# **SAFETY DATA SHEETS**

This SDS packet was issued with item: 078435855

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

078344579 078435848 078438509



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Reviewed on 02/17/2004

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· Product det	lils	
Trade name	: <u>ZIMECTERIN EZ</u>	
Product nu	<b>nber:</b> 60000	
	red T	
• Information • Emergency Spill Inform	v v	

### 2 Composition/Data on components

· Chemical characterization

· Description: Mixture: consisting of the following components.

· Components:
---------------

Fine Ground Corn Cob		69.6%
Inert ingredients		29.8%
Ivermectin Comp. B1a (C48H74O14) Comp. B1b (C47H72O14)	👿 T, 🌄 N; R 20/21-25-50	0.6%

· Additional information:

Ivermectin is a mixture of 90% or more of 5-0-demethyl-22,23-dihydroavermectin Ala (component H2Bla) and 10% or less of 5-0-demethyl-25-de(1-methylpropyl)-22,23-dihydro-25-(1-methylethyl) avermectin Ala (component H2Blb). It contains not less than 95% of C48H74O14 plus C47H72O14, calculated on a water and solvent-free basis.

T Toxic

*N* Dangerous for the environment

R 20/21 Harmful by inhalation and in contact with skin

R 25 Toxic if swallowed

R 50 Very toxic to aquatic organisms

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Trade name: ZIMECTERIN EZ



### 4 First aid measures

- · General information: Immediately remove any clothing soiled by the product.
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact:
- Immediately wash with water and soap and rinse thoroughly.

If skin irritation occurs, consult a doctor.

• After eye contact:

*Rinse opened eye for a minimum of 15 minutes under running water. Get medical attention immediately. After swallowing:* 

If ingested, call a physician or Poison Control Center immediately. Drink one or two glasses of water and induce vomiting by gently touching the back of the throat with finger. Repeat until vomit fluid is clear. Do not induce vomiting or give anything by mouth to an unconscious person.

• After self injection Not an expected route of entry.

· Information for doctor.

The following symptoms may occur

Overexposure to ivermectin may cause drowsiness, depressed motor activity, slowed breathing, dilation of the pupils, tremors, vomiting and incoordination.

#### 5 Fire fighting measures

- · Suitable extinguishing agents:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. • Special hazards caused by the material, its products of combustion or resulting gases:
- *In case of fire, the following can be released: Carbon dioxide (CO2)*

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Trade name: ZIMECTERIN EZ

Carbon monoxide (CO)

Water contaminated with ivermectin should be contained and not discharged to any waterway.

As with all organic dust, finely divided particles dispersed with air in sufficient concentrations may generate an explosive mixture if an ignition source is present.

· Protective equipment:

Fire fighters should wear self-contained breathing apparatus and full protective equipment.

#### 6 Accidental release measures

- · Person-related safety precautions: Keep people at a distance and stay upwind.
- · Measures for environmental protection:
- Inform respective authorities in case of seepage of large quantities into water source or sewage system.
- Measures for cleaning/collecting:

If emergency personnel are unavailable, vacuum or carefully scoop up spilled material and place in an appropriate container for disposal by incineration. Avoid contact of spilled material with soil. Do not allow any water potentially contaminated with ivermectin including storm water, runoff from spills or fire fighting activities and contaminated wastewater to enter any waterway, drain or sewer. Residual surface material should be removed with towels moistened with methanol.

· Additional information: Ivermectin is very toxic to certain aquatic species.

#### 7 Handling and storage

- · Handling:
- Information for safe handling: Store in a cool, dry place.
- Information about protection against explosions and fires: No special measures required.
- · Storage:
- *Requirements to be met by storerooms and receptacles:* Store only in the original container.
- Store in a cool, dry, well-ventilated area away from direct sunlight.
- Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:

Protective clothing must be removed prior to leaving the controlled area. Showers are required after handling the material at the end of the workday. Always wash hands with soap and water prior to eating, drinking, or smoking.

Protect from light, elevated temperature and elevated humidity. • **Recommended storage temperature:**  $< 30^{\circ}C (86^{\circ}F)$ 

### 8 Exposure controls and personal protection

· Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Personal protective equipment:
- General protective and hygienic measures: Keep away from foodstuffs, beverages. Immediately remove all soiled and contaminated clothing.

