

The logo for Elanco, featuring the word "ELANCO" in white, bold, sans-serif capital letters on a blue rectangular background that is tilted slightly to the right.

MATERIAL SAFETY DATA SHEET
Extinosad Aerosol for Wounds

AH0498

Revision 1.3, 18th October 2006

STATEMENT OF HAZARDOUS NATURE:

Not hazardous according to criteria of Worksafe Australia

Company Name and Address:

Elanco Animal Health
A Division of Eli Lilly Australia Pty Ltd
A.B.N. 39 000 233 992
112 Wharf Road, West Ryde, N.S.W. 2114, Australia

Contact Numbers:

Tel: 61 2 9878 7777
Fax: 61 2 9878 7720

Emergency Telephone Numbers:

Elanco Animal Health:
1800 226 324 (Toll free)

OR

Poisons Information Centre:
13 1126 (Australia-wide)

CHEMWATCH 1800 039 008 24 hour emergency contact number (spills and accidents)

Section 1 - Identification

Product Name: Extinosad Aerosol for Wounds

Other Names: Spinosad aerosol dressing

Manufacturer's Product Code: AH0498

UN Number: UN1950

Dangerous Goods Class/Subsidiary Risk: 2.1

Hazchem Code: N/A

Poisons Schedule Number: Not scheduled

Pack Size and Container Type: 370g aluminium aerosol cans

Use: Major Recommended Uses: Treatment and prevention of blowfly strike in mulesing, marking, and other wounds of sheep, including strains resistant to organophosphates

Major Recommended Method(s) of Application: Aerosol spray

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
Dimethyl Ether	115-10-6	30
Ethyl Alcohol	64-17-5	14
Propylene Glycol	57-55-6	7
Polyvinylpyrrolidone	9003-39-8	2.1
Polysorbate 20	9005-64-5	1.4
Chlorhexidine Digluconate	18472-51-0	0.056
Lactic Acid	50-21-5	0.042
F D and C Blue No. 1	3844-45-9	0.014
Propyl Gallate	121-79-9	< 0.01
Water	7732-18-5	45.101

a - Spinosyn A and Spinosyn D combine to make Spinosad which accounts for 0.28% of the formulation.

Section 3 - Hazards Identification

Appearance: Blue foaming liquid

Physical State: Liquid

Odour: Ether-like

Emergency Overview

Emergency Overview Effective Date: 06-Nov-2001

Lilly Laboratory Labelling Codes:

Health 1

Fire 3

Reactivity 0

Primary Physical and Health Hazards: Flammable. Nervous System Effects.

Caution Statement: Extinosad Aerosol for wounds contains ethyl alcohol and dimethyl ether, is flammable. Effects of exposure may include dizziness, nausea, and drowsiness.

Routes of Entry: Inhalation and skin contact.

Effects of Overexposure: May be slightly irritating to the eyes and skin. Based on animal studies, overexposure to spinosad may cause tissue changes in the liver, kidney or bone marrow. Overexposure to dimethyl ether by inhalation may cause non-specific discomfort, such as nausea, headache or weakness. Higher exposures may lead to temporary nervous system depression with anaesthetic effects such as dizziness, headache, confusion, incoordination and loss of consciousness; or increased susceptibility to the cardiac arrhythmic effects of epinephrine.

Ethyl alcohol – May include irritation of the eyes, skin and respiratory tract, drowsiness, nausea, muscle incoordination, visual impairment, slowed reaction time, sensory loss, slurring of speech, stupor and possible coma and death.

Medical Conditions Aggravated by Exposure:

Ethyl alcohol – Ingestion of large volumes may aggravate liver disorders, hypersensitivity to alcohol, and gastrointestinal abnormalities (peptic ulcers, gastritis).

Carcinogenicity:

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

Dimethyl ether – Not listed by IARC, NTP, ACGIH or OSHA. Administration of 25,000 ppm 6 hours/day, 5 days/week for 104 weeks was not carcinogenic.

Ethyl alcohol – ACGIH A4 – (not classifiable as a human carcinogen). Not listed by NTP or OSHA. Alcohol drinking is listed as IARC Group 1.

Propylene glycol – Not listed by IARC, NTP, ACGIH or OSHA. Multiple long term dietary, inhalation and dermal studies demonstrated no evidence of carcinogenicity in mice, rabbits or rats.

Polyvinylpyrrolidone – IARC Group 3 (not classifiable as to human carcinogenicity). Not listed by NTP, ACGIH or OSHA.

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

Section 4 - First Aid Measures

Eyes: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. See an ophthalmologist (eye doctor) or other physician immediately.

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 Poisons Information Centre. Phone 13 1126. 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.

SPECIFIC FIRST AID INSTRUCTIONS AS PER AUSTRALIAN REQUIREMENTS¹:

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone 13 1126.

¹Handbook of First Aid Instructions and Safety Directions for Agricultural and Veterinary Chemicals (including Pesticides). Therapeutic Goods Administration

Section 5 - Fire Fighting Measures

Flash Point: No applicable information found

UEL: No applicable information found

LEL: No applicable information found

Extinguishing Media: Use water, carbon dioxide, dry chemical, foam, or Halon.

Unusual Fire and Explosion Hazards: Extremely flammable. Flash point below 22.8 C (73 F).

