



## MATERIAL SAFETY DATA SHEET

### 1 PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Ventipulmin<sup>®</sup> Syrup  
**Product No.:** Not applicable  
**MSDS ID#:** Not Available  
**GHS Product Identifier:** Not applicable

Molecular Formula: Mixture, not applicable  
Molecular Weight: Mixture, not applicable  
CAS Number: Mixture, not applicable  
Chemical Family: Adrenergic amine

**Manufacturer:**  
Boehringer Ingelheim Vetmedica, Inc.  
2621 North Belt Hwy  
St. Joseph, MO 64506-2002

**Transportation Emergency:** For Chemical  
Emergency Spill, Leak, Fire, Exposure, or  
Accident Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300  
Outside USA and Canada: +1 703-527-3887  
(collect calls accepted)

**Medical Emergency (24HR):** (866) 638-2226  
**Non-Emergency Telephone:** (800) 821-7467

**Intended Use:** For the management of  
horses affected with airway obstruction, such  
as chronic obstructive pulmonary disease  
(COPD).

### 2 HAZARDS IDENTIFICATION

#### Emergency Overview

**Physical State:** Liquid  
**Color:** Light yellow  
**Odor:** Alcohol like



**WARNING!**  
**Combustible liquid.**

**For use in horses only.  
Not for human use.**

**Precautionary Statements:**

**Prevention:**

Keep away from heat/sparks/flames/hot surfaces – No smoking.  
Wear protective gloves/eye protection/face protection.

**Response:**

In case of fire: Use water spray/dry chemical/carbon dioxide/foam to extinguish.

**Storage:**

Store in a well-ventilated place. Keep cool.

**Disposal:**

Dispose of contents/container according to applicable federal and local regulations.

**Additional statements:**

Keep only in original container.  
Keep at a temperature between 15°-30°C.  
Keep from freezing.  
Avoid contact with eyes, skin and clothing.  
Wash thoroughly with soap and water after handling.  
If swallowed, seek medical advice immediately and show this container or label.  
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.  
Spills: Absorb spilled substance with inert material and sweep into appropriate waste containers.  
Keep out of reach of children.  
Keep away from food, drink, and animal feedstuffs.

**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. Exposure to liquid in eye may cause eye irritation.

**Skin Contact:** Not expected to be a hazard to the skin with prescribed use. May cause skin irritation. May cause skin sensitization by contact.

**Ingestion:** 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):** Central nervous system, cardio vascular system.

**OSHA Regulatory Status:** Hazardous (Exempt)

**Environment:** No data available

### 3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	EC No.	CAS- No.	Concentration	Classification	Notes
Polyethylene Glycol 400 (PEG 400)	500-038-2	25322-68-3	9.1 %	----	----
Ethyl alcohol	200-578-6	64-17-5	5 %	F; R11	----
Glycerin	200-289-5	56-81-5	4.5455 %	----	----
Clenbuterol hydrochloride	244-643-7	21898-19-1	0.0023%	T; R25	----

Components not listed are not hazardous or are below reportable limits.

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

### 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

**Protective Equipment for Firefighters:** Wear self-contained breathing apparatus (SCBA) and full protective gear including helmet with face shield, coat, pants, boots, and gloves.

**Special Fire Fighting Procedures:** In the event of a fire, do not breathe fumes. Use water spray to cool unopened containers. Move exposed containers from fire area if you can do so without risk.

**Unusual Fire & Explosion Hazards:** Combustible liquid and vapor.

**Hazardous Combustion Products:** Carbon monoxide, carbon dioxide, hydrogen chloride.

<b>6</b>	<b>ACCIDENTAL RELEASE MEASURES</b>
----------	------------------------------------

**Personal Precautions:** Eliminate all sources of ignition. No smoking. Wear appropriate personal protective equipment (See Section 8).

**Spill Cleanup Methods:** STEPS TO BE TAKEN IF SIGNIFICANT QUANTITIES OF PRODUCT IS SPILLED: Absorb or cover with dry earth, sand or other non-combustible material. 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.

