

## **SAFETY DATA SHEETS**

**This SDS packet was issued with item:**

078924432

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

078924223

## AMINO ACID ORAL SOLUTION

### Section 1: Identification of the Substance and Supplier

<b>Product Name</b>	Amino Acid Oral Solution
<b>Recommended Use</b>	Nutritional Supplement
<b>Company Details</b>	Aspen Veterinary Resources
<b>Date of Preparations</b>	11/11/15

### Section 2: Hazards Identification

<b>Hazard Classification</b>	Not Hazardous
<b>Priority Identifiers</b>	None
<b>Secondary Identifiers</b>	None
<b>Risk &amp; Safety Phrases</b>	Ingestion of unusually large amounts may cause vomiting, diarrhea any gastrointestinal upset.

### Section 3: Composition/Information on Ingredients

Chemical Name	CAS Number	Concentration
L-Arginine	74-79-3	0 - 1% w/v
Calcium Chloride	10043-52-4	0 - 1% w/v
Dextrose Monohydrate	50-99-7	0 - 10% w/v
Citric Acid	77-92-9	0 - 1% w/v
L-Cysteine HCl H <sub>2</sub> O	7048-04-6	0 - 1% w/v
Magnesium Sulfate 7H <sub>2</sub> O	7487-88-9	0 - 1% w/v
Ethyl Paraben	120-47-8	0 - 1% w/v
L-Glutamic Acid	56-86-0	0 - 1% w/v
L-Histidine HCl H <sub>2</sub> O	5934-29-2	0 - 1% w/v
L-Isoleucine	73-32-5	0 - 1% w/v
Lactic Acid 88%	79-33-4	0 - 1% w/v
L-Leucine	61-90-5	0 - 1% w/v
L-Lysine HCl	657-27-2	0 - 1% w/v
L-Methionine	68-63-3	0 - 1% w/v
Methyl Paraben	99-76-3	0 - 1% w/v
Niacin amide	98-92-0	0 - 1% w/v
d-Panthenol	81-13-0	0 - 1% w/v
L-Phenylalanine	63-91-2	0 - 1% w/v
Potassium Chloride	7447-40-7	0 - 1% w/v
Propyl Paraben	941-13-3	0 - 1% w/v
Propylene Glycol	57-55-6	0 - 10% w/v
Pyridoxine HCl	58-56-0	0 - 1% w/v
Riboflavin 5 NaPO <sub>4</sub>	130-40-5	0 - 1% w/v
Sodium Acetate	127-09-3	0 - 1% w/v
Sorbitol 70%	50-70-4	0 - 10% w/v
Thiamine HCl	67-03-8	0 - 1% w/v
L-Threonine	72-19-5	0 - 1% w/v
L-Valine	72-18-4	0 - 1% w/v

Chemical Name	CAS Number	Concentration
Cyanocobalamin USP	68-19-9	0.01 – mcg/mL
Butylated Hydroxyanisole	25013-16-5	0.5 – 0.1 mcg/mL
Water for Injection	7732-18-5	QS

*Concentrations are listed as a range to protect proprietary information. The variations have no material effect on the safety data reported.*

## Section 4: First Aid Measures

**Necessary First Aid Measures**

Skin: Wash with soap and water  
 Eyes: Flush with water.  
 Inhalation: None  
 Ingestion: Drink plenty of water. Contact physician if symptoms persist.

## Section 5: Fire Fighting Measures

**Type of Hazard** Not Flammable  
**Fire Hazard Properties** None Applicable  
**Regulatory Requirements** None Applicable  
**Extinguishing Media and Methods** CO<sub>2</sub>, Extinguishing powder or water spray  
**Hazchem Code** None Applicable  
**Recommended Protective Clothing** Gloves and protective eye wear are optional

## Section 6: Accidental Release Measures

**Emergency Procedures** Small amounts-flush with water. Large spills-absorb liquid on clay or sand and shovel into DOT containers for disposal.

