

SAFETY DATA SHEETS

This SDS packet was issued with item:

078461753

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 078378204 078378238 078439087 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

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ventipulmin[®] 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.

6	ACCIDENTAL RELEASE MEASURES
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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.

7	HANDLING AND STORAGE
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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.

8	EXPOSURE CONTROLS / PERSONAL PROTECTION
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Exposure Limits:

Chemical Name	Source	Type	Exposure Limits	Notes
Glycerin Mist	ACGIH	TWA	10 mg/m ³	Upper respiratory irritation
Glycerin Mist, Respirable fraction	OSHA	PEL	5 mg/m ³	----
Glycerin Mist, Total dust	OSHA	PEL	15 mg/m ³	----
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 ³	----
Clenbuterol hydrochloride	BIEL*	TWA	1 µg/m ³	Category: 3B
Clenbuterol hydrochloride	BIEL*	STEL (15 minute)	8 µg/m ³	---
Clenbuterol hydrochloride	BIEL*	STEL (1 hour)	4 µg/m ³	---

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 ³ /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

14	TRANSPORT INFORMATION
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DOT: Not regulated

TDG: Not regulated

ADR/RID: Not regulated

IATA: Not regulated

IMDG: Not regulated

15	REGULATORY INFORMATION
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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

16	OTHER INFORMATION
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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

* – 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[®] 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.

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1. Identification

Product identifier	Ventipulmin® Syrup
Other means of identification	None.
Recommended use	For the management of horses affected with airway obstruction, such as chronic obstructive pulmonary disease (COPD).
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	Boehringer Ingelheim Vetmedica, Inc.
Address	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 calls:	(800) 821-7467

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Serious eye damage/eye irritation	Category 2B
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Warning
Hazard statement	Flammable liquid and vapor. Causes eye irritation.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Wear protective gloves/eye protection/face protection.
Response	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.
Storage	Store in a well-ventilated place. Keep cool.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Polyethylene Glycol 400 (PEG 400)	25322-68-3	9.1
Ethanol	64-17-5	5
Glycerin	56-81-5	4.5455
Clenbuterol hydrochloride	21898-19-1	0.0023

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Ingestion may cause cardiovascular effects such as elevated pulse rate, blood pressure changes and/or ECG changes and other systemic effects.
Indication of immediate medical attention and special treatment needed	Not for human use. For use in animals only. Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS). Store away from foodstuffs. Keep from freezing.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Ethanol (CAS 64-17-5)	PEL	1900 mg/m ³ 1000 ppm	
Glycerin (CAS 56-81-5)	PEL	5 mg/m ³ 15 mg/m ³	Respirable fraction. Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value
Ethanol (CAS 64-17-5)	STEL	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethanol (CAS 64-17-5)	TWA	1900 mg/m ³ 1000 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Polyethylene Glycol 400 (PEG 400) (CAS 25322-68-3)	TWA	10 mg/m ³	Particulate.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general 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. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear suitable protective clothing.

Respiratory protection

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.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Liquid.

Color

Light yellow.

Odor	Alcohol.
Odor threshold	100 ppm highest known value (Ethyl alcohol)
pH	Not available.
Melting point/freezing point	64.22 °F (17.9 °C) based on data for Glycerin
Initial boiling point and boiling range	173.3 °F (78.5 °C) lowest known value (Ethyl alcohol)
Flash point	> 100.0 °F (> 37.8 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	43 mm Hg highest known value (Ethyl alcohol) (68 °F (20 °C))
Vapor density	3.17 (Air=1) highest known value (Glycerin)
Relative density	1.09
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity Chemical stability	The product is stable and non-reactive under normal conditions of use, storage and transport.
Possibility of hazardous reactions	Material is stable under normal conditions. No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Protect against direct sunlight.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Ingestion may cause cardiovascular effects such as elevated pulse rate, blood pressure changes and/or ECG changes and other systemic effects.
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Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
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Components	Species	Test Results
Clenbuterol hydrochloride (CAS 21898-19-1)		
Acute		
<i>Oral</i>		
LD50	Mouse	147 mg/kg
	Rat	159 mg/kg
Ethanol (CAS 64-17-5)		
Acute		
<i>Inhalation</i>		
LC50	Rat	20000 ppm, 10 Hours
<i>Oral</i>		
LD50	Rat	6.2 g/kg
Glycerin (CAS 56-81-5)		
Acute		
<i>Oral</i>		
LD50	Rat	12600 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Serious eye damage/eye irritation	Causes eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful. Possible hyper sensitization (development of abnormal sensitivity).	

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.		
Components			
Ethanol (CAS 64-17-5)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia obtusa</i>)	10100 - 11200 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	13480 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential			
Partition coefficient n-octanol / water (log Kow)			
Ethanol (CAS 64-17-5)	-0.31		
Glycerin (CAS 56-81-5)	-1.76		
Mobility in soil	No data available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Ethanol)
Transport hazard class(es)	
Class	3
Subsidiary risk	- III
Packing group	No
Environmental hazards	3L
ERG Code	
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Ethanol)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations One or more components are not listed on TSCA. Therefore, it can only be used for TSCA exempt purposes such as R&D or veterinary use. FEDERAL LAW RESTRICTS THIS DRUG TO USE BY OR ON ORDER OF LICENSED VETERINARIANS.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethanol (CAS 64-17-5) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes**SARA 313 (TRI reporting)**
Not regulated.**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations****US. Massachusetts RTK - Substance List**

Ethanol (CAS 64-17-5)

Glycerin (CAS 56-81-5)

US. New Jersey Worker and Community Right-to-Know Act

Ethanol (CAS 64-17-5)

Glycerin (CAS 56-81-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethanol (CAS 64-17-5)

Glycerin (CAS 56-81-5)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Ethanol (CAS 64-17-5)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 06-May-2015**Revision date** -**Version #** 01**Further information** Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling. HMIS® is a registered trade and service mark of the American Coatings Association (ACA).

HMIS® ratings

Health: 2
Flammability: 2
Physical hazard: 0

NFPA ratings



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