# **SAFETY DATA SHEETS**

# This SDS packet was issued with item:

078378204

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

078377964 078378238 078439087 078461753 078712997 078713005 078917071 078917075 078926067

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

078917077



# MATERIAL SAFETY DATA SHEET

# PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Ventipulmin® Syrup

**Product No.:** NADA 140-973 **GHS Product Identifier:** Not applicable

Synonyms: Not available

Molecular Formula: Mixture, not applicable

Molecular Weight: Not applicable CAS Number: Mixture, not applicable Chemical Family: beta-2-adrenergic agonist

Manufacturer:

1

Boehringer Ingelheim Vetmedica, Inc.

2621 North Belt Hwy

St. Joseph, MO 64506-2002

**Intended Use:** Oral bronchodilator for the management of horses affected with airway obstruction, such a chronic obstructive

pulmonary disease (COPD).

**Emergency Telephone:** 

Transportation Emergency: (800) 424-9300

Medical Emergency (24HR): (800)530-5432

Non-emergency Telephone: (800) 821-7467

# 2 HAZARDS IDENTIFICATION

# **Emergency Overview**

**Physical State:** Liquid, syrup **Color:** Clear to light yellow

Odor: Alcohol-like







WARNING! Harmful if swallowed Equine use only. Not for human use.

**Precautionary Statements:** 

Keep away from heat, sparks and flame.

Do not use or store near heat or open flame.

Keep at a temperature not exceeding 30° C.

Keep only in original container.

Keep container closed.

Fire-fighting: Use water spray, dry chemical, carbon dioxide, foam

Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

Avoid contact with eyes, skin and clothing.

Wash thoroughly with soap and water after handling.

Wear suitable gloves and eye/face protection.

Spills: Use non-sparking equipment when picking up flammable spill. Remove ignition sources. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

If swallowed, seek medical advice immediately and show this container or label.

In case of contact with eyes, directly, flush with gently flowing fresh water thoroughly.

This material and its container must be disposed of in a safe way.

Keep out of reach of children.

Keep away from food, drink, and animal feedstuffs.

#### **Acute effect:**

Ventipulmin® Syrup was shown to be safe and effective for management of COPD in horses when used according to the recommended regimen of incremental dose titration to effect. Ventipulmin® Syrup relieves reversible bronchospasm arising from a variety of respiratory conditions. Ventipulmin® Syrup increases mucous secretions for improved airway resistance and improves mucociliary transport by decreasing thickness of mucous.

#### **Precautions/Contraindications:**

The reproduction effect in breeding stallions and brood mares has not been determined. Ventipulmin® Syrup antagonizes the effects of prostaglandin  $F_2$  alpha and oxytocin and should not be used in pregnant mares near term. Because tachycardia may occur, Ventipulmin® Syrup should not be used in horses suspected of having cardiovascular problems.

#### Overdosage:

Overdose can cause increased heart rate, nausea, tachycardia, sweating and other significant cardiovascular effects.

**ADVERSE REACTIONS TO PRODUCT**: Clenbuterol, like other beta adrenergic agonists, can product significant cardiovascular effects as evidenced by elevated pulse rate, blood pressure changes and/ or ECG changes. Mild sweating, muscle tremor, restlessness, urticaria and tachycardia may be observed in some horses during the first few days of treatment. May cause elevated creatine kinase (CK) serum levels. Ataxia was observed in 3 out of 239 horses (1.3%) in clinical studies.

#### **Potential Health Effects**

**Inhalation:** Not expected to be an inhalation hazard with prescribed use.

**Eye Contact:** Not expected to be a hazard to the eye with prescribed use. Contact with eye may cause transient irritation.

**Skin Contact:** Can cause hypersensitive reactions.

**Ingestion:** Harmful. Ingestion may cause cardiovascular effects such as elevated pulse rate, blood pressure changes and/or ECG changes and other systemic effects.

**Chronic Health Effects:** Possible hypersensitization (development of abnormal sensitivity).

Target Organ(s): Respiratory System, Cardiovascular System

Potential Physical Effects: Mild sweating, muscle tremor, restlessness, urticaria and tachycardia.