## Section 7: Handling and Storage

**Precautions for Safe Handling** Avoid contact with skin, eyes and mucosa  
**Regulatory Requirements** None Required  
**Handling Practices** Keep containers tightly sealed. Avoid physical contact.  
**Approved Handlers** Not Required  
**Conditions for Safe Storage** Store between 15°C-30°C (59°F-86°F)  
**Store Site Requirements** Controlled room temperature

## Section 8: Exposure control/Personal Protection

**Workplace Exposure Standards** None Applicable  
**Application in the workplace** None Applicable  
**Exposure standards outside the workplace** None Applicable  
**Personal protection** Protective apparel is required

## Section 9: Physical and Chemical Properties

**Appearance** Yellow Liquid  
**Boiling Point** Approximately 100°C  
**Melting/Softening point** None Applicable

Vapor Pressure	Not determined
Specific Gravity	About 1.01
Solubility (H <sub>2</sub> O)	Soluble
Percent Volatiles	No volatiles present
Evaporation Rates	Not determined

## Section 10: Stability and Reactivity

<b>Stability of the Substance</b>	Stable under labeled storage conditions
<b>Conditions to Avoid</b>	Excessive heat
<b>Material to Avoid</b>	None
<b>Hazardous Decomposition Products</b>	Toxic fumes may result from thermal decomposition: Carbon monoxide, carbon dioxide, Chloride, Oxides of phosphorous, potassium and sodium

## Section 11: Toxicological Information

### Acute effects for individual ingredients only

Ingestion of unusually large amounts may cause gastrointestinal upset, vomiting and diarrhea

## Section 12: Environmental Information

### Effects for individual ingredients only

None Applicable

## Section 13: Disposal Considerations

<b>Disposal Information</b>	Flush small spills with water. For large spills, absorb liquid on clay, sand or other suitable absorbent material and shovel into DOT approved containers for disposal.
<b>Reference</b>	Flush area with detergent and water

## Section 14: Transport Information

<b>Relevant Information</b>	No restrictions
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## Section 15: Regulatory Information

<b>Regulatory Status</b>	None Applicable
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## Section 16: Other Information

<b>Additional Information</b>	Keep out of reach of children. For animal use only.
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# PHOENIX SCIENTIFIC, INC.

## MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,  
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

PSI MSDS NO.: 500003

SECTION I			
MANUFACTURER'S NAME <b>Phoenix Scientific, Inc.</b>		EMERGENCY TELEPHONE NO. <b>816-364-3777 (days) 816-487-2010 (evenings)</b>	
ADDRESS (Number, Street, City, State and Zip Code) <b>3915 S. 48<sup>th</sup> Street Terrace, St. Joseph, MO 64503</b>			
CHEMICAL NAME AND SYNONYMS <b>Amino Acids, Electrolytes, Vitamins, Dextrose in H2O</b>		TRADENAME AND SYNONYMS <b>Amino Acid Oral Solution</b>	
CHEMICAL FAMILY <b>Nutritional Supplement</b>		FORMULA <b>N/A Chemical Mixture</b>	
SECTION II - HAZARDOUS INGREDIENTS			
	%	TLV (Units)	
N/A			
SECTION III - PHYSICAL DATA			
Boiling Point (°F)	100°C	Specific Gravity (H <sub>2</sub> O = 1)	1.01
Vapor Pressure (mm Hg)	N/A	Percent, Volatile by Volume (%)	N/A
Vapor Density (Air = 1)	N/A	Evaporation Rate (_____ = 1)	N/A
Solubility In Water	Miscible		
Appearance and Odor    Clear, colorless to pale yellow solution/faint sour to none.			
SECTION IV - FIRE AND EXPLOSION HAZARD DATA			
Flash Point (Method Used): N/A	Flammable Limits: N/A	LEL N/A	UEL N/A
Extinguished Media:    As appropriate for surrounding material.			
Special Fire Fighting Procedures: None			
Unusual Fire and Explosion Hazards: None			

