Lawn Granular Insecticide**
Other means of identification	
SDS number	318
Product registration number	5481-521
Recommended use	Pyrethroid type insecticide/miticide.
Recommended restrictions	No other uses are advised. Keep out of the Reach of Children!
EPA Registration number	EPA: 5481-521

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	AMVAC Chemical Corporation	
Address	4695 MacArthur Court Suite 1200 Newport Beach, CA 92660 United States	
Telephone	AMVAC Chemical Corp AMVAC Chemical Corp Product Use	949-260-1200 949-260-6270(FAX) 888-462-6822
Website	www.amvac.com	
E-mail	CustServ@amvac.com	
Emergency phone number	Medical CHEMTREC® (USA+Canada) CHEMTREC® (Outside USA)	888-681-4261 800-424-9300 +1-703-527-3887

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Carcinogenicity	Category 1A
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	May cause cancer. Causes damage to organs through prolonged or repeated exposure by inhalation. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wash thoroughly after handling.
Response	If exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell. Collect spillage.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	This is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced in section 15. The pesticide label also includes other important information, including directions for use.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Bifenthrin	Cyclopropanecarboxylic acid, 3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propenyl] -2,2-dimethyl-, (2-methyl[1,1'-biphenyl]-3-yl)methyl ester, (1R,3R)-rel-	82657-04-3	0.2
Crystalline Silica		14808-60-7	< 99.3

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center for treatment advice.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Call a poison center or doctor/physician.
Most important symptoms/effects, acute and delayed	Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Bifenthrin is moderately toxic if swallowed and has a low dermal toxicity. Gastric lavage using an endotracheal tube may be preferred to vomiting. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Firefighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Attempt to reclaim the free product, if this is possible. If contaminated, shovel, sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Keep away from food, drink and animal feedstuffs. Keep out of the reach of children. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash thoroughly after handling. Avoid release to the environment.
Conditions for safe storage, including any incompatibilities	Do not store in direct sunlight. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in a well-ventilated place. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	If contact is likely, safety glasses with side shields are recommended.
Skin protection	
Hand protection	Wear protective gloves.
Other	Long-sleeved shirt and long pants or coveralls, socks and closed toe shoes are required.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Granular.
Color	Gray to brown or blue.
Odor	Bland.
Odor threshold	None established.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	1.81E-07 mm Hg @ 25°C (Bifenthrin)
Vapor density	Heavier than air.
Relative density	1.39
Solubility(ies)	
Solubility (water)	Not appreciably soluble in water.
Partition coefficient (n-octanol/water)	> 6 (Bifenthrin)
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	85 - 90 lb/ft³
Explosive properties	Not explosive.
Molecular formula	C23H22ClF3O2 (Bifenthrin)
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Emits hazardous fumes and smoke of unknown composition when heated to decomposition or burned.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Causes damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	Prolonged skin contact may cause temporary irritation.

Eye contact	Slight irritant.
Ingestion	May cause discomfort if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Contact with Bifenthrin may occasionally produce skin sensitization such as rashes, numbing, burning or tingling.

Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

Product	Species	Test Results
WISDOM® Lawn Granular Insecticide		
acute		
dermal		
LD50	Rabbit	> 5050 mg/kg
oral		
LD50	female rat	> 5000 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Slight irritant.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Respirable crystalline silica is listed as being carcinogenic by both IARC and NTP. It is present in the product, based on the carrier. Bifenthrin has produced an increased incidence of urinary bladder tumors in male mice at the highest dose level tested. This response however was considered equivocal and not evidence of a clear compound related effect. The doses that produced this oncogenic effect in laboratory animals greatly exceeds human exposure levels for the recommended use of Bifenthrin products. Consequently, the oncogenic potential in humans is extremely weak or non-existent.

IARC Monographs. Overall Evaluation of Carcinogenicity

Crystalline Silica (CAS 14808-60-7) 1 Carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Crystalline Silica (CAS 14808-60-7) Cancer

US. National Toxicology Program (NTP) Report on Carcinogens

Crystalline Silica (CAS 14808-60-7) Known To Be Human Carcinogen.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure by inhalation.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Bifenthrin (CAS 82657-04-3)			
Aquatic			
Acute			
Crustacea	LC50	Water flea (Ceriodaphnia dubia)	0 - 0.0002 mg/l, 48 hours
		Water flea (Daphnia magna)	0.0001 - 0.0009 mg/l, 48 hours

Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

WISDOM® Lawn Granular Insecticide > 6, (Bifenthrin)

Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with all applicable regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

UN number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Bifenthrin)
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes
ERG Code	9L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

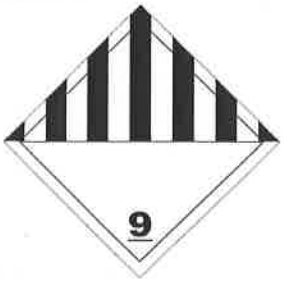
Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bifenthrin), MARINE POLLUTANT
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-F
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

IATA; IMDG



Marine pollutant

General information IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

This product is registered under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

CAUTION! Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Sweeping any product that lands on a driveway, sidewalk, or street, back onto the treated area of the lawn or garden will help to prevent run off to water bodies or drainage systems.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Crystalline Silica (CAS 14808-60-7)	Cancer lung effects immune system effects kidney effects

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

California Proposition 65

WARNING: This product can expose you to chemicals including Crystalline Silica, which is known to the State of California to cause cancer, and N-Methylpyrrolidone, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date Sep-17-2020

Revision date Sep-27-2022

Version # 2.0

HMIS® ratings
Health: 1*
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 1
Flammability: 0
Instability: 0

Disclaimer

This information is provided for the limited guidance to the user. While AMVAC believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the material to which the information relates.

AMVAC Chemical Corporation cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Revision information This document has undergone significant changes and should be reviewed in its entirety.