**OSHA Regulatory Status**: Exempt, FDA Regulated.

**Environment:** No data available.

# 3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	EC No.	CAS- No.	Concentration	Classification	Notes
Ethyl Alcohol	2005786	64-17-5	5.0	F, R11	
Glycerin	2002895	56-81-5	4.5		
Clenbuterol HCl	2533660	37148-27-9	.0723	R43	Denmark
Carbomer 934P, NF		57916-92-4	proprietary		
Methylparaben	2027857	99-76-3	proprietary		
Propylparaben	2023077	94-13-3	proprietary		
Polyethylene glycol	76960	25322-68-3	proprietary		
Sucrose	2003349	57-50-1	proprietary		
Trolamine, N.F.	2030498	102-71-6	proprietary	R43	Denmark
Water	2317912	7732-18-5	proprietary		

The full texts for all R-Phrases are displayed in Section 16.

# 4 FIRST AID MEASURES

General: Animals or persons developing anaphylactic (life-threatening) reactions, such as difficulty in breathing or unconsciousness, must receive immediate medical attention.

**Inhalation:** Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

**Eye Contact:** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

**Skin Contact:** Wash with soap and water. Get medical attention if symptoms occur.

**Ingestion:** Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

**Note to Physician:** For animal use only. Not for human use. Treatment for Clenbuterol HCl overdose should be symptomatic and supportive.

# 5 FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish with water spray, dry chemical, carbon dioxide, foam

Unsuitable Extinguishing Media: None known

**Special Fire Fighting Procedures:** Wear self-contained breathing apparatus and protective clothing. Use water spray to keep fire-exposed containers cool.

Unusual Fire & Explosion Hazards: Combustible liquid and vapor

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, hydrochloric acid gas

Flammability Class: 2

### 6 ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Wear appropriate personal protective equipment. (See Section 8).

**Spill Cleanup Methods:** STEPS TO BE TAKEN IF SIGNIFICANT QUANTITIES OF LIQUID IS SPILLED: Eliminate all ignition sources. Wear an approved respirator, eye protection, personal protective coverings and gloves. Use HEPA filtered vacuum or wet sweeping to clean up spillage. Place spillage in appropriate container for waste disposal. Wash contaminated clothing before use.

**Environmental Precautions:** Prevent runoff from entering drains, sewers or streams. Dike for later disposal.

# 7 HANDLING AND STORAGE

**Handling:** HANDLING SIGNIFICANT QUANTITIES OF LIQUID: Avoid contact with eyes, skin or clothing. Absorb spilled liquid and collect for disposal. Wash hand thoroughly after handling.

**Storage:** Keep only in the original container. Safety cap should be placed on the bottle when not in use. Store at a controlled room temperature  $15^{\circ}-30^{\circ}$  C  $(59^{\circ}-86^{\circ}$  F). Keep from heat and flame. Keep from freezing. Store away from foodstuffs.

