



Elector PSP

Effective Date: 13-Dec-2006

Elanco Animal Health Material Safety Data Sheet

Section 1 - Chemical Product and Company

Manufacturer:

Elanco Animal Health
Division of Eli Lilly and Company
2001 West Main St
PO Box 708
Greenfield, IN 46140

Manufacturer's Emergency Phone:

1-800-428-4441

CHEMTREC:

1-800-424-9300 (North America)

1-703-527-3887 (International)

Common Name: Elector PSP

Chemical Name: 1H-as-Indaceno[3,2-d]oxacyclododecin-7,15-dione, 2-[(6-deoxy-2,3,4-tri-O-methyl-alpha-L-mannopyranosyl)oxy]-13-[[[(2R,5S,6R)-5-(dimethylamino)tetrahydro-6-methyl-2H-pyran-2-yl]oxy]-9-ethyl-2,3,3a,5a,5b,6,9,10,11,12,13,14,16a,16b-tetradecahydro-14-methyl-, (2R,3aS,5aR,5bS,9S,13S,14R,16aS,16bR)-

Chemical Name 2: 1H-as-Indaceno[3,2-d]oxacyclododecin-7,15-dione, 2-[(6-deoxy-2,3,4-tri-O-methyl-alpha-L-mannopyranosyl)oxy]-13-[[[(2R,5S,6R)-5-(dimethylamino)tetrahydro-6-methyl-2H-pyran-2-yl]oxy]-9-ethyl-2,3,3a,5a,5b,6,9,10,11,12,13,14,16a,16b-tetradecahydro-4,14-dimethyl-, (2S,3aR,5aS,5bS,9S,13S,14R,16aS,16bS)-

Synonym(s): 232105 formulation; Extinosad PSP; Spinosad SC 44.2%; Spinosad 480 g/L; XDE-105 480 g/L SC; XDE-105 (Factor A + Factor D) 44.2%

Lilly Item Code(s): AH0495

See attached glossary for abbreviations.

Section 2 - Composition / Information on Ingredients

<u>Ingredient</u>	<u>CAS</u>	<u>Concentration %</u>
Spinosyn A	131929-60-7	a
Spinosyn D	131929-63-0	a
Propylene Glycol	57-55-6	
Inert Ingredients	NA	

a - Spinosyn A and Spinosyn D combined make up 42.9% to 45.5% of this mixture.

Exposure Guidelines:

Spinosad - Dow AgroSciences Exposure Guideline 0.3 mg/m³ TWA.

Propylene glycol - WEEL 50 ppm TWA (total vapor and aerosol), 10 mg/m³ (aerosol only) TWA for 8 hours.

UK - Workplace Exposure Limit 10 mg/m³ TWA (particulates), 150 ppm (474 mg/m³) TWA (vapor and particulates).

Ireland - Occupational Exposure Limit 10 mg/m³ TWA (particulates) 150 ppm (470 mg/m³) TWA (total vapor and particulates).

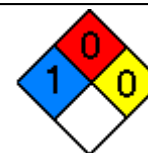
Section 3 - Hazards Identification

Appearance: Tan to gray aqueous suspension

Physical State: Liquid

Odor: Latex paint

Emergency Overview



Emergency Overview Effective Date: 13-Dec-2006

Lilly Laboratory Labeling Codes:

Health 1

Fire 0

Reactivity 0

Primary Physical and Health Hazards: Liver, Kidney and Bone Marrow Effects.

Caution Statement: Effects of exposure to Elector PSP may include liver, kidney, and bone marrow tissue changes.

Routes of Entry: Inhalation and skin contact.

Effects of Overexposure: The acute oral toxicity is low, and small amounts ingested incidentally during handling are not likely to be harmful. May cause slight temporary eye irritation. The acute dermal toxicity is low and a single prolonged dermal exposure is not likely to result in absorption of harmful amounts. The active ingredient is not expected to cause skin irritation. The active ingredient is not a skin sensitizer in guinea pigs. The acute inhalation toxicity is low and absorption of harmful amounts by inhalation is unlikely.

Medical Conditions Aggravated by Exposure: None known.

Carcinogenicity:

Spinosad (spinosyn A and spinosyn D) - Not listed by IARC, NTP, ACGIH, or OSHA. Did not cause cancer in long term animal studies.

Remaining ingredients - Not listed by IARC, NTP, ACGIH, or OSHA.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water. Get medical attention.

Skin: Remove contaminated clothing and clean before reuse. Wash all exposed areas of skin with plenty of soap and water. Get medical attention if irritation develops.