SAFETY DATA SHEET
AVALON INSECTICIDE

SDS # : 1349-6-A
Revision date: 2016-08-09
Format: NA
Version 1.07

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name AVALON INSECTICIDE

Other means of identification

Product Code(s) 1349-6-A

Synonyms BIFENTHRIN: (2-methyl[1,1'-biphenyl]-3-yl)methyl (1R,3R)-rel-3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propenyl]-2,2-dimethylcyclopropanecarboxylate (CAS name); 2-methyl-3-phenylbenzyl (1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate (IUPAC name)

Active Ingredient(s) Bifenthrin

Chemical Family Pyrethroid Pesticide

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label

Manufacturer Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4

Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Danger

Hazard Statements
H302 - Harmful if swallowed
H332 - Harmful if inhaled
H351 - Suspected of causing cancer
H370 - Causes damage to organs
H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention
P202 - Do not handle until all safety precautions have been read and understood
P281 - Use personal protective equipment as required
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
Precautionary Statements - Response
P321 - Specific treatment (see supplemental first aid instructions on this label)
P308 + P311 - If exposed or concerned: Call a POISON CENTER or doctor
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 - Call a POISON CENTER or doctor if you feel unwell
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
P330 - Rinse mouth

Precautionary Statements - Storage
P405 - Store locked up

Precautionary Statements - Disposal
P501 - Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other Information
Very toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Pyrethroid Pesticide.

Chemical name	CAS-No	Weight %
Bifenthrin	82657-04-3	7.9

Propylene glycol	57-55-6	= or <20

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

Skin Contact
Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

Inhalation
Move to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Ingestion
Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Central nervous system effects.

Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically. This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Foam. Carbon dioxide (CO_2). Dry chemical. Soft stream or water fog only if necessary.

Specific Hazards Arising from the Chemical
None known

Explosion data
Sensitivity to Mechanical Impact
Not sensitive.
Sensitivity to Static Discharge
Not sensitive.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Isolate and post spill area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

Other
For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions
Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.

Methods for Containment
Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up
Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

7. HANDLING AND STORAGE

Handling Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Storage Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Store in original container.

Incompatible products None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Propylene glycol (57-55-6)	-	-	TWA: 10 mg/m³ aerosol only TWA: 50 ppm aerosol and vapor TWA: 155 mg/m³ aerosol and vapor	-

Appropriate engineering controls

Engineering measures Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection This product does not cause significant eye irriation or eye toxicity requiring special protection. Where there is significant potential for eye contact, wear chemical goggles and have eye flushing equipment available.

Skin and Body Protection Wear long-sleeved shirt, long pants, socks, and shoes.

Hand Protection Protective gloves

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

General information If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance Beige Liquid
Physical State Liquid
Color Beige
Odor Mild
Odor threshold No information available
pH 6.7

Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	> 100 °C / 212 °F Tag Closed Cup
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
Density	8.53 lb/gal
Specific gravity	1.024 @ 20 °C
Water solubility	Dispersible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Molecular weight	No information available
Bulk density	8.53 lb/gal

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	None known.
Hazardous Decomposition Products	Carbon oxides (COx), Hydrogen chloride, Hydrogen fluoride, Chlorine, Fluorine.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	632 mg/kg (rat)
LD50 Dermal	> 2000 mg/kg (rabbit)
LC50 Inhalation	1.60 mg/L 4 hr (rat)
Serious eye damage/eye irritation	Practically non-irritating.
Skin corrosion/irritation	Non-irritating.
Sensitization	Non-sensitizing.

Information on toxicological effects

Symptoms	Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge.

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

Chronic toxicity	Bifenthrin: Long-term exposure caused neurotoxicity (tremors and impaired gait) in the early exposure in animal studies, but tremors disappeared with continued exposure.
Mutagenicity	Bifenthrin: Not genotoxic in laboratory studies.
Carcinogenicity	Bifenthrin: Weak treatment-related response for liver adenocarcinomas and benign bladder tumors (lesion) in male mice.
Neurological effects	Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued

exposure.

Reproductive toxicity	Bifenthrin: No toxicity to reproduction in animal studies.
Developmental toxicity	Bifenthrin: Not teratogenic in animal studies.
STOT - single exposure	Causes damage to organs. See listed target organs below.
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure. See listed target organs below.
Target organ effects	Bifenthrin: Central Nervous System.
Neurological effects	Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Bifenthrin (82657-04-3)				
Active Ingredient(s)	Duration	Species	Value	Units
Bifenthrin	96 h LC50	Fish	0.1	µg/L
	72 h EC50	Algae	0.822	mg/L
	48 h EC50	Crustacea	0.11	µg/L
	21 d NOEC	Fish	0.012	µg/L
	21 d NOEC	Crustacea	0.0013	µg/L

Persistence and degradability Bifenthrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable.

Bioaccumulation Bifenthrin: The substance has a potential for bioconcentration.

Mobility Bifenthrin: Immobile. Not expected to reach groundwater.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

Contaminated Packaging Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

14. TRANSPORT INFORMATION

DOT This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.

TDG Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

UN/ID no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
Marine Pollutant	Bifenthrin.
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, III

ICAO/IATA

UN/ID no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9

Packing Group	III
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, III
Limited quantity	30 kg G

IMDG/IMO

UN/ID no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
EmS No.	F-A, S-F
Marine Pollutant	Bifenthrin
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, III

15. REGULATORY INFORMATION

U.S. 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:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Bifenthrin - 82657-04-3	82657-04-3	7.9	1.0

SARA 311/312 Hazard Categories

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

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION
Harmful if swallowed, inhaled or absorbed through skin.
This pesticide is extremely toxic to fish and aquatic invertebrates.