500003

SECTION V - HEALTH HAZARD DATA			
Threshold Limit Value: N/A			
Effects of Overexposure: Nausea, vomiting, shortness of breath.			
Target Organs:	Eyes, skin, GI tract		
Primary Routes of Entry:	Eye & skin contact, ingestion.		
Eye Contact:	Flush eyes with water for 15 minutes. Seek medical attention if irritation persists.		
Skin contact:	Wash with soap and water. Seek medical attention if irritation persists.		
Inhalation:	Remove victim to fresh air. Apply artificial respiration if needed.		
Ingestion:	Induce vomiting if victim is conscious. (Never induce vomiting in an unconscious person) Seek medical attention if adverse reactions occur.		
Emergency and First Aid Procedures: Contact nearest poison control center.			
NTP: No	IARC: No	Z List: No	OSHA: No EPA: No
SECTION VI - REACTIVITY DATA			
Stability	Unstable		Conditions To Avoid: None Known
	Stable	X	
Incompatibility (Materials to avoid): None Known			
Hazardous Decomposition Products: None Known			
Hazardous Polymerization	May Occur		Conditions To Avoid:
	Will Not Occur	X	None Known
SECTION VII - SPILL OR LEAK PROCEDURES			
Steps to be taken in case material is released or spilled: Flush to drain using plenty of water.			
Waste disposal method: As per local, state and federal regulations.			
SECTION VIII - SPECIAL PROTECTION INFORMATION			
Respiratory Protection (Specify Type): None normally required.			
Ventilation	Local Exhaust: None normally required		Special: N/A
	Mechanical (General): N/A		Other: N/A
Protective Gloves: If desired.		Eye Protection: Yes	
Other Protective Equipment: Special protective equipment not normally needed.			
SECTION IX - SPECIAL PRECAUTIONS			
Cautions to be taken in handling and storing: Store per label directions.			
Other Precautions: READ AND FOLLOW ALL LABEL DIRECTIONS			
<b>NOTICE:</b> The information contained herein is believed to be complete and accurate. However, it is the user's responsibility to determine the suitability of the information for his or her particular purpose. Phoenix Scientific, Inc. assumes no additional liability or responsibility resulting from the use of, or reliance on, this information.			

## Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

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### Amino Acid Oral Solution

#### SECTION 1: Identification

##### Product identifier

**Product name:** Amino Acid Oral Solution

**Product code:** 14519423,13122072

##### Recommended use of the product and restriction on use

**Relevant identified uses:** A nutritional supplement containing B-complex vitamins, essential amino acids, dextrose and electrolytes.

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

##### Manufacturer or supplier details

###### Supplier:

###### United States

Aspen Veterinary Resources Ltd  
3155 W. Heartland Drive  
Liberty, MO 64068  
1-800-792-1238

##### Emergency telephone number:

###### United States

CHEMTREC

Within USA and Canada: 1-800-424-9300 (24 hours)

Outside USA and Canada: +1-703-527-3887 (24 hours)

#### SECTION 2: Hazard(s) identification

##### GHS classification:

Eye irritation, category 2A

##### Label elements

###### Hazard pictograms:



**Signal word:** Warning

##### Hazard statements:

H319 Causes serious eye irritation

##### Precautionary statements:

P264 Wash hands thoroughly after handling

P280 Wear protective gloves/protective clothing/eye protection/face protection

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337+P313 If eye irritation persists: Get medical advice/attention

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### Amino Acid Oral Solution