<b>7</b>	<b>HANDLING AND STORAGE</b>
----------	-----------------------------

**Handling:** HANDLING SIGNIFICANT QUANTITIES OF PRODUCT: Do not use near fire, sparks, or any other open flame. Avoid contact with eyes, skin or clothing. Use with adequate ventilation. Wash hand thoroughly after handling.

**Storage:** Keep only in the original container. Store at 15°-30° C (59°-86° F). Store out of direct sunlight. Keep from freezing. Store away from foodstuffs.

<b>8</b>	<b>EXPOSURE CONTROLS / PERSONAL PROTECTION</b>
----------	--

**Exposure Limits:**

Chemical Name	Source	Type	Exposure Limits	Notes
Glycerin Mist	ACGIH	TWA	10 mg/m <sup>3</sup>	Upper respiratory irritation
Glycerin Mist, Respirable fraction	OSHA	PEL	5 mg/m <sup>3</sup>	----
Glycerin Mist, Total dust	OSHA	PEL	15 mg/m <sup>3</sup>	----
Ethyl alcohol	ACGIH	STEL	1000 ppm	Upper respiratory irritation
Ethyl alcohol	OSHA	PEL	1000 ppm	
Polyethylene Glycol (as a particulate)	AIHA	WEELs	10 mg/m <sup>3</sup>	----
Clenbuterol hydrochloride	BIEL*	TWA	1 µg/m <sup>3</sup>	Category: 3B
Clenbuterol hydrochloride	BIEL*	STEL (15 minute)	8 µg/m <sup>3</sup>	---
Clenbuterol hydrochloride	BIEL*	STEL (1 hour)	4 µg/m <sup>3</sup>	---

Where lower governmentally imposed exposure limits exist, such limits should take precedence.

**Engineering Controls:** Not generally required when handling vials or containers. Good ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Respiratory Protection:** Not generally required when handling vials or containers. 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 organic vapor respirator.

**Europe: Wear appropriate personal protective equipment according to the Council Directive 89/686/EEC (4) and the appropriate CEN standards.**

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

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

**Hand Protection:** Wear suitable gloves.

**Skin Protection:** Wear lab coat, apron or appropriate clothing to prevent skin contact.

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

## 9 PHYSICAL AND CHEMICAL PROPERTIES

**Color:** Light yellow

**Odor:** Alcohol like

**Odor Threshold:** 100 ppm; highest known value (Ethyl alcohol)

**Physical State:** Liquid

**pH:** No data available

**Melting Point:** May solidify at 17.9°C (64.2°F) based on data for Glycerin

**Freezing Point:** May solidify at 17.9°C (64.2°F) based on data for Glycerin

**Boiling Point:** 78.5°C (173.3°F); lowest known value (Ethyl alcohol)

**Flash Point:** > 37.8°C (> 100°F)

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

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

**Evaporation rate:** No data available

**Vapor Pressure:** 43 mm of Hg @ 20°C; highest known value (Ethyl alcohol)

**Vapor Density (Air=1):** 3.17; highest known value (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:** Excessive heat, freezing.

**Incompatible Materials:** Strong oxidizing agents

**Hazardous Decomposition Products:** Carbon oxides, nitrogen oxides, hydrogen chloride

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

## 11 TOXICOLOGICAL INFORMATION

### Specified Substances

#### Acute Toxicity:

Chemical Name	Test Results
Clenbuterol hydrochloride	Oral (rat) LD50: 159 mg/kg
Glycerin	Administration into eye, rabbit; 500 mg/24H; Mild irritant Administration onto skin, rabbit; 500 mg/24H; Mild irritant Oral (rat) LD50: 12600 mg/kg
Ethyl alcohol	Administration into eye, rabbit; 100 uL; Moderate irritant Administration onto skin, rabbit; 20 mg/24H; Moderate irritant Oral (rat) LD50: 7000 mg/kg Dermal (rabbit) LD50: 20000 mg/kg Inhalation (rat) LC50: 5900 mg/m <sup>3</sup> /6H
Polyethylene glycol 400	Administration into the eye, rabbit; 500 mg; mild irritant Oral LD50 (rat): > 30 gm/kg Dermal LD50 (rabbit): > 20 gm/kg

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

**Listed Carcinogens:** Ethanol used in alcoholic beverages is an IARC carcinogen.

## 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:** Glycerin ID No: 116; Class 1: slightly water-endangering. Ethyl alcohol ID No: 96; Class 1: slightly water-endangering.