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Bifenthrin 82657-04-3	X		
Propylene glycol 57-55-6	X		X

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Bifenthrin 82657-04-3				X	X	X		
Propylene glycol 57-55-6	X	X	X	X	X	X	X	X

Mexico - Grade Moderate risk, Grade 2

Chemical name	Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use -Threshold Quantities	Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities
Bifenthrin	100 2500 kg/yr	100 kg/yr

WHMIS Hazard Class D2A - Very toxic materials

16. OTHER INFORMATION

NFPA	**Health Hazards** 2	**Flammability** 2	**Instability** 0	**Special Hazards** -
HMIS	**Health Hazards** 2*	**Flammability** 2	**Physical hazard** 0	**Personal Protection** X

**Indicates a chronic health hazard.*

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date: 2016-08-09
Reason for revision: (M)SDS sections updated

Disclaimer

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Prepared By:

FMC Corporation

FMC Logo - Trademark of FMC Corporation

End of Safety Data Sheet

SAFETY DATA SHEET
Bifen I/T

SECTION 1: IDENTIFICATION

Product Name:	Bifen I/T
EPA Registration No.:	53883-118
Recommended Use:	Insecticide; See product label for a complete list of uses and use sites.
Restrictions on Use:	See product label for any restrictions on the use of this product.
Chemical Family:	Pyrethroid
Chemical Name of Active Ingredient(s):	Bifenthrin: 2-Methyl-3-phenylphenyl)methyl (1S,3S)—[(Z)-2-chloro-3,3,3-trifluroroprop-1-enyl]-2,2-dimethylcyclopropane-1-carboxylate
Manufactured for:	Control Solutions, Inc. 5903 Genoa-Red Bluff Pasadena, TX 77507

FOR FIRE, SPILL, AND/OR LEAK EMERGENCIES CONTACT: CHEMTREC 1-800-424-9300
FOR MEDICAL EMERGENCIES AND HEALTH AND SAFETY INQUIRIES CONTACT: Safety Call 1-866-897-8050

SECTION 2: HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW: Eggshell white liquid with a mild chemical odor.

OSHA HCS CLASSIFICATION (29 CFR 1910.1200)

Acute Inhalation Toxicity	Category 4
Skin Sensitization	Category 1B

Signal Word: WARNING

Hazard Statement(s):
Harmful if inhaled.
May cause an allergic skin reaction.

Precautionary Statement(s):

Prevention:
Avoid breathing mist/ vapors/spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves.

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
IF SKIN IRRITATION OR RASH OCCURS: Get medical advice/attention.
Specific treatment (see first aid section of this document). Wash contaminated clothing before reuse.

Storage: No statement required. See section 7 for storage information.

Disposal: Dispose of contents/container in accordance with Federal, state and local laws and regulations.

The following percentage of the mixture consists of components with unknown hazards regarding the acute toxicity:

<1.0%	Acute dermal toxicity
>90.0%	Acute Inhalation toxicity

SECTION 3: COMPOSTION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight %
Bifenthrin	82657-04-3	7.9%

*Ingredients not listed or listed with a weight % range are considered a trade secret and are withheld under 29 CFR 1910.1200(i).

SECTION 4: FIRST AID MEASURES

IF IN EYES:	Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF ON SKIN:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 1 5 to 20 minutes. Call a poison control center or doctor for treatment advice.
IF INHALED:	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. Call a poison control center or doctor for further treatment advice.
IF INGESTED:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed: Allergic skin reaction.
NOTE TO PHYSICIAN: This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Foam, dry chemical, carbon dioxide or water spray
Unsuitable Extinguishing Media:	Water jet
Hazardous Combustion Products:	Thermal decomposition may produce toxic carbon and nitrogen oxides.
Special Protective Equipment & Precautions:	Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Foam and/or dry chemical are preferred to minimize environmental contamination. If water is used, dike and collect water to prevent run-off. Wear self-contained breathing apparatus and full fire-fighting turn-out gear (Bunker gear).
Unusual Fire & Explosion Hazards:	None known

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:	See Section 8 for personal protection equipment.
Environmental Precautions:	Keep spilled material and any rinsate from contaminating soil or from entering sewage and drainage systems and bodies of water.
Methods for Containment:	Isolate the spill area. Keep unnecessary and unprotected personnel from entering. Absorb small spills with sand, vermiculite or other inert absorbent. Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify and scrape up for disposal.

Methods for Clean-up: Place contaminated material in appropriate container for disposal. After removal, flush contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container. Do not put spilled material back in the original container.

Other Information: None known

SECTION 7: HANDLING AND STORAGE

Handling: RECOMMENDATIONS ARE INTENDED FOR MANUFACTURING, PACKAGING AND COMMERCIAL BLENDING WORKERS. PESTICIDE APPLICATORS AND WORKERS must refer to the product label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Handle and open container in a manner as to prevent spillage. Do not eat, drink or smoke while handling this product. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes.

Storage: **See pesticide label for full information on product storage.** Do not contaminate water, food or feed by storage of this product. Store away from sources of heat, out of direct sunlight and away from incompatible materials. Pesticides should be stored in secured areas away from children and animals.

Storage Temperature (Min/Max): Not determined but avoid extreme temperatures.

Product Incompatibilities: Avoid contact with strong oxidizers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Users of a pesticide product must refer to the product label for personal protective equipment requirements.

Exposure Guidelines:

COMPONENT	OSHA PEL	ACGIH TLV	NIOSH REL
No components listed			

Engineering Controls: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.

Respiratory Protection: In areas of poor ventilation, use a NIOSH approved respirator with cartridges/canisters approved for pesticides.

Eye Protection: Chemical goggles or safety glasses.

Protective Gloves: Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile, neoprene rubber, polyvinyl chloride (PVC) or Viton.

Other Protective Clothing: Long-sleeved shirt, long pants and chemical resistant footwear plus socks.