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). Large spills due to traffic accidents, etc., should be reported immediately to 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: **Store at room temperature. Product should not be used after the date printed on the container**

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.

SPECIFIC SAFETY INSTRUCTIONS AS PER AUSTRALIAN REQUIREMENTS¹:

Will irritate the eyes and skin. Avoid contact with eyes and skin. Wash hands after use. When using the product wear elbow-length PVC gloves. After each day's use, wash gloves.

Section 9 - Physical and Chemical Properties

Appearance: Blue foaming liquid

Odor: Ether-like

Boiling Point: No applicable information found

Melting Point: No applicable information found

Specific Gravity: No applicable information found

pH: 5.3

Evaporation Rate: No applicable information found

Water Solubility: Soluble

Vapour Density: No applicable information found

Vapour Pressure: No applicable information found

¹ Handbook of First Aid Instructions and Safety Directions for Agricultural and Veterinary Chemicals (including Pesticides). Therapeutic Goods Administration

Section 10 - Stability and Reactivity

Stability: Stable at normal temperatures and pressures.

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

Animal Toxicity Data Single Exposure

Oral:

Spinosad aerosol dressing - Rat, median lethal dose greater than 20 g/kg.

Skin:

Spinosad aerosol dressing - Rabbit, median lethal dose greater than 1000 mg/kg.

Inhalation:

Spinosad - Rat, median lethal concentration greater than 5180 mg/m³ for 4 hours.

Dimethyl ether - Rat, median lethal concentration 164,000 ppm for 4 hours.

Ethyl alcohol - Rat, median lethal concentration 20,000 ppm for 10 hours (approximately 200,000 ppm for 1 hour).

Propylene glycol - Dog, 313 g/m³ to 627 g/m³ for 15 minutes, no deaths or toxicity.

Skin Contact:

Spinosad aerosol dressing - Rabbit, slight irritant

Eye Contact:

Spinosad aerosol dressing - Rabbit, slight irritant

Animal Toxicity Data Repeat Exposure

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.

Dimethyl ether - Long-term inhalation studies in rats exposed to 20,000 ppm reported changes in white blood cell counts (13-weeks), slight alterations in liver enzymes (30-weeks), and increased liver weights (30-weeks).

Ethyl alcohol - Nervous system effects (depression), liver and kidney effects (tissue changes).

Propylene glycol - No significant adverse effects were reported in monkeys exposed to saturated vapor for 18 months or dogs administered 2000 mg/kg for 2 years.

Reproduction:

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

Dimethyl ether - Slight decrease in fetal weight and slight increase in skeletal variations in rats at maternally toxic concentrations.

Ethyl alcohol - Decreased fertility, fetal growth retardation, increased behavioral abnormalities in offspring, and decreased offspring survival at doses toxic to the mother.

Propylene glycol - In animal studies, has been shown not to interfere with reproduction.

Sensitization:

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

Mutagenicity:

Spinosad - Not mutagenic in bacterial or mammalian cells.

Ethyl alcohol - Not mutagenic in bacterial or mammalian cells.

Propylene glycol - In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

Dimethyl ether - Negative in Ames, in vitro CHO/HGPRT, DNA repair/synthesis in liver cells, and Drosophila mouse host-mediated assays.

Section 12 - Ecological Information

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.

Dimethyl ether - Material is expected to have a very high mobility in soil and is not expected to adsorb to suspended solids and sediment in water. Volatilization from water and dry soil surfaces is expected to be an important fate process. The potential for bioconcentration in aquatic organisms is low. Biodegradation in soil is expected to be a slow process. Dimethyl ether is not expected to undergo hydrolysis in the environment.

Ethyl alcohol - Practically non-toxic to aquatic organisms. Material can be considered not to bioaccumulate and will have little adsorption to the soil. Ethanol will photodegrade and biodegrade when released to the environment and can not be considered to be persistent in the environment.

Propylene glycol - Practically non-toxic to aquatic organisms. Material is not expected to bioconcentrate in aquatic organisms. Material may leach from soil into groundwater. Material is expected to be degraded by microorganisms. Biodegradation is expected to be achievable in secondary waste water treatment plant. Material is not expected to readily evaporate; however, once in the atmosphere it is expected to rapidly degrade (within minutes to hours).

Section 13 - Disposal Considerations

Waste Disposal: Dispose of any cleanup materials and waste residue according to all applicable laws and regulations.

Container Disposal: Aerosols should be completely emptied before disposal. Place empty can in household rubbish. Do not puncture or incinerate.

PROPELLANT: Hydrocarbon

Section 14 - Transport Information

Dangerous goods classified.

Proper shipping name:	Aerosols, flammable, n.o.s. (contains dimethyl ether and ethyl alcohol)
UN Number:	UN1950
Hazard Class:	2.1
Packing Group:	Not applicable

Section 15 - Other Information

Sections Revised: Header and Footer: Removed automatic print date from header. Pagination changed to page number only. Section 1: Major use recommendations (added including strains resistant to organophosphates) .Added CHEMWATCH contact details.. Section 15: Deleted contact point details. (moved to section 1)

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.

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)
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
LEG = Lilly Exposure Guideline
LEL = Lower Explosive Limit
MSDS = Material Safety Data Sheet
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)