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# Material Safety Data Sheet ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 02/17/2004

Reviewed on 02/17/2004

Trade name: ZIMECTERIN EZ

Boiling point/Boiling range: Undetermined.

• *Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.* 

· Dangerous reactions No dangerous reactions known.

Stable, protect from light, elevated temperature and humidity.

Not applicable.

Not determined.

0%

0.0 %

Insoluble in water.

Product is not self-igniting.

Product does not present an explosion hazard.

· Flash point:

• Auto igniting:

· Specific gravity:

· Solvent content:

· Organic solvents:

**10 Stability and reactivity** 

Water:

· Danger of explosion:

· Solubility in / Miscibility with

<b>XX7 1 1 1 C 1</b>	
	preaks and at the end of work.
Avoid contact with the	•
Do not eat, drink, sm	
	tilation must be provided where dust may enter the workroom environment.
containment areas collectors).	should have dedicated exhaust and dust collection systems (HEPA filters or
· Breathing equipment	ıt:
NORMAL USE: Res	piratory protection is not required under normal conditions of use.
MANUFACTURING	<i>E:</i> Appropriate respiratory protection is recommended if there is the potential for
overexposure to dus prevent high dust co	<i>st.</i> During manufacturing, proper ventilation should be maintained at all times to ncentrations.
· Protection of hands:	
NORMAL USE: Nor	
MANUFACTURING	: Rubber gloves or other impervious gloves are recommended.
· Eye protection:	
	ety glasses recommended.
	: Safety goggles are recommended whenever handling chemicals.
	otective coveralls, long sleeves if allergic tendencies are known.
9 Physical and che	mical properties
· General Information	1
Form:	Solid, Fibrous meal; clean, free-flowing, non-dusty
Color:	Slightly yellow to brown.
Odor:	Practically odorless
• Change in condition	
Melting point/Mel	ting range: Undetermined.

*Printing date 02/17/2004* 

Reviewed on 02/17/2004

Trade name: ZIMECTERIN EZ

· Dangerous products of decomposition: Carbon monoxide and carbon dioxide

LD/LC50	values that are relevant f	or classification:	
Oral	LD50	80 mg/kg (dog)	
Dermal	LD50	406 mg/kg (rabbit)	
70288-86-	7 Ivermectin Comp. B1a Comp. B1b (C47H72O		
Oral	LD Oral	>15 mg/kg (adult human)	
	LD50	~80 mg/kg (dog)	
		25 mg/kg (mouse)	
		50 mg/kg (rat)	
		>24 mg/kg (Rhesus monkey)	
Dermal	LD50	406 mg/kg (rabbit)	
		>660 mg/kg (rat)	
Inhalative	LC50/4h	>0.4 mg/kg (rat)	
	LD Subcutaneous	>1.6 mg/kg (adult human)	
	LD50 Intraperitoneal	55 mg/kg (rat)	
	LD50 Subcutaneous	~10 mg/kg (juvenile dog)	

• Other information (about experimental toxicology):

Ivermectin is clinically tested and shown to be well-tolerated in healthy subjects without signs of acute neurotoxicity through 2.0 mg/kg body weight (highest dose tested) when given orally as a single dose, and through 1.2 mg/kg bodyweight (highest dose tested) when given orally as a repeated dose (once every 2-3 days for 1 week). No reproductive or developmental toxicity resulted over background levels in pregnant women inadvertently administered orally-dosed ivermectin through approximately 0.33 mg/kg body weight as part of a community-based onchocerciasis treatment campaign. Based upon accidental human poisoning reports, a human male infant (16-months of age) tolerated an oral dose of approximately 7 to 9 mg/kg body weight presenting transient symptoms of toxicity, such as emesis, pallor, fever, tachycardia, somnolence, blood pressure fluctuation and mydriasis. An adult female (61-years of age) tolerated an oral dose of approximately 15 mg/kg body weight presenting transient coma, increased blood creatine kinase level, weakness, dizziness and agitation.