# 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

#### **Exposure Limits:**

<b>Chemical Name</b>	Source	Type	<b>Exposure Limits</b>	Notes
Carbomer 934P,			N/A	
N.F.				
Clenbuterol HCl	Harmonized	TWA	$0.14 \text{ ug/m}^3$	
	Exposure			
	Limit			
Ethyl alcohol	ACGIH	8-HR TWA	1000 ppm	Irritation
Ethyl alcohol	OSHA Z-1	PEL	1000 ppm	
Ethanol (Ethyl	Alberta	8-HR TWA	1000 ppm	Irritation
Alcohol)				
Ethanol	British	8-HR TWA	1000 ppm	
	Columbia			
Ethanol	Ontario	8-HR TWA	1000 ppm	
Ethyl Alcohol	Quebec	8-HR TWA	1000 ppm	
Ethanol	Austria	TWA	1000 ml/m <sup>3</sup>	
	MAK List	0.775 =====	1000	
Ethyl alcohol	Belgium	8-HR TWA	1000 ppm	
Ethanol	Denmark	TWA	1000 ppm	
Ethanol	Finland	8-HR TWA	1000 ppm	
Ethanol	France	TWA	5000 ppm	
Ethanol	Germany	Limit Value	500 ml/m <sup>3</sup>	Short term
				exposure
				classification
Ethon of	Carre	O LID TWA	1000	category : II
Ethanol Ethanol	Greece Iceland	8-HR TWA 8-HR TWA	1000 ppm	
Ethanol		8-HR TWA	1000 ppm 1000 ppm	
Ethanol	Italy Netherlands	MAC TWA	500 ppm	
Ethanol	Portugal	8-hr Exposure	1000 ppm	
Ethanor	Fortugai	Limit	1000 ppiii	
Ethanol	Spain	8-hr VLA-ED	1000 ppm	
Linanoi	Spain	(Daily Exposure	1000 ppin	
		Limit )		
Ethanol	Sweden	NGV (Level Limit	500 ppm	
Bullion	Sweden	Value)	200 ppm	
Ethanol	Switzerland	TWA	500 ppm	
Ethanol	United	TWA	1000 ppm	
	Kingdom			
Glycerin Mist	ACGIH	8-HR TWA	$10 \text{ mg/m}^3$	
Glycerin Mist,	OSHA Z-1	PEL	$5 \text{ mg/m}^3$	
Respirable				
Fraction				
Glycerin Mist,	OSHA Z-1	PEL	15 mg/m <sup>3</sup>	
Total Dust				
Glycerin mist	Alberta	8-HR TWA	$10 \text{ mg/m}^3$	
Glycerin – mist	British	8-HR TWA	$10 \text{ mg/m}^3$	
	Columbia			
Glycerin mist	Ontario	8-HR TWA	$10 \text{ mg/m}^3$	
Glycerin (mist)	Quebec	8-HR TWA	$10 \text{ mg/m}^3$	

			10 / 3	
Glycerina, niebla	Mexico	TWA	$\frac{10 \text{ mg/m}^3}{10 \text{ mg/m}^3}$	
Glycerin	Belgium	8-HR TWA	$\frac{10 \text{ mg/m}^3}{10 \text{ mg/m}^3}$	
Glycerin	Finland	8-HR Limit	$\frac{20 \text{ mg/m}^3}{1.0 \text{ mg/m}^3}$	
Glycerin	France	TWA	$\frac{10 \text{ mg/m}^3}{3}$	
Glycerin	Greece	8-HR TWA	$10 \text{ mg/m}^3$	
(anhydrous)				
Glycerol, Mist	Ireland	8-hour TWA	$\frac{10 \text{ mg/m}^3}{10 \text{ mg/m}^3}$	
Glycerin Mist	Italy	8-hour TWA	$\frac{10 \text{ mg/m}^3}{3}$	
Glycerol	Netherlands	MAC TWA	$10 \text{ mg/m}^3$	
Glycerin	Portugal	8-hr Exposure Limit	$10 \text{ mg/m}^3$	
Glycerin	Spain	8-hr VLA-ED (Daily Exposure Limit)	10 mg/m <sup>3</sup>	
Glycerol, Mist	United Kingdom	TWA	$10 \text{ mg/m}^3$	
Methylparaben			N/A	
Propylparaben			N/A	
Polyethylenglykole (mittlere	Austria	8-HR TWA	$1000 \text{ mg/m}^3$	
molmassee 200-				
400), einatembare				
fraction				
Polyethyleneglycol		8-HR	1000 mg/m <sup>3</sup>	
(PEG) med	Denmark	0-1110	1000 mg/m	
middelmolvaeGT	Bennark			
på				
Polyethylenglydol	Germany	Limit Value	1000 mg/m <sup>3</sup>	
600 (PEG 600)			8	
Polyethyleenglycol	Netherlands	MAC TWA (TGG)	$1000 \text{ mg/m}^3$	
(Mol.Gew.200-			C	
600)				
Sucrose	ACGIH	8-HR TWA	$10 \text{ mg/m}^3$	Lung
Sucrose, respirable	OSHA Z-1	PEL	5 mg/m <sup>3</sup>	
fraction			-	
Sucrose, total dust	OSHA Z-1	PEL	$15 \text{ mg/m}^3$	
Sucrose	Alberta	8-HR TWA	$10 \text{ mg/m}^3$	
Sucrose (respirable	British	8-HR TWA	$3 \text{ mg/m}^3$	
fraction)	Columbia			
Sucrose (total dust)	British	8-HR TWA	$10 \text{ mg/m}^3$	
	Columbia			
Sucrose (total dust)	Ontario	8-HR TWA	$10 \text{ mg/m}^3$	
Sucrose	Quebec	8-HR TWA	$10 \text{ mg/m}^3$	
Sucrose	Belgium	8-HR TWA	$10 \text{ mg/m}^3$	
Saacharose	France	VME	$10 \text{ mg/m}^3$	
Sucrose	Ireland	8-HR OEL	$10 \text{ mg/m}^3$	
Saccarosio	Italy	8-HR TWA	$10 \text{ mg/m}^3$	
Saccharose	Netherland	MAC TWA	$10 \text{ mg/m}^3$	
Sacarose	Portugal	8-HR TWA	$10 \text{ mg/m}^3$	

