

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

**MATERIAL SAFETY DATA SHEET
DEMIZE POUR-ON FOR CATTLE**

AH0487

Revision 1.8, 18 October 2006

STATEMENT OF HAZARDOUS NATURE:

"Hazardous according to criteria of Worksafe Australia"
Irritant; R36/37 Irritating to eyes and respiratory system.

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: (02) 9878 7777
Fax: (02) 9878 7720

Emergency Telephone Numbers:

Elanco Animal Health:
1800 226 324 (Toll free)
OR

Poisons Information Centre:
131126 (Australia-wide)

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

Section 1 - Identification

Product Name: ElancoAH0487 Demize Pour-On for Cattle

Other Names: Elantik Pour-On Dip (South Africa), Zeta-Cypermethrin Pour-On, AH0487

Manufacturer's Product Code: AH0487

UN Number: UN3082

Dangerous Goods Class/Subsidiary Risk: 9
Refer to Section 14 for more information.

Packing Group: III

Hazchem Code: 2X

Additional information: Marine Pollutant
Refer to Section 14 for more information.

Poisons Schedule Number: S6

Pack Size and Container Type: HDPE plastic containers; 1L squeeze pack, 5L backpack,
*10L compact cube, and 20L compact cube.
*10L compact cube only available in New Zealand.

Use:

Major recommended uses: For the control of cattle lice, house fly, stable fly and susceptible buffalo fly on cattle.

Major Recommended Method(s) of Application: Pour-on

Section 2 - Composition / Information on Ingredients

Ingredient	CAS	Concentration %
Zeta-cypermethrin	52315-07-8	2.5
Xylene	1330-20-7	1
Soybean oil	8001-22-7	97

Contains no hazardous components (one percent or greater) or carcinogens (one-tenth percent or greater) not listed above.

Exposure guidelines:

Australia:

Zeta-cypermethrin - A NOHSC exposure standard has not been established for zeta-cypermethrin (NOHSC, 1995).

Xylene - The NOHSC exposure standards for xylene, a non-active constituent of Demize, are: 80 ppm or 350 mg/m³ TWA (Time Weighted Average), and 150 ppm or 655 mg/m³ STEL (Short Term Exposure Limit).

United States of America:

Zeta-cypermethrin - No known occupational exposure limits established.

Xylene - PEL 100 ppm (435 mg/m³) TWA. TLV 100 ppm (434 mg/m³) TWA, 150 ppm (651 mg/m³) STEL. BEI 1.5 grams methylhippuric acids per gram of creatinine sampled in urine at end of shift.

Section 3 - Hazards Identification

Appearance: Amber liquid

Physical state: Liquid

Odour: Faint aromatic

Emergency Overview

Primary Physical and Health Hazards: Irritant (eyes, respiratory tract). Nervous system effects.

Caution statement: Demize Pour-On contains zeta-cypermethrin and xylene and may be irritating to the eyes and respiratory tract. Effects of exposure may include convulsions, tremors and incoordination.

Routes of entry: Inhalation and skin contact.

Potential Signs and Symptoms of Occupational Exposure: None reported; however, based on animal data, may be irritating to the eyes. The components may produce signs and symptoms as presented.

Zeta-cypermethrin - Effects of exposure may include convulsions, tremors, incoordination, headache, nausea, and skin sensations such as numbing, burning, and tingling.

Xylene - May cause irritation of the eyes, skin, and respiratory tract. Repeated or prolonged skin contact can cause dermatitis (by defatting skin). Excessive inhalation of vapours can cause dizziness, weakness, fatigue, nausea, headache, and possible unconsciousness.

Medical Conditions Aggravated by Exposure: None known.

Carcinogenicity: Zeta-cypermethrin - Not listed by IARC, NTP, ACGIH, or OSHA. Two-year dietary studies in rats and dogs demonstrated no evidence of carcinogenicity.

Xylene - IARC Group 3 (not classifiable as to human carcinogenicity). ACGIH A4 - (not classifiable as a human carcinogen). Not listed by NTP or OSHA. Two-year carcinogenicity studies conducted by NTP with xylenes (mixed) demonstrated no evidence of carcinogenicity in mice and rats.

Remaining ingredients - No carcinogenicity data found. Not listed by IARC, NTP, ACGIH, or OSHA.

Section 4 - First Aid Measures

SPECIFIC FIRST AID INSTRUCTIONS AS PER AUSTRALIAN REGISTERED LABEL¹:
If poisoning occurs, contact a doctor or Poisons Information Centre. Phone 13 1126.

ADDITIONAL INFORMATION PROVIDED BY MANUFACTURER:

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. If available, administer activated charcoal (6-8 heaping teaspoons) with two to three glasses of

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

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: 123°C (253°F).

Flash Method: 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: None known.

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

Section 6 - Accidental Release Measures

Spills: Prevent further migration into the environment. Use absorbent/adsorbent material to solidify liquids. Solidification may not suppress vapours. Vacuuming liquids or solidified material may disperse vapours. 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. Wear protective equipment, including eye protection, to avoid exposure (see Section 8 for specific handling precautions).