#### • Subacute to chronic toxicity:

No-effect levels in 2-week (daily dosed) toxicity studies in neonatal, juvenile and adult non-human primates support human no-effect levels for neurotoxicity. In the next more sensitive species, dog reproductive and developmental toxicity studies showed no abnormal observations through 0.60 mg/kg body weight (highest dose tested). In the next most sensitive species, rat, rabbit and mouse developmental toxicity was observed above or near maternal toxic doses, of which, the relevancy to human health is not known. Ivermectin is not a known carcinogen and tested negative in a series of in vitro and in vivo genotoxicity studies.

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### Material Safety Data Sheet ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 02/17/2004

Reviewed on 02/17/2004

Trade name: ZIMECTERIN EZ

#### · Additional toxicological information:

Based upon studies in animals and cases of accidental ingestion in humans, overexposure to ivermectin may cause drowsiness, depressed motor activity, slowed breathing, dilation of the pupils, tremors, vomiting, and incoordination.

### **12 Ecological information**

- · Information about elimination (persistence and degradability):
- Other information:

Ivermectin photodegrades rapidly in the environment and is metabolized in the soil. Water solubility is limited and it binds to soil very tightly. It does not bioconcentrate in fish and is not taken up from soil into plants. Both aquatic and terrestrial studies confirm the rapid degradation of ivermectin in the environment and its lack of accumulation and persistence.

· Ecotoxological effects:

• Acquatic toxicity:		
70288-86-7 Ivermectin Comp. B1a (C48H74O14) Comp. B1b (C47H72O14)		
LC50 / 48 hrs	0.025 ppb (daphnia magna)	
LC50/96 hours	.3 ug/l (Rainbow Trout)	
	in a second de la constante de	

• *Remark:* Ivermectin is very toxic to certain aquatic species.

· General notes:

Water danger class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities. Danger to drinking water if even extremely small quantities leak into the ground.

### **13 Disposal considerations**

- · Product:
- · Recommendation: Disposal must be made according to official regulations.
- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

### **14 Transport information**

- · DOT regulations:
- · Hazard class:

· Land transport ADR/RID (cross-border):

- · ADR/RID class:
- Maritime transport IMDG:
- · IMDG Class:
- · Air transport ICAO-TI and IATA-DGR:
- · ICAO/IATA Class: -

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Trade name: ZIMECTERIN EZ

	gulations
· Sar	
	tion 355 (extremely hazardous substances):
	e of the ingredients are listed.
· Seci	tion 313 (Specific toxic chemical listings):
Nor	e of the ingredients are listed.
· TSC	CA (Toxic Substances Control Act):
Nor	e of the ingredients are listed.
	Proposition 65
· Che	micals known to cause cancer:
Nor	e of the ingredients are listed.
· Che	micals known to cause reproductive toxicity:
Nor	e of the ingredients are listed.
· Car	cinogenesis potential categories
	A (Environmental Protection Agency)
	e of the ingredients is listed.
· IAR	C (International Agency for Research on Cancer)
	the of the ingredients is listed.
	P (National Toxicology Program)
	e of the ingredients is listed.
	7 (Threshold Limit Value established by ACGIH)
	the of the ingredients is listed.
	K (German Maximum Workplace Concentration) the of the ingredients is listed.
	OSH-Ca (National Institute for Occupational Safety and Health)
	e of the ingredients is listed.
	HA-Ca (Occupational Safety & Health Administration)
Non	e of the ingredients is listed.
	<b>duct related hazard informations:</b> product has been classified and marked in accordance with directives on hazardous materials.
	ard symbols:
	Very toxic
	Dangerous for the environment
Iver H21	pard-determining components of labelling: The mectin is a mixture of 90% or more of 5-0-demethyl-22,23-dihydroavermectin Ala (component Bla) and 10% or less of 5-0-demethyl-25-de(1-methylpropyl)-22,23-dihydro-25-(1-methylethy The mectin Ala (component H2Blb).
· Risl	c phrases:
20/2	21 Harmful by inhalation and in contact with skin.
28 36	Very toxic if swallowed. Irritating to eyes.
50 50	Very toxic to aquatic organisms.

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# Material Safety Data Sheet ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 02/17/2004

Reviewed on 02/17/2004

Trade name: ZIMECTERIN EZ

• Water hazard class: Water danger class 3 (Self-assessment): extremely hazardous for water.

