
Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

EnMax® Nursery Premix 15, Product Code: 5510

Product Use

Livestock Feed Premix.

Restrictions on Use

Use Only as Directed on Label.

Details of the supplier of the safety data sheet

Ralco Nutrition, Inc.
1600 Hahn Road
Marshall, MN 56258
Phone: 1-800-533-5306

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 2A

Skin Sensitization - Category 1A

Germ Cell Mutagenicity - Category 2

Reproductive Toxicity - Category 2

Specific Target Organ Toxicity - Single Exposure - Category 1 (body, respiratory system, systemic toxicity)

Specific Target Organ Toxicity - Repeated Exposure - Category 1 (lungs)

Specific Target Organ Toxicity - Repeated Exposure - Category 2 Oral (blood,Hematopoietic System)

Hazardous to the Aquatic Environment - Acute - Category 2

Hazardous to the Aquatic Environment - Chronic - Category 2

GHS Label Elements**Symbol(s)****Signal Word**

Danger.

Hazard Statement(s)

Causes skin irritation.
Causes serious eye irritation.
May cause allergic skin reaction.
Suspected of causing genetic defects.
Suspected of damaging fertility or the unborn child.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

Precautionary Statement(s)**Prevention**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.
Wear protective gloves.

Response

Collect spillage.
If exposed: Call a POISON CENTER or doctor/physician.
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.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Get medical advice/attention if you feel unwell.
Specific treatment (see label).

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards

May form combustible dust concentrations in air.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
657-27-2	L-Lysine hydrochloride	20-40
72-19-5	L-Threonine	10-30
59-51-8	DL-Methionine	10-30
7447-40-7	Potassium chloride	10-20

Section 4 - FIRST AID MEASURES

Description of Necessary Measures

Get medical advice/attention if you feel unwell.

Inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin

After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eyes

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.

Ingestion

Do not eat, drink or smoke when using this product. Rinse mouth thoroughly with water.

Most Important Symptoms/Effects**Acute**

Causes skin irritation. Causes serious eye irritation. May cause allergic skin reaction. Causes damage to organs.

Delayed

Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Note to Physicians

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media**Suitable Extinguishing Media**

Water spray, regular dry chemical, carbon dioxide, fire-fighting foam.

Unsuitable Extinguishing Media

None Known.

Hazardous Combustion Products

May form combustible dust concentrations in air.

Fire Fighting Measures

Knock down dust with water spray jet. Co-ordinate fire-fighting measures to the fire surroundings.

Special Protective Equipment and Precautions for Firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Use Personal Protective equipment as required.

Methods and Materials for Containment and Cleaning Up

Collect in closed and suitable containers for disposal. Dispose of contents/container in accordance with local/regional/national/international regulations.

Environmental Precautions

Do not allow to enter into surface water or drains.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe. dust/fume/gas/mist/vapours/spray. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including any Incompatibilities

Store locked up.

Store in a well-ventilated place. Keep cool. Store in a dry place. Store in a closed container.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Selenium	7782-49-2
ACGIH:	0.2 mg/m ³ TWA
NIOSH:	0.2 mg/m ³ TWA
	1 mg/m ³ IDLH
CALCIUM CARBONATE	471-34-1
NIOSH:	10 mg/m ³ TWA total dust; 5 mg/m ³ TWA respirable dust
Zinc oxide	1314-13-2
ACGIH:	2 mg/m ³ TWA respirable fraction
	10 mg/m ³ STEL respirable fraction
NIOSH:	5 mg/m ³ TWA dust and fume
	10 mg/m ³ STEL fume
	15 mg/m ³ Ceiling dust
	500 mg/m ³ IDLH
OSHA (US):	5 mg/m ³ TWA fume; 15 mg/m ³ TWA total dust; 5 mg/m ³ TWA respirable fraction
Mexico:	5 mg/m ³ TWA LMPE-PPT fume; 10 mg/m ³ TWA LMPE-PPT dust
	10 mg/m ³ STEL [LMPE-CT] fume

Biological limit value

There are no biological limit values for any of this product's components.

Engineering Controls

Sufficient to maintain atmospheric concentrations below applicable regulatory limits.

Individual Protection Measures, such as Personal Protective Equipment
Eye/face protection

Eye glasses with side protection, goggles.

Skin Protection

Wear suitable protective clothing.

Respiratory Protection

In case of inadequate ventilation wear respiratory protection.

Glove Recommendations

Wear protective gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Powder	Physical State	solid
Odor	odorless	Color	off-white to yellow
Odor Threshold	Not available	pH	Not available
Melting Point	Not available	Boiling Point	Not available
Freezing point	Not available	Evaporation Rate	Not available
Boiling Point Range	Not available	Flammability (solid, gas)	Not available
Autoignition	Not available	Flash Point	Not available
Lower Explosive Limit	Not available	Decomposition	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	Not available
Water Solubility	Not available	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	Not available		

Section 10 - STABILITY AND REACTIVITY

Reactivity

No known hazardous reactions.