General Safety Measures: Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately after handling this product. Wash outside of gloves before removing. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Eggshell white liquid	**Upper/Lower Flammability Limits:**	Not determined
Odor:	Mild chemical odor	**Vapor Pressure:**	Not determined
Odor Threshold:	Not determined	**Vapor Density:**	Not determined
pH (1% dispersion):	5.8 – 6.2	**Relative Density (@24°C):**	1.037 (typical)
Melting /Freezing Point:	Not determined	**Solubility in Water:**	Dispersible
Boiling Point/Range:	Not determined	**Partition Coefficient:**	Not determined
Flash Point:	>212°F (>100°C)	**Auto-ignition Temperature:**	Not determined
Evaporation Rate:	Not determined	**Decomposition Temperature:**	Not determined
Flammability:	Not applicable	**Viscosity:**	Not determined

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	No hazardous chemical reactions known.
Chemical Stability:	Stable under normal storage and handling conditions.
Possibility of Hazardous Reactions:	No potential for hazardous reactions known.
Conditions to Avoid:	Extreme temperatures
Incompatible Materials:	Strong oxidizers
Hazardous Decomposition Products:	Thermal decomposition may produce toxic carbon and nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:	Eye contact, Skin contact, Inhalation, Ingestion
Symptoms of Exposure:	No overt symptoms.
Oral LD_{50}:	>3900 mg/kg (Estimated based upon component data)
Dermal LD_{50}:	>4,200 mg/kg (Estimated based upon component data)
Inhalation LC_{50}:	No data available. Classification based upon similar material.
Eye Irritation/Damage:	Not anticipated to be an eye irritant based upon component data.
Skin Corrosion/Irritation:	Not anticipated to be a skin irritant based upon component data.
Skin Sensitization:	Potential skin sensitizer based upon component data.

Chronic/Subchronic Toxicity:	No data available
Mutagenicity:	No data available
Reproductive Toxicity:	No data available
Neurotoxicity:	No data available
Target Organs:	Skin
Aspiration Hazard:	Not anticipated to be an aspiration hazard.
Carcinogenicity:	The EPA considers bifenthrin to be a possible human carcinogen based upon animal studies.

Chemical Name	ACGIH	IARC	NTP	OSHA
No components listed				

SECTION 12: ECOLOGICAL INFORMATION

Environmental Hazards Statement from FIFRA Regulated Pesticide Label:
This pesticide is extremely toxic to fish and aquatic invertebrates. To protect the environmental, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow to drift to blooming crops if bees are foraging the treatment area. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

ECOTOXICITY DATA:	The data presented below is for bifenthrin technical.
Fish Toxicity:	Rainbow trout: 96 hr LC_{50} = 0.00015 ppm
	Bluegill sunfish: 96 hr LC_{50} = 0.00035 ppm
Aquatic Invertebrate Toxicity:	No data available
Aquatic Plant Toxicity:	No data available
Avian Toxicity:	Bobwhite quail: Oral LD_{50} = 1,800 mg/kg
	Mallard duck: Oral LD_{50} = 2,150 mg/kg
Honeybee Toxicity:	Highly toxic

ENVIRONMENTAL EFFECTS:	
Persistence and Degradability:	No data available
Bioaccumulation:	No data available
Mobility:	No data available
Other Adverse Effects:	No data available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal:	**Refer to the pesticide label for full information on disposal.** Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.
Container Disposal:	**Refer to the pesticide label for full information on disposal.** When possible, triple rinse the container and offer for recycling if available.
RCRA Characteristics:	It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORTATION INFORMATION

DOT (Ground): Not regulated

IMDG (Sea): UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, PGIII

IATA (Air): UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, PGIII

SECTION 15: REGULATORY INFORMATION

Labeling Requirements Under FIFRA: This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION
Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

TSCA Inventory: This product is exempt from TSCA inventory listing requirements as it is solely for FIFRA regulated use.

SARA Title III Information:

Section 302 – Extremely hazardous substances: None

Section 311/312 – Hazard Categories: Acute (Immediate); Chronic (Delayed)

Section 313 – 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:

Chemical Name	CAS Number	Weight %
Bifenthrin	82657-04-3	7.9%

CERCLA – This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Chemical Name	CAS Number	RQ	Quantity of Finished Product
None listed			

CALIFORNIA PROPOSITION 65:

Chemical Name	CAS Number	Prop 65 Category(ies)
None listed		

U.S. STATE RIGHT-TO-KNOW REGULATIONS:

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Bifenthrin	X		

SECTION 16: OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 1	**Instability** 0	**Special Hazards** – None

Disclaimer: Control Solutions, Inc. believes the information presented herein is accurate and correct as of the document date. The presented information is based upon available data from reliable sources. Control Solutions, Inc. makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

Revision Date: June 9, 2017
Document Superseded: November 9, 2012
Revision Note: Updated format and most sections

Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 04/02/2015 Reviewed on 04/02/2015

* 1 Identification

· **Product identifier**

· **Trade name: Fumitoxin® Tablets - U.S. EPA Reg. No. 72959-1; Fumitoxin® Pellets - U.S. EPA Reg. No. 72959-2**

· **Relevant identified uses of the substance or mixture and uses advised against**

· **Product description** Fumigant for Insect & Rodent Control

· **Application of the substance / the mixture**

Fumigants used to treat raw agricultural commodities, processed foods, non-food commodities and rodent burrows.

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

DEGESCH America, Inc.
153 Triangle Dr.
P.O. Box 116
Weyers Cave, VA 24486 USA
Telephone: (540) 234-9281 / 800-330-2525
Telefax: (540) 234-8225
www.degeschamerica.com
degesch@degeschamerica.com

· **Emergency telephone number:**

For human or animal emergencies: 1-800-308-4856 (Rocky Mountain Poison and Drug Center)
For all other chemical emergencies: 1-800-424-9300 (Chemtrec)
Emergency and Information - DEGESCH America, Inc.: (540) 234-9281 / 800-330-2525

* 2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Water-react. 1 H260 In contact with water releases flammable gases which may ignite spontaneously.