**16 Other information** 

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing MSDS: MSDS Coordinator

· Contact: MSDS Coordinator, msds@merial.com





inting date 01/07/2010	Reviewed on 01/07/20
I Identification of substance	
· Product details	
· Trade name: ZIMECTRIN Paste 1.87%	
· Item number: 70961	
• Manufacturer/Supplier: Merial Limited 3239 Satellite Blvd. Duluth, Ga. 30096-4640 1-888-MERIAL 1 (1-888-637-4251)	
<ul> <li>Information department: MSDS Coordinator</li> <li>Emergency information: Spill Information: CHEMTREC® 1-800-424-9300 CHEMTREC® International 1+703-527-3887 International calls 011+703-527-3887 Reverse charges.</li> </ul>	

#### · Chemical characterization

· Description: Mixture: consisting of the following components.

· Component.	s:		
	Non hazardous substance		17.02%
57-55-6	Propylene Glycol		79.11%
13463-67-7	Titanium Dioxide		2.0%
70288-86-7	Ivermectin Comp. B1a Comp. B1b	₩ T, ₩ N; R 20/21-25-50 Danger: ♂ 3.1.0/2, 3.1.D/3, 3.1.1/3 Warning: ◆ 4.1.A/1	1.87%

# 3 Hazards identification

· Hazard description: Not applicable.

· Classification system:

The classification was made according to the latest editions of international substances lists, and from company and regulatory data.

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)

HEALTH	0	Health = 0
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity =

= 0

Printing date 01/07/2010

Reviewed on 01/07/2010

Trade name: ZIMECTRIN Paste 1.87%

· GHS label elements Void

#### 4 First aid measures

- · General information: No special measures required.
- After inhalation: Not an expected route of entry.
- After skin contact:
- Immediately wash with water and soap and rinse thoroughly.
- Remove contaminated clothing and shoes.
- If skin irritation occurs, consult a doctor.
- After eye contact:
- *Rinse opened eye for a minimum of 15 minutes under running water. Get medical attention immediately. After swallowing: Immediately call a doctor.*
- · After self injection
- · Information for doctor.

Overexposure to ivermectin may cause drowsiness, depressed motor activity, slowed breathing, dilation of the pupils, tremors, vomiting, anorexia and incoordination.

### **5** Fire fighting measures

- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- $\cdot$  Special hazards caused by the material, its products of combustion or resulting gases:
- If exposed to fire, toxic gases including CO and CO2 may be generated.
- · Protective equipment:

Fire fighters should wear self-contained breathing apparatus and full protective equipment.

#### 6 Accidental release measures

- · Person-related safety precautions: Not required.
- Measures for environmental protection: Do not allow product to reach sewage system or any water course.
- · Measures for cleaning/collecting:
- Vacuum, shovel, sweep-up all spilled materials and place in sealed container for proper disposal IAW Section XIII.
- Remove all residual surface material with towels moistened with methanol.
- · Additional information: No dangerous substances are released.

### 7 Handling and storage

· Handling:

- · Information for safe handling:
- Store in cool, dry place in tightly closed containers.
- Handle with care. Avoid jolting and impact.
- · Information about protection against explosions and fires: No special measures required.

· Storage:

- Requirements to be met by storerooms and receptacles: Store only in the original container.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Store in a cool, dry, well ventilated place.

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Printing date 01/07/2010

Reviewed on 01/07/2010

Trade name: ZIMECTRIN Paste 1.87%

· **Recommended storage temperature:**  $< 30^{\circ}C (86^{\circ}F)$ 

8 Exposure controls and personal protection

- Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- · Personal protective equipment:
- General protective and hygienic measures:
  Wash hands before breaks and at the end of work.
  Avoid contact with the eyes and skin.
  Do not eat, drink, smoke or inhale.
  Do not store food in the working area.
- Breathing equipment: Not required for this formulation when used in accordance with directions.
- · Protection of hands:



Rubber or other impervious gloves

· Eye protection:



Safety goggles.

· Body protection: Use protective apron and/or outer garment.

