




SAFETY DATA SHEET

1. Identification

Product identifier	Tylan Premix
Other means of identification	
Item Code	AF0010, AF0024, AF0026, AF0040, AF0042, AF0050, AF0055, AF0080, AF0090, AF0091, AF0099, AF0105, AH0042, MS8272, MS8274, MS8275, UC5318
Synonyms	Tylosin Premix * Tylosin Phosphate Premix * Tylan 10 Premix * Tylan 30 Premix * Tylan 40 Premix * Tylan 50 Premix * Tylan 80 Premix * Tylan * Tylan 100 * Tylan
Recommended use	Veterinary Product
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company Name	Elanco Animal Health 2500 Innovation Way Greenfield, IN 46140 US
Phone:	1-877-Elanco1 (1-877-352-6261)
Email:	lilly_msds@lilly.com
Emergency Telephone Numbers:	Elanco Product Technical Support / Human or Animal Exposure Reporting: 1-888-545-5973 Transportation Emergency Telephone: CHEMTREC: 1-800-424-9300 (Outside U.S. 1-703-527-3887)

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2A
	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
OSHA defined hazards	Combustible dust	
Label elements		
Signal word	Danger	
Hazard statement		
H317	May form combustible dust concentrations in air.	
H319	May cause an allergic skin reaction.	
H334	Causes serious eye irritation.	
	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Precautionary statement		
Prevention		
P280	Wear protective gloves/eye protection/face protection.	
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.	
P285	In case of inadequate ventilation wear respiratory protection.	
Response		
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.	
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.	
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.	

Storage	Not available.
Disposal	
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Tylosin Phosphate		1405-53-4	1.7 - 24
Excipient: Grain Dust		NA	75 - 95
Anti-dusting oil	MINERAL OIL (HIGHLY REFINED) MINERAL OIL	8012-95-1	1 - 2
Other components below reportable levels			< 1

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

Composition comments	The full text for all R- and H-phrases is displayed in section 16. Excipients may include: Corn cob grits. Rice hulls. The anti-dusting oil reduces potential exposure under normal handling conditions of use.
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4. First-aid measures

Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Call a physician or poison control center immediately.
Skin contact	Take off contaminated clothing and wash before reuse. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.
Eye contact	In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Ingestion	Call a physician or poison control center immediately. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Most important symptoms/effects, acute and delayed	Shortness of breath. Coughing. Rash. May cause allergic respiratory and skin reactions. Watery eyes. Wheezing.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. None known.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Dry chemical. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Fire or excessive heat may produce hazardous decomposition products.
Special protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and protective clothing. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	In the event of fire, cool tanks with water spray.
General fire hazards	No unusual fire or explosion hazards noted. Dust may form explosive mixture with air.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate personal protective equipment. For personal protection, see section 8 of the SDS. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
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Methods and materials for containment and cleaning up

Do not sweep. Collect spill using a vacuum cleaner with a HEPA filter. Be aware of potential for dust explosion when using electrical equipment. If vacuum is not available, lightly mist/wet material and remove by mopping or wet wiping. Collect in a non-combustible container for prompt disposal. Large spills due to traffic accidents, etc., should be reported immediately to CHEMTREC and Elanco Animal Health for assistance. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

Environmental precautions

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**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat and sources of ignition. Minimize dust generation and accumulation. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Avoid release to the environment. Avoid contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures. Avoid contact with oxidizing agents. Do not store in open or unlabelled containers.

8. Exposure controls/personal protection**Exposure guidelines**

Lilly Exposure Guideline (LEG): <100 mcg/m³ 12 hour TWA (Tylosin Base)

Occupational exposure limits**ACGIH****Components****Type****Value****Form**

Excipient: Grain Dust (CAS NA)

TWA

4 mg/m³

(grain dust)

US. ACGIH Threshold Limit Values Components**Type****Value****Form**

Anti-dusting oil (CAS 8012-95-1)

TWA

5 mg/m³

Inhalable fraction.

U.S. - OSHA Components**Type****Value****Form**

Excipient: Grain Dust (CAS NA)

TWA

10 mg/m³

(grain dust)

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) Components**Type****Value****Form**

Anti-dusting oil (CAS 8012-95-1)

PEL

5 mg/m³

Mist.

US. NIOSH: Pocket Guide to Chemical Hazards Components**Type****Value****Form**

Anti-dusting oil (CAS 8012-95-1)

STEL

10 mg/m³

Mist.

TWA

5 mg/m³

Mist.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Use appropriate control measures such as fume hood, ventilated enclosure, local exhaust ventilation, or down-draft booth.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles). Wear goggles/face shield.

Skin protection**Hand protection**

Wear protective gloves. Chemical-resistant gloves and impermeable body covering to minimize skin contact.

Other

Wear appropriate chemical resistant clothing. Chemical-resistant gloves and impermeable body covering to minimize skin contact.

Respiratory protection

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards
General hygiene considerations

Wear appropriate thermal protective clothing, when necessary.

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. Use good industrial hygiene practices in handling this material.

In a manufacturing setting, wear chemical-resistant gloves and body covering to minimize skin contact. If handled in a ventilated enclosure, as in a laboratory setting, respirator and goggles or face shield may not be required. Safety glasses are always required.

Under normal use and handling conditions, wear goggles to protect eyes and wear impermeable gloves and protective equipment to avoid direct contact with skin. Wash thoroughly with soap and water after handling.

When mixing and handling, use protective clothing, impervious gloves, and dust respirator (recommended). Operators should wash thoroughly with soap and water after handling. If accidental eye contact occurs, immediately rinse with plenty of water.