Hazards not otherwise classified: None

### SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 10043-52-4	Calcium chloride	<1
CAS number: 77-92-9	Citric acid	<10
CAS number: 7048-04-6	L-Cysteine, hydrochloride, hydrate	<1
CAS number: 7487-88-9	Magnesium Sulfate	<1
CAS number: 5934-29-2	L-Histidine, hydrochloride, hydrate	<1
CAS number: 79-33-4	L-(+)-lactic acid	<1
CAS number: 99-76-3	Methyl 4-hydroxybenzoate	<1
CAS number: 98-92-0	Nicotinamide	<1
CAS number: 94-13-3	Propyl 4-hydroxybenzoate	<1
CAS number: 57-55-6	Propane-1,2-diol	<1
CAS number: 58-56-0	Pyridoxine hydrochloride	<1
CAS number: 25013-16-5	Butylated hydroxyanisole	<0.001

#### Additional Information:

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR §1910.1200).

### SECTION 4: First aid measures

#### Description of first aid measures

##### General notes:

Show this Safety Data Sheet to the doctor in attendance.

##### After inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

##### After skin contact:

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Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

#### After eye contact:

Rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

#### After swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

### Most important symptoms and effects, both acute and delayed

#### Acute symptoms and effects:

Eye contact may result in irritation, redness, pain, inflammation, itching, burning and tearing. Ingestion of unusually large amounts may cause vomiting, diarrhea any gastrointestinal upset.

#### Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time).

### Immediate medical attention and special treatment

#### Specific treatment:

Not determined or not applicable.

#### Notes for the doctor:

Treat symptomatically.

## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

#### Unsuitable extinguishing media:

Do not use water jet.

### Specific hazards during fire-fighting:

Thermal decomposition may produce irritating/toxic fumes/gases.

### Special protective equipment for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

### Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

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#### Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

#### Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

#### Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

### SECTION 7: Handling and storage

#### Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

#### Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

### SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

#### Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
WEEL	Propane-1,2-diol	57-55-6	8-Hour TWA: 10 mg/m <sup>3</sup>

#### Biological limit values:

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

#### Information on monitoring procedures:

Not determined or not applicable.

#### Appropriate engineering controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

#### Personal protection equipment

##### Eye and face protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

##### Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before

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handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

#### Respiratory protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

#### General hygienic measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	Yellow liquid
Odor	Not determined or not available.
Odor threshold	Not determined or not available.
pH	Not determined or not available.
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	Approximately 100°C / 212°F
Flash point (closed cup)	Not determined or not available.
Evaporation rate	Not determined or not available.
Flammability (solid, gas)	Not determined or not available.
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not determined or not available.
Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	About 1.01
Solubilities	Soluble in water
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

#### Other information

Percent Volatiles	No volatiles present
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## SECTION 10: Stability and reactivity

#### Reactivity:

Not reactive under recommended handling and storage conditions.

#### Chemical stability:

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Stable under recommended handling and storage conditions.

#### Possibility of hazardous reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

#### Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

#### Incompatible materials:

None known.

#### Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### Acute toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

#### Substance data:

Name	Route	Result
Calcium chloride	oral	LD50 Rat: 1000 mg/kg
Citric acid	oral	LD50 Mouse: 5400 mg/kg
	dermal	LD50 Rat: > 2000 mg/kg
L-Histidine, hydrochloride, hydrate	oral	LD50 Rat: >2000 mg/kg
L-(+)-lactic acid	oral	LD50 Rat: 3543 mg/kg
	inhalation	LC50 Rat: >7.94 mg/L (4 hours)
	dermal	LD50 Rabbit: >2000 mg/kg
Methyl 4-hydroxybenzoate	oral	LD50 Guinea Pig: 3000 mg/kg
Nicotinamide	oral	LD50 Rat: 3500 mg/kg
Propyl 4-hydroxybenzoate	oral	LD50 Mouse: 6332 mg/kg
Propane-1,2-diol	oral	LD50 Rat: 21000 - 33700 mg/kg
	dermal	LD50 Rabbit: >2000 mg/kg
Butylated hydroxyanisole	oral	LD50 Mouse: 1100 mg/kg
	dermal	LD50 Rat: >2000 mg/kg

#### Skin corrosion/irritation

**Assessment:** Based on available data, the classification criteria are not met.

#### Product data:

No data available.