GHS06 Skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.
Acute Tox. 2 H330 Fatal if inhaled.

GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.

GHS09 Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

GHS07

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Safety Data Sheet (SDS)

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Printing date 04/02/2015 Reviewed on 04/02/2015

Trade name: Fumitoxin® Tablets - U.S. EPA Reg. No. 72959-1; Fumitoxin® Pellets - U.S. EPA Reg. No. 72959-2

Skin Irrit. 2 H315 Causes skin irritation.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS05 GHS06 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Aluminum Phosphide
Ammonium Carbamate
· **Hazard statements**
In contact with water releases flammable gases which may ignite spontaneously.
Fatal if swallowed or if inhaled.
Causes skin irritation.
Causes serious eye damage.
Very toxic to aquatic life.
· **Precautionary statements**
Keep away from any possible contact with water, because of violent reaction and possible flash fire.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear respiratory protection.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid release to the environment.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
If swallowed: Immediately call a poison center/doctor.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment is urgent (see supplementary first aid instructions on this Safety Data Sheet).
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If skin irritation occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO2, sand, extinguishing powder.
If on skin: Wash with plenty of water.
Collect spillage.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Store in a dry place. Store in a closed container.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Unknown acute toxicity:**
10.3 percent of the mixture consists of ingredient(s) of unknown toxicity.

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· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 4
Fire = 4
Reactivity = 2

The substance demonstrates unusual reactivity with water.
· **HMIS-ratings (scale 0 - 4)**

Health = *4
Fire = 4
Reactivity = 2

· **Other hazards** None known

* 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous Components:**

CAS: 20859-73-8 RTECS: BD 1400000	Aluminum Phosphide Water-react. 1, H260; Acute Tox. 2, H300; Aquatic Acute 1, H400	55%
CAS: 1111-78-0	Ammonium Carbamate Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Irrit. 2, H315; Aquatic Acute 3, H402	Proprietary%
RTECS: BD 1200000	Proprietary STOT SE 3, H335	5-10%
	Proprietary Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	2-12%

· **Additional information:**
Fumitoxin Tablets and Fumitoxin Pellets react with water to produce phosphine (hydrogen phosphide, PH3, CAS No. 7803-51-2) as shown in Equation 1. Fumitoxin products are formulated with 55% aluminum phosphide and also contains ammonium carbamate (AC) and inert ingredients. Ammonium carbamate decomposes to liberate ammonia (CAS No. 7664-41-7) and carbon dioxide (CAS No. 124-38-9) as shown in Equation 2.

1) AlP + 3H2O ---> Al(OH)3 + PH3
2) NH2COONH4 ---> 2NH3 + CO2

* 4 First-aid measures

· **Description of first aid measures**
· **General information:**
Symptoms of overexposure are headache, dizziness, nausea, difficult breathing, vomiting, and diarrhea. In ALL cases of overexposure, get medical attention immediately. Take victim to a doctor or emergency treatment facility.
Have product container label or applicator's manual with you when calling a poison control center, doctor, or when going for treatment.

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· ***After inhalation:***
Get exposed person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth, if possible. Contact a poison control center or doctor for treatment advice.
· ***After skin contact:***
Take off contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
· ***After eye contact:***
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.
· ***After swallowing:***
Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless told to by a poison control center or doctor.
· ***Information for doctor:***
· ***Most important symptoms and effects, both acute and delayed***
Aluminum phosphide fumigant products react with moisture from the air, acids and many other liquids to release phosphine gas (hydrogen phosphide, PH3). Mild exposure by inhalation causes malaise (indefinite feeling of sickness), headache, ringing in the ears, fatigue, nausea and pressure in the chest which is relieved by removal to fresh aid. Moderate poisoning causes weakness, vomiting, pain just above the stomach, chest pain, diarrhea and dyspnea (difficulty breathing). 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.
· ***Indication of any immediate medical attention and special treatment needed***
No further relevant information available.

*
5 Fire-fighting measures

· ***Extinguishing media***
· ***Suitable extinguishing agents:*** CO_2, sand, extinguishing powder. Do not use water.
· ***For safety reasons unsuitable extinguishing agents:*** Water
· ***Special hazards arising from the substance or mixture***
Phosphine (hydrogen phosphide, PH3)-air mixtures at concentrations above the LEL of 1.8% v/v (18,000 ppm) may ignite spontaneously. Ignition of high concentrations of phosphine gas (hydrogen phosphide, PH3) can product a very energetic reaction. Explosions can occur under these conditions and may cause severe personal injury. Never allow the buildup of phosphine gas (hydrogen phosphide, PH3) to exceed explosive concentrations. Open containers of metal phosphides in open air only and never in a flammable atmosphere. Do not confine spent or partially spent dust from metal phosphide fumigants as the slow release of phosphine gas (hydrogen phosphide, PH3) from these materials may result in the formation of an explosive atmosphere. Spontaneous ignition may occur if large quantities of aluminum phosphide are piled in contact with liquid water. This is particularly true if quantities of these materials are placed in an environment which can provide partial confinement of the hydrogen phosphide gas liberated by hydrolysis.

If incinerated, product will release the following toxic materials: Oxides of aluminum, magnesium, phosphorous, nitrogen (NOx), carbon, phosphine gas (hydrogen phosphide, PH3), ammonia and phosphoric acid.
· ***Advice for firefighters***
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 at concentrations above its LEL of 1.8% v/v (18,000 ppm). The UEL of phosphine gas (hydrogen phosphide, PH3) is unknown.

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· ***Protective equipment:***
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Wear a NOISH/MSHA approved full-face gas mask – phosphine gas canister combination may be used at levels up to 15 ppm or following manufacturers' use conditions instructions for escape. Above 15 ppm or in situations where the phosphine gas concentration is unknown, a NIOSH/MSHA approved SCBA must be worn.