C	C	0.1	10 /3	
Sacrosa	Spain	8-hr VLA-ED	$10 \text{ mg/m}^3$	
		(Daily Exposure		
		Limit )		
Sucrose	United	TWA	$10 \text{ mg/m}^3$	
	Kingdom			
Triethanolamine	ACGIH	8-HR TWA	$5 \text{ mg/m}^3$	Irritation; liver;
			_	kidney
Triethanolamine	Alberta	8-HR TWA	$5 \text{ mg/m}^3$	Irritation effect
Triethanolamine	British	8-HR TWA	5 mg/m <sup>3</sup>	
	Columbia		-	
Triethanolamine	Ontario	8-HR TWA	$3.1 \text{ mg/m}^3$	
Triethanolamine	Quebec	8-HR TWA	$5 \text{ mg/m}^3$	
Triethanolamin,	Austria	TWA	$5 \text{ mg/m}^3$	Sensitizer
einatembare				
fraction				
Tri-ethanolamine	Belgium	8-HR TWA	$5 \text{ mg/m}^3$	
Triethanolamin	Denmark	TWA	$3.1 \text{ mg/m}^3$	
Triethanolamine	Iceland	8-HR TWA	$5 \text{ mg/m}^3$	Allergenic
				substance
Triethanolamine	Ireland	8-HR TWA	$5 \text{ mg/m}^3$	
Triethanolamine	Italy	8-HR TWA	$5 \text{ mg/m}^3$	
Triethanolamine	Netherlands	MAC TWA (TGG)	$5 \text{ mg/m}^3$	
Triethanolamina	Portugal	8-HR TWA	$5 \text{ mg/m}^3$	
Triethanolamina	Spain	8-hr VLA-ED	$5 \text{ mg/m}^3$	
		(Daily Exposure		
		Limit)		
Triethanolamin	Sweden	NGV (Level Limit	$5 \text{ mg/m}^3$	
		Value)		

**Engineering Controls:** Not generally required when handling containers or liquid. (See exposure limits). Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions.

**Respiratory Protection:** Not generally required when handling containers or liquid. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA standard 63 FR 1152, January 8, 1998. Respirator type: NIOSH approved air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge, or canister.

**PERSONAL PROTECTIVE EQUIPMENT**: Not generally required when handling containers. If containers are compromised or exposure to the active ingredient or mixture is likely wear:

Eye Protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear suitable gloves.

**Skin Protection:** It is a good industrial hygiene practice to minimize skin contact.

**Hygiene Measures**: Eye bath, washing facilities

#### PHYSICAL AND CHEMICAL PROPERTIES

Color: Clear to light yellow

Odor: Alcohol-like

9

**Odor Threshold:** 100 ppm (ethyl alcohol)

Physical State: Liquid, syrup

**pH:** No data available

**Melting Point:** 17.9° C (64.2° F) (glycerin)

Freezing Point: No data available

**Boiling Point:** 78.5° C (173.3° F) (ethyl alcohol)

**Flash Point:** 43.3° C (110° F)

Flammability Limit – Upper (%): No data available Flammability Limit – Lower (%): No data available

**Evaporation rate:** No data available **Vapor Pressure:** 43 mmHg (ethyl alcohol) **Vapor Density (Air=1):** 3.17 (glycerin)