#### Substance data:

Name	Result
Calcium chloride	Causes skin irritation.
L-Cysteine, hydrochloride, hydrate	Causes skin irritation.
L-(+)-lactic acid	Causes skin irritation.
Methyl 4-hydroxybenzoate	Causes skin irritation.
Propyl 4-hydroxybenzoate	Causes skin irritation.
Butylated hydroxyanisole	Causes skin irritation.

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#### Serious eye damage/irritation

**Assessment:**

Causes serious eye irritation.

**Product data:**

No data available.

**Substance data:**

Name	Result
Calcium chloride	Causes serious eye irritation.
Citric acid	Causes serious eye irritation.
L-Cysteine, hydrochloride, hydrate	Causes serious eye irritation.
L-Histidine, hydrochloride, hydrate	Causes serious eye irritation.
L-(+)-lactic acid	Causes serious eye damage.
Methyl 4-hydroxybenzoate	Causes serious eye irritation.
Nicotinamide	Causes serious eye irritation.
Propyl 4-hydroxybenzoate	Causes serious eye irritation.
Pyridoxine hydrochloride	Causes serious eye damage.
Butylated hydroxyanisole	Causes serious eye irritation.

#### Respiratory or skin sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:** No data available.

#### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

#### International Agency for Research on Cancer (IARC):

Name	Classification
Butylated hydroxyanisole	Group 2B
	Group 2B

#### National Toxicology Program (NTP):

Name	Classification
Butylated hydroxyanisole	Reasonably anticipated to be human carcinogens
	Reasonably anticipated to be human carcinogens

**OSHA Carcinogens:** Not applicable

#### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:** No data available.

#### Reproductive toxicity

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**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:**

Name	Result
Butylated hydroxyanisole	Suspected of damaging fertility or the unborn child.

#### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:**

Name	Result
L-Cysteine, hydrochloride, hydrate	May cause respiratory irritation.
Methyl 4-hydroxybenzoate	May cause respiratory irritation.
Propyl 4-hydroxybenzoate	May cause respiratory irritation.

#### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:** No data available.

#### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:** No data available.

#### Information on likely routes of exposure:

Eye contact, ingestion and dermal contact.

#### Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact may result in irritation, redness, pain, inflammation, itching, burning and tearing. Ingestion of unusually large amounts may cause vomiting, diarrhea any gastrointestinal upset.

#### Other information:

No data available.

### SECTION 12: Ecological information

#### Acute (short-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:**

Name	Result
L-Histidine, hydrochloride, hydrate	EC50 Daphnia magna: 1784 mg/L (48 h)
L-(+)-lactic acid	LC50 Oncorhynchus mykiss: 130 mg/L (96 hours)
	EC50 Daphnia magna: 130 -750 mg/L (48 hours)
	ErC50 Algae: 3500 mg/L (72 hours)

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Name	Result
Methyl 4-hydroxybenzoate	LC50 Oryzias latipes: 59.5 mg/L (96 h - semi-static test (OECD) Test Guideline 203))
	EC50 Pseudokirchneriella subcapitata (algae): 91 mg/l mg/L (72 h - static test (ISO 8692) -)
	EC50 Daphnia magna (Water flea): 11.2 mg/L (48 h - static test)
	EC50 Pseudomonas fluorescens : 500 mg/L
Propane-1,2-diol	EC50 Daphnia magna: 43500 mg/L (48 hr)
	LC50 Oncorhynchus mykiss: 40613 mg/L (96 hr)

#### Chronic (long-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:**

Name	Result
Propane-1,2-diol	EC50 Selenastrum capricornutum: 18100 mg/L (14 days)

#### Persistence and degradability

**Product data:** No data available.

**Substance data:**

Name	Result
Citric acid	Readily biodegradable in water (97% degradation after 28 days).
L-(+)-lactic acid	Readily biodegradable.
Propane-1,2-diol	Readily biodegradable (80% degradation in 28 days).
Pyridoxine hydrochloride	This substance is readily biodegradable.
Butylated hydroxyanisole	Inherently biodegradable (34.41% degradation in 28 days).