Section 7 - Handling and Storage

Storage Conditions: Store below 30°C (Room Temperature) in a dry place in tightly closed original container. Do not store in direct sunlight.

Section 8 - Exposure Controls / Personal Protection

See Section 2 for Exposure Guideline information.

SPECIFIC SAFETY INSTRUCTIONS AS PER AUSTRALIAN REGISTERED LABEL²:
Will irritate the eyes and skin. Facial skin contact may cause temporary facial numbness. Avoid contact with eyes and skin. When using the product, wear elbow-length PVC gloves and face shield or goggles. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves and contaminated clothing.

Precaution: As this product may cause skin irritation it is not recommended that it be used on lactating dairy cows as animals may kick while in the dairy.

² Handbook of First Aid Instructions and Safety Directions for Agricultural and Veterinary Chemicals (including Pesticides). Therapeutic Goods Administration

ADDITIONAL INFORMATION PROVIDED BY MANUFACTURER:

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: Chemical goggles and/or face shield.

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.

Other Handling 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

Boiling Point: No applicable information found.

Melting Point: Not applicable.

Specific Gravity: No applicable information found.

pH: No applicable information found.

Evaporation Rate: No applicable information found.

Water Solubility: Insoluble.

Vapor Density: No applicable information found.

Vapor Pressure: No applicable information found.

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: Rat, 3000 mg/kg, no deaths, convulsions, breathing abnormalities, incoordination, reduced activity, decreased defecation, salivation.

Skin: Rabbit, 2000 mg/kg, no deaths, soft stools, body weight loss.

Inhalation: Rat, 2100 mg/m³ for 4 hours, no deaths, slow respiration, salivation.

Skin Contact: Rabbit, slight irritant.

Eye Contact: Rabbit, irritant.

Animal Toxicity Data Repeat Exposure

Toxicity data for Demize Pour-On or two components, zeta-cypermethrin and xylene, are presented.

Target Organ Effects: Zeta-cypermethrin - Nervous system effects (tremors, incoordination, convulsions), skin effects (numbing, burning, tingling).

Xylene - Blood effects (decreased red and white blood cell counts), liver effects (increased liver weight, change in serum liver enzymes), kidney effects (nephrosis, tissue changes), eye effects (corneal epithelial damage).

Reproduction: Zeta-cypermethrin - No effects identified in animal studies.

Xylene - Decreased fertility, fetal deaths, growth retardation of fetus, fetal skeletal defects, changes in fetal enzyme activities at doses toxic to the mother.

Sensitization: Demize Pour-On - Guinea pig, not a contact sensitizer.

Mutagenicity: Zeta-cypermethrin - Not mutagenic in bacterial or mammalian cells.

Xylene - Not mutagenic in bacterial or mammalian cells.

Section 12 - Ecological Information

Ecotoxicity Data: Zeta-cypermethrin

Rainbow trout, 96-hour median lethal concentration: 0.5 micrograms/L

Daphnia magna, 24-hour median effective concentration: 2 micrograms/L

Algae, 14-day effective concentration: 100 micrograms/L

Environmental Fate: Zeta-cypermethrin

Log Kow: 5

Bioconcentration factor: 17

Aerobic biodegradation half-life: 2 to 4 weeks

Hydrolysis half-life: readily hydrolyzed (pH 9)

Hydrolysis half-life: 20 to 29 days (pH < 7)

Environmental Summary: Zeta-cypermethrin - Highly toxic to fish and aquatic arthropods.

Not considered to bioaccumulate due to rapid biodegradation. Not considered to be persistent due to rapid rates of hydrolysis and biodegradation.

SPECIFIC LABEL INSTRUCTIONS AS PER AUSTRALIAN REQUIREMENTS:

PROTECTION OF FISH, CRUSTACEANS & THE ENVIRONMENT: Zeta-cypermethrin is toxic to fish and aquatic invertebrates. DO NOT contaminate streams, rivers or waterways with this product or used containers.

Section 13 - Disposal Considerations

Disposal: Dispose of container in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt.

Protection of fish, crustaceans & the environment: Zeta-cypermethrin is toxic to fish and aquatic invertebrates. DO NOT contaminate streams, rivers or waterways with this product or used containers.

Section 14 - Transport Information

Dangerous goods classified.

Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s (zeta-cypermethrin 2.5%)

UN Number: UN3082

Dangerous Goods Class/Subsidiary Risk: 9

Packing Group: III

Hazchem Code: 2X

Additional information: Label(s): 9

DOT/IMO: Marine Pollutant

NOTE REGARDING DANGEROUS GOODS LABELLING FOR DEMIZE:

Dangerous goods labelling is not required for Demize when shipping product within mainland Australia. When shipping product outside mainland Australia, ie over sea or ocean, IMO regulations apply and the shipment must be labelled with the Marine Pollutant warning and dangerous goods information.

Section 15 - Other Information

Sections revised: Section 1 Chemwatch details

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
NOHSC = National Occupational Health and Safety Commission (Australia)
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)