**Specific Gravity:** 1.09 **Solubility:** No data available

Partition Coefficient (n-Octanol/water): No data available

**Autoignition Temperature:** No data available **Decomposition Temperature:** No data available

# 10 STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Heat

**Incompatible Materials:** Strong oxidizing agents

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, hydrochloric acid gas

Possibility of Hazardous Reactions: Hazardous polymerization will not occur

#### 11 TOXICOLOGICAL INFORMATION

#### **Specified Substances**

### **Acute Toxicity**

Chemical Name	Test Results	
Clenbuterol HCl	Intravenous LD <sub>50</sub> (mouse): 27,600 μg/kg	
	Oral LD <sub>50</sub> (rat): 315 mg/kg	

	Oral LD <sub>50</sub> (dog): 67 mg/kg			
Ethyl Alcohol	Eye Irritation (rabbit): 500 mg – severe irritation			
	Skin Irritation (rabbit): 20 mg/24H – moderate irritation			
	Inhalation (rat) LC <sub>50</sub> : 20000 ppm/10H			
	Oral LD <sub>50</sub> (guinea pig) : 5560 mg/kg			
Glycerol	Eye Irritation (rabbit): 126 mg – mild irritation			
	Skin Irritation (rabbit): 500 mg/24H – mild irritation			
	Oral LD <sub>50</sub> (rat) : 12,600 mg/kg			
	Oral LD <sub>50</sub> (mouse) : 4090 mg/kg			
	Dermal LD <sub>50</sub> ( rabbit): $> 10$ gm/kg			

**Listed Carcinogens** 

Chemical Name	IARC	NTP	OSHA	ACGIH
Ethanol	I (Inadequate data - animals; Sufficient data – humans)	Known carcinogen (alcoholic beverage consumption)	Not listed	Not listed

# 12 ECOLOGICAL INFORMATION

Ecotoxicity: No data available

Persistence and degradability: No data available

Mobility in soil: No data available
Other adverse effects: No data available

**Germany WGK**: Ethanol: ID No: 96; Class 1: slightly water-endangering; Glycerin: ID No: 116; Class 1: slightly water-endangering; Triethanolamine: ID No: 201: Class 1: slightly water-endangering; Methylparaben: ID No: 3413: Class 1: slightly water-endangering; Propylparaben: ID No: 6054: Class 1: slightly water-endangering; Polyethylene Glykol: ID No: 279: Class 1: slightly water-endangering

#### 13 DISPOSAL CONSIDERATIONS

**General Information:** Dispose of in accordance with local, state and federal regulations.

**Disposal Methods:** No specific disposal method required. Do not empty into drains; dispose of this material and its container in a safe way. Do not contaminate water, food, or feed by storage disposal.

**RCRA Information:** EPA Hazardous: D001 (ethyl alcohol)

**Container:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

# 14 TRANSPORT INFORMATION

**<u>DOT</u>**: Not regulated

Special provision 49 CFR 173.150 (e) - Aqueous solution containing greater than 50% water and less than 24% alcohol.

**TDG**: Not regulated

Alcohol/water solutions exempt if the ethanol range is 0-50%.

ADR/RID: Not regulated

Aqueous solutions of ethyl alcohol and alcoholic beverages containing not more than 24% alcohol by volume are not subject to the provisions of the ADR.

**IATA:** Not regulated

Special provision A58. Ethanol aqueous solutions containing 24% or less alcohol by volume.

IMDG: Not regulated

Special provision 144. Aqueous solutions containing 24% or less ethanol by volume.

# 15 REGULATORY INFORMATION

**Canadian Controlled Products Regulations:** This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

WHMIS Classification: Noncontrolled, exempt

#### **Inventory Status**

This material is **not** listed on the US TSCA Inventory. Therefore, it can only be used for TSCA exempt purposes such as R&D or veterinary use.

This material is **not** listed on the DSL Inventory.

#### **US Regulations**

# FEDERAL LAW PROHIBITS EXTRA LABEL USE OF THIS DRUG IN FOOD ANIMALS.

FEDERAL LAW RESTRICTS THIS DRUG TO USE BY OR ON ORDER OF LICENSED VETERINARIANS.