#### Bioaccumulative potential

**Product data:** No data available.

**Substance data:**

Name	Result
Citric acid	Low potential for bioaccumulation (BCF: 3.2 L/kg).
Propane-1,2-diol	Low potential for bioaccumulation (BCF: 0.09).
Butylated hydroxyanisole	Not expected to bioaccumulate (BCF: 21).

#### Mobility in soil

**Product data:** No data available.

**Substance data:**

Name	Result
L-(+)-lactic acid	Koc at 20 °C: 1

#### Results of PBT and vPvB assessment

**Product data:**

**PBT assessment:** This product does not contain any substances that are assessed to be a PBT.

**vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

**Substance data:**

**PBT assessment:**

Citric acid	Substance is not PBT
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L-Histidine, hydrochloride, hydrate	The substance is not PBT.
L-(+)-lactic acid	Substance is not PBT.
Propane-1,2-diol	The substance is not PBT.
Pyridoxine hydrochloride	This substance is not PBT.
Butylated hydroxyanisole	The substance is not PBT.

#### vPvB assessment:

Citric acid	Substance is not vPvB
L-Histidine, hydrochloride, hydrate	The substance is not vPvB.
L-(+)-lactic acid	Substance is not vPvB.
Propane-1,2-diol	The substance is not vPvB.
Pyridoxine hydrochloride	This substance is not vPvB.
Butylated hydroxyanisole	The substance is not vPvB.

**Other adverse effects:** No data available.

### SECTION 13: Disposal considerations

#### Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

#### Contaminated packages:

Not determined or not applicable.

### SECTION 14: Transport information

#### United States Transportation of dangerous goods (49 CFR DOT)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

#### International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

#### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated

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UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

### SECTION 15: Regulatory information

#### United States regulations

**Inventory listing (TSCA):** All ingredients are listed-active or exempt.

**Significant New Use Rule (TSCA Section 5):** None of the ingredients are listed.

**Export notification under TSCA Section 12(b):** None of the ingredients are listed.

**SARA Section 302 extremely hazardous substances:** None of the ingredients are listed.

**SARA Section 313 toxic chemicals:** None of the ingredients are listed.

**CERCLA:** None of the ingredients are listed.

**RCRA:** None of the ingredients are listed.

**Section 112(r) of the Clean Air Act (CAA):** None of the ingredients are listed.

#### Massachusetts Right to Know:

25013-16-5	Butylated hydroxyanisole	Listed
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#### New Jersey Right to Know:

7487-88-9	Magnesium Sulfate	Listed
99-76-3	Methyl 4-hydroxybenzoate	Listed
94-13-3	Propyl 4-hydroxybenzoate	Listed
57-55-6	Propane-1,2-diol	Listed
25013-16-5	Butylated hydroxyanisole	Listed

#### New York Right to Know:

7487-88-9	Magnesium Sulfate	Listed
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#### Pennsylvania Right to Know:

7487-88-9	Magnesium Sulfate	Listed
99-76-3	Methyl 4-hydroxybenzoate	Listed
94-13-3	Propyl 4-hydroxybenzoate	Listed
57-55-6	Propane-1,2-diol	Listed

#### California Proposition 65:

**⚠ WARNING:** This product can expose you to Butylated hydroxyanisole; which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### SECTION 16: Other information

**Abbreviations and Acronyms:** None

#### Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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**NFPA:** 2-0-0

**HMIS:** 2-0-0

**Initial preparation date:** 02.03.1993

**Revision date:** 12.15.2020

**Revision Notes:**

Revision Date	Notes
2020-12-15	Version 2.

**End of Safety Data Sheet**