General Information		
Form:	Pasty	
Color:	White	
Odor:	Odorless	
Change in condition		
Melting point/Melting range:	Undetermined.	
<b>Boiling point/Boiling range:</b>	185°C (365°F)	
Flash point:	101°C (214°F)	
Ignition temperature:	371.0°C (700°F)	
Auto igniting:	Product is not self-igniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	2.6 Vol %	
Upper:	12.6 Vol %	
Vapor pressure at 20°C (68°F):	e 0.1 hPa	
Specific gravity:	Not determined.	

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Printing date 01/07/2010

Reviewed on 01/07/2010

Trade name: ZIMECTRIN Paste 1.87%

· Solubility in / Miscibility with	h	٦
Water:	Not established	
Organic solvents:	79.1 %	
· Solids content:	3.9 %	

### **10 Stability and reactivity**

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Dangerous reactions No dangerous reactions known.

· Dangerous products of decomposition: No dangerous decomposition products known.

# **11 Toxicological information**

· Acute	toxicity:
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· LD/LC50 v	· LD/LC50 values that are relevant for classification:				
13463-67-7	13463-67-7 Titanium Dioxide				
Oral	LD50	>20000 mg/kg (rat)			
Dermal	LD50	>10000 mg/kg (rabbit)			
Inhalation	LC50/4 h	>6.82 mg/l (rat)			
70288-86-7	70288-86-7 Ivermectin Comp. B1a				
Comp. B1b					
Oral	LD50	~80 mg/kg (dog)			
		25 mg/kg (mouse)			
		50 mg/kg (rat)			
Dermal	LD50	406 mg/kg (rabbit)			
		>660 mg/kg (rat)			
Inhalation	LC50/4 h	5.11 mg/l (rat)			
Primary irritant offact.					

• Primary irritant effect:

• on the skin: No irritating effect known.

• on the eye: No irritating effect known.

• Sensitization: No sensitizing effects known.

· Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

### **12 Ecological information**

· Ecotoxological effects:

· Aquatic toxicity:

70288-86-7 Ivermectin Comp. B1a

Comp. B1b

LC50 / 48 hrs 0.025 ppb (Daphnia magna)

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Printing date 01/07/2010

Reviewed on 01/07/2010

Trade name: ZIMECTRIN Paste 1.87%

#### LC50/96 hours .3 ug/l (Rainbow Trout)

#### · General notes:

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow any volumes of product to reach ground water, water source or sewage system. Danger to drinking water if even small quantities leak into the ground.

#### **13 Disposal considerations**

· Product:

· Recommendation:

Incinerate at an EPA approved incinerator facility. Smaller quantities can be disposed of with household waste.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

• DOT regulations:	
· Hazard class:	Not Regulated
· Land transport ADR/R	RID (cross-border):
· ADR/RID class:	9 Miscellaneous dangerous substances and articles
· UN-Number:	3082
· Packaging group:	III
0 00 1	: Environmentally hazardous substance, liquid, n.o.s. (ivermectin)
· Maritime transport IM	IDG:
· IMDG Class:	9
· UN Number:	3082
· Packaging group:	III
· Marine pollutant:	Yes
• Proper shipping name:	: Environmentally hazardous substance, liquid, n.o.s. (ivermectin)
· Air transport ICAO-TI	and IATA-DGR:
· ICAO/IATA Class:	9
· UN/ID Number:	3082
· Packing group:	III

# **15 Regulations**

#### · SARA

• Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

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Printing date 01/07/2010

Reviewed on 01/07/2010

Trade name: ZIMECTRIN Paste 1.87%

· TSCA (Toxic	c Substances	Control Act):
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57-55-6 Propylene Glycol

13463-67-7 Titanium Dioxide

· CA Proposition 65

· Chemicals known to cause cancer:

None of the ingredients are listed.

#### · Product related hazard informations:

*Observe the general safety regulations when handling chemicals. The product is not subject to identification regulations according to directives on hazardous materials.* 

· Safety phrases:

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point

• Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

### **16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing MSDS: MSDS Coordinator

· Contact: MSDS Coordinator, msds@merial.com

• Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO) GHS: Globally Harmonized System of Classification and Labelling of Chemicals NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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