9. Physical and chemical properties

Appearance	Granular.
Physical state	Solid.
Form	Solid.
Color	Light tan.
Odor	Musty
Odor threshold	No data available.
pH	No data available.
Melting point/freezing point	No data available.
Initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No test data available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	No data available.
Flammability limit - upper (%)	No data available.
Explosive limit - lower (%)	No data available.
Explosive limit - upper (%)	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	No data available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	No data available.
Explosive properties	No data available.
Oxidizing properties	No oxidizing properties.

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	Will not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Tylosin Base (CAS 1401-69-0)		
Acute		
<i>Dermal</i>		
LD	Rabbit	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 2060 mg/m ³ , 1 h
<i>Oral</i>		
LD	Rat	> 5000 mg/kg
<i>Other</i>		
LD50	Mouse	321 mg/kg (Intravenous) Tremors.
	Rat	600 mg/kg (Intravenous)

Skin corrosion/irritation Rabbit: No irritation (22% Tylosin phosphate mixture)

Serious eye damage/eye irritation Causes eye irritation. Rabbit: (22% Tylosin phosphate mixture)

Respiratory or skin sensitization

Respiratory sensitization May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitization Guinea pig: Causes sensitization. (Tylosin Base)

Germ cell mutagenicity Mutagenic in one mammalian test system. Not mutagenic in bacterial cell tests and other mammalian cell tests. Unlikely to pose a genotoxic risk to man. (Tylosin Base)

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. Not listed by ACGIH, IARC, NIOSH, NTP OR OSHA. (Tylosin phosphate)
Animal testing did not show any carcinogenic effects. (Tylosin Base)
Remaining ingredients: Not listed by ACGIH, NIOSH, NTP or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Anti-dusting oil (CAS 8012-95-1) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity No effects identified in animal studies. (Tylosin Base)

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure No effects identified in animal studies. (Tylosin Base)

Aspiration hazard No aspiration toxicity classification

Chronic effects Causes damage to organs through prolonged or repeated exposure.

Further information Salivation, diarrhea, and vomiting after repeated large oral doses. (Tylosin Base)

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results	
Tylosin Base (CAS 1401-69-0)				
Acute	EC50		140 mg/kg (Oats, seedling)	
			53 mg/kg (Soybean, seedling)	
			43 mg/kg (Tomato, seedling)	
	LC50		> 102.6 mg/kg, 14 days (Eisenia fetida, earthworm)	
	Other	EC50	Pseudokirchnerella subcapitata	0.22 mg/l, 72 hours (green algae) (average specific growth rate)
	LC50	Duck	> 5000 mg/kg, 5 days (Anas platyrhynchos, Mallard) (Dietary)	
		Quail	> 5000 mg/kg, 5 days (Bobwhite) (Dietary)	
			> 2000 mg/kg, 14 days (Bobwhite)	
Aquatic				
Acute	EC50	Daphnia magna	> 300 mg/l, 48 hours (Water flea)	
Crustacea	LC50	Bluegill (Lepomis macrochirus)	> 300 mg/l, 96 hours	
Fish		Rainbow Trout	> 300 mg/l, 96 hours (Oncorhynchus mykiss)	

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available for this product.

Partition coefficient n-octanol / water (log Kow)

Tylosin Base 17 (pH 7 and 9)
5 (pH 5)

Mobility in soil Soil degradation half-life (100 ppm): 62 days (tylosin factor A); 37 days (tylosin factor D)
Soil degradation half-life (1 mg/kg; 4 soils): 50.3 to 105 days
Leaching in soil column: none

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.

Ecotoxicological Properties

Drinking Water

Components	Test Results
Tylosin Base	36 µg/l, (Lilly Aquatic Exposure Guideline)

Chronic Exposure of Aquatic Organisms

Components	Test Results
Tylosin Base	99 µg/l, (Lilly Aquatic Exposure Guideline)

Acute Exposure of Aquatic Organisms

Components	Test Results
Tylosin Base	220 µg/l, (Lilly Aquatic Exposure Guideline)

13. Disposal considerations

Disposal instructions Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations. Confirm disposal procedures with environmental engineer and local regulations.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

UN number UN3077
UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (Tylosin Phosphate)

Transport hazard class(es)

Class	9
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes
ERG Code	9L
Special precautions for user	Not available.

Other information

Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tylosin Phosphate)
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	Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

IATA; IMDG**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.

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 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

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 Not regulated.
(SDWA)

US state regulations**US. Massachusetts RTK - Substance List**

Anti-dusting oil (CAS 8012-95-1)

US. New Jersey Worker and Community Right-to-Know Act

Anti-dusting oil (CAS 8012-95-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Anti-dusting oil (CAS 8012-95-1)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	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 06-26-2014

Version # 01

Lilly Lab Code Health: 2
 Fire: 1
 Reactivity: 0
 Special 1: A

List of abbreviations LEG = Lilly Exposure Guideline

Disclaimer

As of the date of issuance, we are providing available information relevant to the handling of this material in the workplace. All information contained herein is offered with the good faith belief that it is accurate. THIS MATERIAL SAFETY DATA SHEET SHALL NOT BE DEEMED TO CREATE ANY WARRANTY OF ANY KIND (INCLUDING WARRANTY OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE). In the event of an adverse incident associated with this material, this safety data sheet is not intended to be a substitute for consultation with appropriately trained personnel. Nor is this safety data sheet intended to be a substitute for product literature which may accompany the finished product.

For additional information contact:

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Revision Information

Product and Company Identification: Synonyms
Composition / Information on Ingredients: Ingredients
Exposure Controls / Personal Protection: OELs
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Ecological Information: Ecotoxicity
Transport Information: Proper Shipping Name/Packing Group
Regulatory Information: Risk Phrases - Labeling
GHS: Classification