Inhalation: Move individual to fresh air. Get medical attention if breathing difficulty occurs. If not breathing, provide artificial respiration assistance (mouth-to-mouth) and call a physician immediately.

Ingestion: Do not induce vomiting. Call a physician or poison control center. If available, administer activated charcoal (6-8 heaping teaspoons) with two to three glasses of water. Do not give anything by mouth to an unconscious person. Immediately transport to a medical care facility and see a physician.

Section 5 - Fire Fighting Measures

Flash Point: >93 C (>200 F)

Flash Method: No applicable information found

UEL: No applicable information found

LEL: No applicable information found

Extinguishing Media: Non-combustible - Use appropriate extinguishing media for surrounding fire conditions.

Unusual Fire and Explosion Hazards: None known.

Hazardous Combustion Products: May emit toxic fumes when exposed to heat or fire.

Section 6 - Accidental Release Measures

Spills: Wear protective equipment, including eye protection, to avoid exposure (see Section 8 for specific handling precautions). Wear protective equipment, including eye protection, to avoid exposure (see Section 8 for specific handling precautions). Large spills due to traffic accidents, etc., should be reported immediately to CHEMTREC and Elanco Animal Health for assistance. Prevent spilled material from flowing onto adjacent land or into streams, ponds, or lakes.

Section 7 - Handling and Storage

Storage Conditions: Do not contaminate water, food or feed by storage. Store in original container only. In case of leak or spill, remove with absorbent materials and dispose of as waste.

Section 8 - Exposure Controls / Personal Protection

See Section 2 for Exposure Guideline information.

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

Respiratory Protection: Use an approved respirator.

Eye Protection: Safety glasses.

Ventilation: Laboratory fume hood or local exhaust ventilation.

Other Protective Equipment: 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.

Additional Exposure Precautions: 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.

Section 9 - Physical and Chemical Properties

Appearance: Tan to gray aqueous suspension

Odor: Latex paint

Boiling Point: No applicable information found

Melting Point: No applicable information found

Density: 4 pounds/gal @ 20 C (bulk)

pH: 7.37 (10% dilution)

Evaporation Rate: No applicable information found

Water Solubility: Aqueous suspension

Vapor Density: No applicable information found

Vapor Pressure: No applicable information found

Section 10 - Stability and Reactivity

Stability: Stable.

Incompatibility: May react with strong oxidizing agents (e.g., peroxides, permanganates, nitric acid, etc.).

Hazardous Decomposition: May emit toxic fumes when heated to decomposition.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

Acute Exposure

Oral:

Spinosad suspension (44%) - Rat, median lethal dose estimated greater than 5000 mg/kg.

Skin:

Spinosad suspension (44%) - Rabbit, median lethal dose estimated greater than 2000 mg/kg.

Inhalation:

Spinosad suspension (44%) - Rat, median lethal concentration estimated greater than 5000 mg/m³ (duration not specified).

Skin Contact:

Spinosad - Rabbit, nonirritant

Eye Contact:

Spinosad - Rabbit, slight irritant

Chronic Exposure

No data available for mixture or formulation. Data for ingredient(s) or related material(s) are presented.

Target Organ Effects:

Spinosad - In animals, has been shown to cause vacuolation of cells in liver, kidney, and bone tissues and changes in blood and serum biochemistry. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

Reproduction:

Spinosad - In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Sensitization:

Spinosad - Did not cause allergic skin reactions when tested in guinea pigs.

Mutagenicity:

Spinosad - Not mutagenic in bacterial or mammalian cells.

Section 12 - Ecological Information

No environmental data for the mixture or formulation. The environmental information for ingredient(s) or related material(s) are presented.

Ecotoxicity Data:

Spinosad

Rainbow trout 96-hour median lethal concentration: 30 mg/L

Bluegill 96-hour median lethal concentration: 5.94 mg/L

Sheepshead minnow 96-hour median lethal concentration: 7.87 mg/L

Daphnia magna 48-hour median lethal concentration: 92.7 mg/L

Bobwhite 5-day dietary median lethal concentration: >5253 ppm

Mallard 5-day dietary median lethal concentration: >5156 ppm

Bobwhite 14-day oral median lethal dose: >2000 mg/kg

Mallard 14-day oral median lethal dose: >2000 mg/kg
Honey bee 48-hour acute contact median lethal dose: 0.0029 microgram/bee
Green algae (*S. capricornutum*) median effective concentration: >105.5 ppm
Blue-green algae (*Anabaena flos-aquae*) median effective concentration: 8.09 mg/L
Diatom (*Navicula* sp.) median effective concentration: 0.107 mg/L
Diatom (*Skeletonema costatum*) median effective concentration: 0.227 mg/L
Eastern oyster 96-hour median effective concentration: 0.3 ppm
Grass shrimp 96-hour median lethal concentration: >9.76 mg/L