*
6 Accidental release measures

· ***Personal precautions, protective equipment and emergency procedures***
Respiratory protection will most likely be required during cleanup of spilled aluminum phosphide fumigants. If the concentration of phosphine (hydrogen phosphide, PH3) is unknown, NIOSH/MSHA approved SCBA or its equivalent must be worn. Full-face gas mask canister combinations may only be worn at concentrations no higher than 15 ppm.
· ***Environmental precautions:***
Inform respective authorities in case of seepage into water course or sewage system.
· ***Methods and material for containment and cleaning up:***
If possible, dispose of spilled material by use according to label instructions. Freshly spilled material which has not been contaminated by water or foreign matter may be placed into original or other gas-tight containers. Punctured flasks, pouches or containers may be temporarily repaired using aluminum tape. If the age of the spill is unknown or if the product has been contaminated with soil, debris, water, etc., gather up the spillage in small open buckets having a capacity no larger than about 1 gallon. Do not add more than about 1 to 1.5 kg (2 to 3 lbs.) to a bucket. If on-site wet-deactivation is not feasible, transport the uncovered buckets in open vehicles to a suitable area. Small amounts of spillage, from about 4 to 8 kg (9 to 18 lbs.) may be spread out over the ground in an open area to be deactivated by atmospheric moisture. Alternatively, spilled aluminum phosphide fumigants may be deactivated by the wet method as described in the following:

Wet Deactivation of Spilled Fumitoxin Products:
1. Deactivating solution is prepared by adding the appropriate amount of low sudsing detergent to water in a drum or other suitable container. A 2% solution or 4 cups of detergent in 30 gallons is suggested. The container should be filled with deactivating solution to within a few inches of the top.
2. The material is added slowly to the deactivating solution and stirred so as to thoroughly wet all of the product. This should be carried out in open air and respiratory protection may be required. At no time should the deactivation drum be covered.
3. No more than about 45 to 50 lbs. of Fumitoxin should be added to 15 gallons of water-detergent mixture. Products may ignite during wet deactivation if they are allowed to float to the surface. Add weights or otherwise ensure that products stay submerged until deactivation is completed.
4. Allow the mixture to stand, with occasional stirring, for about 36 hours. The resultant slurry of dust or packaged product will then be safe for disposal.
5. Dispose of the slurry of deactivated material, with or without preliminary decanting, at a sanitary landfill or other suitable site approved by local authorities. Where permissible, this slurry may be poured into a storm sewer or out onto the ground.
· ***Reference to other sections***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
7 Handling and storage

· ***Handling:***
· ***Precautions for safe handling*** Store in a cool, dry place in tightly closed containers.

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· ***Information about protection against explosions and fires:***
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Protect from heat.
Keep protective respiratory device available.

· ***Conditions for safe storage, including any incompatibilities***
Store away from water, acids, bases, strong oxidizing agents and strong reducing agents.
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:***
Store products in a locked, dry, well-ventilated area away from heat. Post as a pesticide storage area. Do not store in buildings inhabited by humans or domestic animals.
· ***Information about storage in one common storage facility:*** Not required.
· ***Further information about storage conditions:***
Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
· ***Specific end use(s)*** No further relevant information available.

* 8 Exposure controls/personal protection

· ***Additional information about design of technical systems:*** No further data; see section 7.

· ***Control parameters***
All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

· ***Components with occupational exposure limits:***	
20859-73-8 Aluminum Phosphide	
REL	Long-term value: 2 mg/m³ as Al
TLV	Long-term value: 1* mg/m³ as Al;*as respirable fraction
Proprietary	
PEL	Long-term value: 15*; 15** mg/m³ *Total dust; ** Respirable fraction
REL	Long-term value: 10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV	Long-term value: 1* mg/m³ as Al; *as respirable fraction
Proprietary	
TLV	Long-term value: 10 mg/m³
7803-51-2 phosphine	
PEL	Long-term value: 0.4 mg/m³, 0.3 ppm
REL	Short-term value: 1 mg/m³, 1 ppm Long-term value: 0.4 mg/m³, 0.3 ppm
TLV	Short-term value: (1.4) mg/m³, (1) ppm Long-term value: (0.42) mg/m³, (0.3) NIC-0.1 ppm Ceiling limit value: NIC-0.5 ppm

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7664-41-7 ammonia, anhydrous	
PEL	Long-term value: 35 mg/m³, 50 ppm
REL	Short-term value: 27 mg/m³, 35 ppm Long-term value: 18 mg/m³, 25 ppm
TLV	Short-term value: 24 mg/m³, 35 ppm Long-term value: 17 mg/m³, 25 ppm

· ***Additional information:*** The lists that were valid during the creation were used as basis.

· ***Exposure controls***
· ***Personal protective equipment:***
· ***General protective and hygienic measures:***
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing and wash before reuse.
Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
· ***Breathing equipment:***
Respiratory protection will most likely be required while using aluminum phosphide fumigants. If the concentration of phosphine (hydrogen phosphide, PH3) is unknown, NIOSH/MSHA approved SCBA or its equivalent must be worn. Full-face gas mask canister combinations may only be worn at concentrations no higher than 15 ppm.
· ***Protection of hands:***

Protective gloves

Wear dry gloves of cotton or other material if contact with tablets, pellets, or dust is likely. Gloves should remain dry after use. Aerate gloves and other clothing that may be contaminated in a well-ventilated area prior to laundering.
· ***Material of gloves*** Dry gloves of cotton or other material.
· ***Penetration time of glove material***
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
· ***Eye protection:*** Not required.