## 13 DISPOSAL CONSIDERATIONS

**General Information:** Dispose of in accordance with local, state, federal, national or international 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 disposal.

**RCRA Information:** Not applicable

<b>14</b>	<b>TRANSPORT INFORMATION</b>
-----------	------------------------------

**DOT:** Not regulated

**TDG:** Not regulated

**ADR/RID:** Not regulated

**IATA:** Not regulated

**IMDG:** Not regulated

<b>15</b>	<b>REGULATORY INFORMATION</b>
-----------	-------------------------------

**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:** B/3, D/2/B, Exempt

**Inventory Status**

This material **is** listed on the following inventories: AICS, EINECS, DSL, and NZIoC.

This material is **not** listed on the following inventories: TSCA, IECSC, ENCS, PICCS, and KECI. Therefore, it can only be used for TSCA exempt purposes such as R&D or veterinary use.

**Canada CEPA Schedule 1** – None listed

**US Regulations**

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

**CERCLA Hazardous Substance List (40 CFR 302.4):** None listed.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):** None listed.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):** None listed.

**SARA Title III**

**Section 302 Extremely Hazardous Substances (40 CFR 355, Appendix A):** None listed.

**Section 311/312 (40 CFR 370):**

Acute (Immediate)       Chronic (Delayed)       Fire       Reactive       Pressure Generating

**Section 313 Toxic Release Inventory (40 CFR 372):** None listed.

**State Regulations**

**California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):** None listed.

**Massachusetts Right-To-Know List:** Glycerin; Ethyl alcohol

**Minnesota Hazardous Substances List:** Glycerin; Ethyl alcohol; Polyethylene glycol.

**New Jersey Right-To-Know List:** Glycerin; Ethyl alcohol

**Pennsylvania Right-To-Know List:** Glycerin; Ethyl alcohol

**Rhode Island Right-To-Know List:** Glycerin; Ethyl alcohol

**European Regulations**

**Austria MAK List (Annex I):** Ethyl alcohol; Polyethylene glycol

**Denmark (Annex 3.6):** None listed.

**Germany (Dangerous Substances Ordinance 2004, Annex III):** Ethyl alcohol

**Norway (List of Dangerous Substance):** Ethyl alcohol.

**Sweden (Annex 3):** None listed.

**Switzerland (Toxins List 1):** Glycerin; Ethyl alcohol; Polyethylene glycol

<b>16</b>	<b>OTHER INFORMATION</b>
-----------	--------------------------

**Hazard Ratings**

	Health Hazard	Fire Hazard	Reactivity Hazard
<b>HMIS</b>	2	2	0

	Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
<b>NFPA</b>	2	2	0	N/A

\* – Chronic health effect; 0 – Minimal; 1 – Slight; 2 – Moderate; 3 – Serious; 4 – Severe

**EU Symbol and R Phrase Definitions:**

F – Highly flammable

T – Toxic

R11 – Highly flammable

R25 – Toxic if swallowed

**ABBREVIATIONS:**

BIV – Boehringer Ingelheim Vetmedica, Inc.

N/A – Not applicable

N/E – Not established

pph – parts per hour

ppm – parts per million

**References:**



1. Ventipulmin<sup>®</sup> Syrup MSDS and Label.
2. Ariel WebInsight Regulatory Database. Regulatory Summary for North America, Western Europe, and Global Inventories Database.
3. GHS Manual

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

**Issue Date:** 4/30/2012

**Revision Information:** 11/1/2011

**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 2012 Boehringer Ingelheim Vetmedica, Inc. All rights reserved.