Environmental Fate:

Spinosad

Photolysis half-life in water (days): 0.93 for spinosyn A at pH 7; 0.82 for spinosyn D at pH 7

Photolysis half-life in soil (days): 82 for spinosyn A; 44 for spinosyn D

Hydrolysis half-life (days): none, none (pH 5, 7); 200 for spinosyn A (pH 9); 259 for spinosyn D (pH 9)

Field soil dissipation half-life (days): 0.3 to 0.5 for spinosyn A

Soil leaching: immobile

Aerobic biodegradation half-life in soil (days): 9.4-17.3 for spinosyn A; 14.5 for spinosyn D

Anaerobic biodegradation half-life in water (days): 161 for spinosyn A; 250 for spinosyn D

Bioconcentration factor (BCF) in whole fish: 114

Environmental Summary:

Spinosad - Highly toxic to honey bees, oysters, and diatoms. Moderately toxic to blue-green algae. Slightly to moderately toxic to fish and aquatic invertebrates. No more than slightly to practically nontoxic to birds. Practically nontoxic to green algae. No volatility expected. Does not bioconcentrate in aquatic organisms. Not persistent due to photolysis and biodegradation.

Section 13 - Disposal Considerations

Waste Disposal: Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of on site according to label use directions or at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerator, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Section 14 - Transport Information

Regulatory Organizations:

DOT: Not Regulated

ICAO/IATA: Not Regulated

IMO: Not Regulated

Section 15 - Regulatory Information

Below is selected regulatory information chosen primarily for possible Eli Lilly and Company usage. This section is not a complete analysis or reference to all applicable regulatory information. Please consider all applicable laws and regulations for your country/state.

U.S. Regulations

Spinosad (spinosyn A and spinosyn D)

TSCA - No

CERCLA - Not on this list

SARA 302 - Not on this list

SARA 313 - Not on this list

OSHA Substance Specific - No

Remaining Ingredients

TSCA - Yes

CERCLA - Not on this list

SARA 302 - Not on this list

SARA 313 - Not on this list

OSHA Substance Specific - No

EU Regulations

EC Classification

Not assigned an overall EC classification.

Section 16 - Other Information

MSDS Sections Revised: MSDS Name and sections 1, 2, 7, and 13.

Emergency Overview Sections Revised: New caution.

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 MERCHANTABILITY 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:

ELANCO Animal Health

1-800-428-4441

1-317-276-2000

GLOSSARY:

ACGIH = American Conference of Governmental Industrial Hygienists
AIHA = American Industrial Hygiene Association
BEI = Biological Exposure Index
CAS Number = Chemical Abstract Service Registry Number
CERCLA = Comprehensive Environmental Response Compensation and Liability Act (of 1980)
CHAN = Chemical Hazard Alert Notice
CHEMTREC = Chemical Transportation Emergency Center
DOT = Department of Transportation
EC = European Community
EINECS = European Inventory of Existing Chemical Substances
ELINCS = European List of New Chemical Substances
EPA = Environmental Protection Agency
HEPA = High Efficiency Particulate Air (Filter)
IARC = International Agency for Research on Cancer
ICAO/IATA = International Civil Aviation Organization/International Air Transport Association
IEG = Lilly Interim Exposure Guideline
IMO = International Maritime Organization
Kow = Octanol/Water Partition Coefficient
LEG = Lilly Exposure Guideline
LEL = Lower Explosive Limit
MSDS = Material Safety Data Sheet
MSHA = Mine Safety and Health Administration
NA = Not Applicable, except in Section 14 where NA = North America
NADA = New Animal Drug Application
NAIF = No Applicable Information Found
NCI = National Cancer Institute
NIOSH = National Institute for Occupational Safety and Health
NOS = Not Otherwise Specified
NTP = National Toxicology Program
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Limit (OSHA)
RCRA = Resource Conservation and Recovery Act
RQ = Reportable Quantity
RTECS = Registry of Toxic Effects of Chemical Substances
SARA = Superfund Amendments and Reauthorization Act
STEG = Lilly Short Term Exposure Guideline
STEL = Short Term Exposure Limit
TLV = Threshold Limit Value (ACGIH)
TPQ = Threshold Planning Quantity
TSCA = Toxic Substances Control Act
TWA = Time Weighted Average/8 Hours Unless Otherwise Noted
UEL = Upper Explosive Limit
UN = United Nations
WEEL = Workplace Environmental Exposure Level (AIHA)