Chemical Stability

The product is stable under storage at normal ambient temperatures.

Conditions to Avoid

Avoid contact with incompatible materials.

Incompatible Materials

None Known.

Hazardous decomposition products

None Known.

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure**Inhalation**

Yes.

Skin Contact

Yes.

Eye Contact

Yes.

Acute and Chronic Toxicity**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

L-Lysine hydrochloride (657-27-2)

Oral LD50 Rat 10 g/kg

Potassium chloride (7447-40-7)

Oral LD50 Rat 2600 mg/kg

White mineral oil (8042-47-5)

Oral LD50 Rat >5000 mg/kg

Selenium (7782-49-2)

Oral LD50 Rat 6700 mg/kg

Vitamin A acetate (127-47-9)

Oral LD50 Rat 4980 mg/kg

CALCIUM CARBONATE (471-34-1)

Oral LD50 Rat 6450 mg/kg

Pyridoxine hydrochloride (58-56-0)

Oral LD50 Rat 4000 mg/kg

Cholecalciferol (67-97-0)

Oral LD50 Rat 42 mg/kg

Riboflavin (83-88-5)

Oral LD50 Rat >10 g/kg

Nicotinamide (98-92-0)
Oral LD50 Rat 3500 mg/kg
Dermal LD50 Rabbit >2000 mg/kg
Zinc oxide (1314-13-2)
Oral LD50 Rat >5000 mg/kg
Copper chloride, basic (1332-40-7)
Oral LD50 Rat 833 mg/kg
Dermal LD50 Rat >5000 mg/kg
Zinc sulfate, monohydrate (7446-19-7)
Oral LD50 Mouse 1891 mg/kg
Ferrous sulfate, dehydrated (7720-78-7)
Oral LD50 Rat 319 mg/kg

Immediate Effects

No information on significant adverse effects.

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

No data available.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Component Carcinogenicity

Selenium	7782-49-2
IARC:	Supplement 7 [1987]; Monograph 9 [1975] (Group 3 (not classifiable))
DFG:	Category 3B (could be carcinogenic for man)

Germ Cell Mutagenicity

No data available.

Tumorigenic Data

No data available.

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

No data available.

Specific Target Organ Toxicity - Repeated Exposure

No data available.

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure

No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Potassium chloride	7447-40-7
Fish:	LC50 96 h Lepomis macrochirus 1060 mg/L [static]; LC50 96 h Pimephales promelas 750 - 1020 mg/L [static]
Algae:	EC50 72 h Desmodesmus subspicatus 2500 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 825 mg/L IUCLID; EC50 48 h Daphnia magna 83 mg/L [static] EPA
White mineral oil	8042-47-5
Fish:	LC50 96 h Lepomis macrochirus >10000 mg/L
Nicotinamide	98-92-0
Fish:	LC50 96 h Poecilia reticulata >1000 mg/L [static]
Ferrous sulfate, dehydrated	7720-78-7
Fish:	LC50 96 h Poecilia reticulata 925 mg/L [static]; LC50 96 h Cyprinus carpio 0.56 mg/L [semi-static]
Invertebrate:	EC50 48 h Daphnia magna 152 mg/L IUCLID; EC50 48 h Daphnia magna 6.15 - 9.26 mg/L [static] EPA

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

No Classification assigned.

TDG Information:

No Classification assigned.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Selenium	7782-49-2
SARA 313:	1 % de minimis concentration
CERCLA:	100 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 45.4 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)
Ferrous sulfate, dehydrated	7720-78-7
CERCLA:	1000 lb final RQ; 454 kg final RQ

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Selenium	7782-49-2	Yes	Yes	No	Yes	Yes
Zinc oxide	1314-13-2	Yes	Yes	Yes	Yes	Yes
Ferrous sulfate, dehydrated	7720-78-7	Yes	Yes	No	Yes	Yes

Not listed under California Proposition 65
Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL.

Selenium	7782-49-2
	0.1 %
Zinc oxide	1314-13-2
	1 %
Ferrous sulfate, dehydrated	7720-78-7
	1 %

Safety Data Sheet

Material Name: EnMax® Nursery Premix 15
SDS ID: 5510
Component Analysis - Inventory

L-Lysine hydrochloride (657-27-2)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

L-Threonine (72-19-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

DL-Methionine (59-51-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes

Potassium chloride (7447-40-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

Summary of Changes

New SDS: 10/29/2015

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information**Disclaimer:**

The information provided in this Safety Data Sheet is correct to the best of Ralco's knowledge, information and belief at the date of preparation. The information provided is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The conditions or methods of said handling, storage, use, and disposal of this product are beyond our control. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expenses arising out of or connected with the handling, storage, use, or disposal of this product. The information provided relates only to the specific material designated, and may not be valid for such material used in combination with any other materials or in any process, unless specified in text.