#### **CERCLA Hazardous Substance List (40 CFR 302.4):**

Component	Reportable Quantity
Ethyl alcohol (Generic RCRA Waste No. D001)	100

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): Ethyl alcohol in alcoholic beverages

Massachusetts Right-To-Know List: Denatured alcohol, ethanol, ethyl alcohol; Glycerin mist

Minnesota Hazardous Substances List: Ethanol; Glycerin mist

New Jersey Right-To-Know List: Ethanol

**Pennsylvania Right-To-Know List:** Ethanol; 1,2,3-Propanetriol **Rhode Island Right-To-Know List:** Ethanol; Glycerin mist; Glycerol

**European Regulations** 

**Denmark:** The MAL-factor Ethanol - 7 m3 air/10g substance. (The MAL-factor applies to

concentrations > 0% by weight)

**Netherlands:** Ethanol: Fertility Risk Category: 1 **Switzerland Toxins List 1**: 1, 2,3-Propantriol

# 16 OTHER INFORMATION

#### **Hazard Ratings**

	Health Hazard	Fire Hazard	Reactivity Hazard
HMIS	2	2	0

	Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
NFPA	2	2	0	N/A

<sup>\*-</sup> Chronic health effect; 0 – Minimal; 1 – Slight; 2 – Moderate; 3 – Serious; 4 – Severe

Mixture -

R<sub>10</sub> – Flammable

R43- Irritant

S24 - Avoid Contact with skin.

S37 – Wear suitable gloves.

#### From Section 3

F- Flammable

R11-Highly Flammable

R43- Irritant

S24 - Avoid Contact with skin.

S37 - Wear suitable gloves.

**ABBREVIATIONS:** 

BIV - Boehringer Ingelheim Vetmedica, Inc.

AIHA- American Industrial Hygiene Association

mppcf - million particles/cubic foot

N/A - Not applicable

N/E - Not established

#### **References:**

- 1. Freedom of Information Summary. NADA 140-973. VENTIPULMIN® Syrup Boehringer Ingelheim Vetmedica, Inc. May 11, 1998. <a href="www.fda.gov">www.fda.gov</a>
- 2. VENTIPULMIN® Syrup. Product Reference Information. Boehringer Ingelheim Vetmedica, Inc. www.bi-vetmedica.com
- 3. Federal Register. Vol 63, No. 149, Tuesday, August 4, 1998/ Rules and Regulations
- 4. FDA Veterinarian. July/August 1998. Vol. IIII, No. IV
- 5. Ariel WebInsight Regulatory Database. Regulatory Summary for North America, Western Europe, and Global Inventories Database.
- 6. RTECS Benzenemethanol, 4-amino-3,5-dichloro-alpha-(((1,1-dimethylethyl)amino)methyl)-
- 7. RTECS Ethyl alcohol. RTECS No. KQ6300000.

8. RTECS – Glycerol. RTECS No.MA8050000.

9. GHS Manual

**Revision Information:** Updated all sections of the MSDS for ANSI, GHS and OSHA

Compliance.

**Prepared by:** Boehringer Ingelheim Vetmedica, Inc.

Issue Date: 07/05/06 Supercedes Date: 5/31/05

**Disclaimer:** The information provided herein is offered by Boehringer Ingelheim Vetmedica, Inc. ("BIV") in good faith as accurate as of the date hereof, but without guarantee. This information includes information which has been generated by other parties and provided to BIV, and which BIV has not independently verified. The information provided herein relates only to the specific product designated, and may not be valid where such product is used in combination with any other materials or in any process. The information provided herein is offered solely for your consideration, investigation and verification, and Boehringer Ingelheim Vetmedica, Inc. ("BIV") expressly disclaims all liability for reliance thereon. BIV EXPRESSLY DISCLAIMS ALL WARRANTIES OF EVERY KIND AND NATURE (INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. In addition, since the conditions of use and suitability of the product for particular uses are beyond BIV's control, ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER, AND BIV EXPRESSLY DISCLAIMS ANY AND ALL LIABILITY AS TO ANY RESULTS OBTAINED OR ARISING FROM ANY USE OF THE PRODUCT. Use or transmission of the information contained herein in any other format than the format as presented is strictly prohibited. Nothing herein shall be construed as permission or recommendation for the use of the product in a manner that might infringe an existing patent. BIV neither represents nor warrants that the format, content or product formulas contained in this document comply with the laws of any other country except the United States of America.

© Copyright 2001 Boehringer Ingelheim Vetmedica, Inc. All rights reserved.