* 9 Physical and chemical properties

· ***Information on basic physical and chemical properties***
· ***General Information***
· ***Appearance:***

Form:	Solid
Color:	Greenish-gray
· ***Odor:***	Garlic, carbide or decaying fish
· ***Odor threshold:***	Not determined.
· ***pH-value:***	Not applicable.
· ***Change in condition***	
Melting point/Melting range:	AIP = > 1000 °C (AIP = > 1832 °F) (PH3 = -133.5 °C)
Boiling point/Boiling range:	AIP = > 1000 °C (AIP = > 1832 °F) (PH3 = -87.7 °C)
· ***Flash point:***	Not determined

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· **Flammability (solid, gaseous):**	Contact with water or acids liberates extremely flammable gases.
· **Ignition temperature:**	Not determined
· **Decomposition temperature:**	Decomposes at ambient conditions when moisture is present.
· **Auto igniting:**	Spontaneously flammable in air.
· **Danger of explosion:**	Not determined.
· **Explosion limits:**	
Lower:	1.8% Vol % (for PH3)
Upper:	Not established Vol % (for PH3)
· **Vapor pressure:**	AlP = 0 mm Hg PH3 = 40 mm Hg @ -129.4 °C AC = 100 mm Hg @ 26.7 °C
· **Density @ 20 °C (68 °F):**	AlP = 2.85 g/cm³ (AlP = 23.783 lbs/gal) (PH3 = 1.17 g/cm³)
· **Relative density**	Not determined.
· **Vapor density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with Water:**	AlP = Insoluble, reacts PH3 = 26 cc in 100 ml at 17 °C AC = Very soluble, reacts
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Solvent content:**	
Solids content:	100.0 %
· **Other information**	No further relevant information available.

* 10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
Products are stable to most chemical reactions, except for hydrolysis. Products will react with moist air, liquid water, acids and some other liquids to produce toxic and flammable phosphine (hydrogen phosphide, PH3) gas.
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions**
Contact with water releases flammable gases.
Contact with water releases toxic gases.
· **Conditions to avoid:** Avoid prolonged exposure to air.
· **Incompatible materials:** Water, acids, bases, strong oxidizing agents and strong reducing agents.
· **Hazardous decomposition products:**
Oxides of aluminum, phosphorous, nitrogen (NOx), magnesium, carbon, phosphine gas (hydrogen phosphide, PH3), ammonia and phosphoric acid.
· **Additional information:**
Phosphine (hydrogen phosphide, PH3) gas may react with certain metals and cause corrosion, especially at higher temperatures and relative humidity. Metals such as copper, brass and other copper alloys, and

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precious metals such as gold and silver are susceptible to corrosion by phosphine. Small electric motors, smoke detectors, brass sprinkler heads, batteries and battery chargers, fork lifts, temperature monitoring systems, switching gears, communication devices, computers, calculators and other electrical equipment may be damaged by this gas. Phosphine (hydrogen phosphide, PH3) will also react with certain metallic salts and, therefore, sensitive items such as photographic film, some inorganic pigments, etc., should not be exposed.

* 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
20859-73-8 Aluminum Phosphide		
Oral	LD50	0.4 mg/kg (rat)
1111-78-0 Ammonium Carbamate		
Oral	LD50	1470 mg/kg (rat)
Inhalative	LC50/96 hours	37 mg/l (Trout)
7803-51-2 phosphine		
Inhalative	LC50/1 h	180 ppm (rat)
7664-41-7 ammonia, anhydrous		
Oral	LD50	350 mg/kg (rat)
Inhalative	LC50/4 h	2000 mg/l (rat)

· **Primary irritant effect:**
· **on the skin:**
May be irritating.
Irritant to skin and mucous membranes.
· **on the eye:**
Direct contact may cause eye irritation.
Strong irritant with the danger of severe eye injury.
Causes serious eye irritation.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
Very toxic

· **Carcinogenic categories**
· **IARC (International Agency for Research on Cancer)**
None of the ingredients are listed.

Group 1 - Carcinogenic to humans
Group 2A - Probably carcinogenic to humans
Group 2B - Possibly carcinogenic to humans
Group 3 - Not classifiable as to its carcinogenicity to humans
Group 4 - Probably not carcinogenic to humans

· **NTP (National Toxicology Program)**
None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients are listed.

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* 12 Ecological information

· **Toxicity**
· **Aquatic toxicity:**
Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

1111-78-0 Ammonium Carbamate	
EC50	129.1 mg/l (Green algae) 63 mg/l (Water flea)

· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Very toxic for fish
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

* 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
When being disposed of, spilled or partially reacted Fumitoxin products are considered hazardous wastes under existing Federal Regulations. If properly exposed, the grayish-white residual dust after a fumigation will not be a hazardous waste and normally contains only a very small amount of unreacted aluminum phosphide. This waste will be safe for disposal. However, the spent residual dust from incompletely exposed Fumitoxin products may require special care.
Triple rinse tablet and pellet flasks and stoppers with water. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Rinsate may be disposed of in a storm sewer, sanitary landfill or by other approved procedures. Or, it is permissible to remove lids and expose empty flasks to atmospheric conditions until the residue in the flasks is reacted. Then puncture and dispose of in a sanitary landfill or other approved site, or by other procedures approved by state and local authorities. Some local and state waste disposal regulations may vary from the following recommendations. Disposal procedures should be reviewed with appropriate authorities to ensure compliance with local regulations. Contact your State Pesticide or Environmental Control Agency or Hazardous Waste Specialist at the nearest EPA Regional Office for guidance.

1. Confinement of partially spent residual materials, as in a closed container, or collection and storage of large quantities of dust may result in a fire or explosion hazard. Small amounts of phosphine (hydrogen phosphide, PH3) may be given off from unreacted aluminum phosphide, and confinement of the gas may result in a flash.
2. In open areas, small amounts of spent residual dust or spent packaged products may be disposed of on site by burial or by spreading over the land surface away from inhabited buildings.
3. Residual dust from Fumitoxin products may also be collected and disposed of at a sanitary landfill, or other

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approved sites or by other procedures approved by Federal, State or Local authorities.
4. From 3 to 5 kg (7 to 10 lbs.) of spent dust from 2 to 3 flasks of Fumitoxin may collected for disposal in a 1-gallon bucket. Larger amounts, up to about one-half case, may be collected in burlap, cotton or other types of porous cloth bags for transportation in an open vehicle to the disposal site. Do not collect dust from more than 7 flasks of tablets, 10 flasks of pellets (about 11 kg or 25 lbs.) in a single bag. Do not pile cloth bags together. Do not use this method for partially spent or "green" dust. Caution: Do not collect dust in large drums, dumpsters, plastic bags or other containers where confinement may occur.

· ***Uncleaned packagings:***
· ***Recommendation:***
Triple rinse tablet and pellet flasks and stoppers with water and then offer for recycling or reconditioning; or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

* 14 Transport information

· ***UN-Number***	
· ***DOT, ADR, IMDG, IATA***	UN1397
· ***UN proper shipping name***	
· ***DOT***	Aluminum phosphide
· ***ADR***	UN1397 Aluminum phosphide, ENVIRONMENTALLY HAZARDOUS
· ***IMDG***	ALUMINIUM PHOSPHIDE, MARINE POLLUTANT
· ***IATA***	ALUMINIUM PHOSPHIDE
· ***Transport hazard class(es)***	
· ***DOT***	

· ***Class***	4.3 Substances which, in contact with water, emit flammable gases
· ***Label***	4.3, 6.1
· ***ADR***	

· ***Class***	4.3 (WT2) Substances which, in contact with water, emit flammable gases
· ***Label***	4.3, 6.1
· ***IMDG***	

· ***Class***	4.3 Substances which, in contact with water, emit flammable gases

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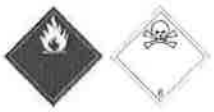
· **Label** 4.3/6.1

· **IATA**



· **Class**	4.3 Substances which, in contact with water, emit flammable gases
· **Label**	4.3 (6.1)
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	I
· **Environmental hazards:**	Product contains environmentally hazardous substances: Aluminum Phosphide
· **Special marking (ADR):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Substances which, in contact with water, emit flammable gases
· **Danger code (Kemler):**	462
· **EMS Number:**	F-G,S-N
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: Forbidden On cargo aircraft only: 15 kg
· **ADR**	
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **IMDG**	
· **Limited quantities (LQ)**	0
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **UN "Model Regulation":**	UN1397, Aluminum phosphide, ENVIRONMENTALLY HAZARDOUS, 4.3, 6.1, I

* 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**

20859-73-8	Aluminum Phosphide

· **Section 313 (Specific toxic chemical listings):**

20859-73-8	Aluminum Phosphide
	Proprietary
	Proprietary

· **TSCA (Toxic Substances Control Act):**

20859-73-8	Aluminum Phosphide

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Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 04/02/2015 Reviewed on 04/02/2015

Trade name: Fumitoxin® Tablets - U.S. EPA Reg. No. 72959-1; Fumitoxin® Pellets - U.S. EPA Reg. No. 72959-2

	Proprietary
	Proprietary
	Proprietary

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Proprietary	D, I, II

· **TLV (Threshold Limit Value established by ACGIH)**

Proprietary	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS02 GHS05 GHS06 GHS09

· **Signal word** Danger

· **Hazard-determining components of labeling:**

Aluminum Phosphide
Ammonium Carbamate

· **Hazard statements**

In contact with water releases flammable gases which may ignite spontaneously.
Fatal if swallowed or if inhaled.
Causes skin irritation.
Causes serious eye damage.
Very toxic to aquatic life.

· **Precautionary statements**

Keep away from any possible contact with water, because of violent reaction and possible flash fire.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear respiratory protection.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid release to the environment.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.

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Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 04/02/2015 Reviewed on 04/02/2015

Trade name: Fumitoxin® Tablets - U.S. EPA Reg. No. 72959-1; Fumitoxin® Pellets - U.S. EPA Reg. No. 72959-2

If swallowed: Immediately call a poison center/doctor.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment is urgent (see supplementary first aid instructions on this Safety Data Sheet).
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If skin irritation occurs: Get medical advice/attention.
In case of fire: Use for extinction: CO2, sand, extinguishing powder.
If on skin: Wash with plenty of water.
Collect spillage.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Store in a dry place. Store in a closed container.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***National regulations:***

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

· ***State Right to Know***

CAS: 20859-73-8 RTECS: BD 1400000	Aluminum Phosphide Water-react. 1, H260; Acute Tox. 2, H300; Aquatic Acute 1, H400	55%
CAS: 1111-78-0	Ammonium Carbamate Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Irrit. 2, H315; Aquatic Acute 3, H402	Proprietary%
RTECS: BD 1200000	Proprietary STOT SE 3, H335	5-10%
	Proprietary	2-12%
	Proprietary Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	2-12%

All ingredients are listed.

· ***Chemical safety assessment:*** A Chemical Safety Assessment has not been carried out.

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· ***Date of preparation / last revision*** 04/02/2015 / -

· ***Abbreviations and acronyms:***

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent

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Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Printing date 04/02/2015 *Reviewed on 04/02/2015*

Trade name: Fumitoxin® Tablets - U.S. EPA Reg. No. 72959-1; Fumitoxin® Pellets - U.S. EPA Reg. No. 72959-2

LD50: Lethal dose, 50 percent
Water-react. 1: Substances and Mixtures which, in contact with water, emit flammable gases, Hazard Category 1

Acute Tox. 2: Acute toxicity, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
Aquatic Acute 3: Hazardous to the aquatic environment - AcuteHazard, Category 3

**** Data compared to the previous version altered.***