
Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

ShoMax® Starter Basemix, Product Code: 5653

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.

Reproductive Toxicity - Category 2

Hazardous to the Aquatic Environment - Acute - Category 3

Hazardous to the Aquatic Environment - Chronic - Category 3

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

Warning

Hazard Statement(s)

Suspected of damaging fertility or the unborn child.

Harmful 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.

Avoid release to the environment.

Response

IF exposed or concerned: Get medical advice/attention.

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
n/a	Dried Whey	10-50
n/a	Oat Groats	10-35
n/a	Poultry Meal	1-20

Section 4 - FIRST AID MEASURES

Description of Necessary Measures

IF exposed or concerned: Get medical advice/attention.

Inhalation

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

Skin

Wash thoroughly after handling.

Eyes

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion

Rinse mouth thoroughly with water.

Most Important Symptoms/Effects**Acute**

None Known.

Delayed

Suspected of damaging fertility or the unborn child.

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

Co-ordinate fire-fighting measures to the fire surroundings.

Knock down dust with water spray jet.

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

Harmful to aquatic life with long lasting effects.

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Do not handle until all safety precautions have been read and understood.

Use Personal Protective equipment as required.

Conditions for Safe Storage, Including any Incompatibilities

Store locked up.

Store in a well-ventilated place.

Keep container tightly closed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Calcium carbonate	471-34-1
NIOSH:	10 mg/m3 TWA total dust; 5 mg/m3 TWA respirable dust
Red Iron Oxide	1309-37-1
ACGIH:	5 mg/m3 TWA respirable particulate matter
NIOSH:	5 mg/m3 TWA as Fe dust and fume
	2500 mg/m3 IDLH as Fe dust and fume
OSHA (US):	10 mg/m3 TWA fume; 15 mg/m3 TWA total dust; 5 mg/m3 TWA respirable fraction
Mexico:	5 mg/m3 TWA VLE-PPT
	10 mg/m3 STEL [PPT-CT] as Fe
Zinc oxide	1314-13-2
ACGIH:	2 mg/m3 TWA respirable particulate matter
	10 mg/m3 STEL respirable particulate matter
NIOSH:	5 mg/m3 TWA dust and fume
	10 mg/m3 STEL fume
	15 mg/m3 Ceiling dust
	500 mg/m3 IDLH
OSHA (US):	5 mg/m3 TWA fume; 15 mg/m3 TWA total dust; 5 mg/m3 TWA respirable fraction
Mexico:	5 mg/m3 TWA VLE-PPT fume; 10 mg/m3 TWA VLE-PPT dust
	10 mg/m3 STEL [PPT-CT] fume
Diatomaceous earth	61790-53-2
OSHA (US):	((80)/(% SiO ₂) mg/m3 TWA); 20 mppcf TWA
Mexico:	10 mg/m3 TWA VLE-PPT inhalable fraction
Selenium	7782-49-2
ACGIH:	0.2 mg/m3 TWA
NIOSH:	0.2 mg/m3 TWA

Safety Data Sheet

Material Name: ShoMax® Starter Basemix, Product Code: 5653
SDS ID: 5653

	1 mg/m3 IDLH
Silica, amorphous, precipitated and gel	112926-00-8
OSHA (US):	20 mppcf TWA; ((80)/(%) SiO2) mg/m3 TWA)
Mexico:	10 mg/m3 TWA VLE-PPT

EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance Measures

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

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

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

Use suitable eye/face protection.

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	Fine granular.	Physical State	Solid.
Odor	Cereal.	Color	Tan.
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	Molecular Weight	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**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:

Glucose (50-99-7)

Oral LD50 Rat 25800 mg/kg

Calcium carbonate (471-34-1)

Oral LD50 Rat 6450 mg/kg

Sodium chloride (7647-14-5)

Oral LD50 Rat 3 g/kg

Inhalation LC50 Rat >42 g/m³ 1 h

L-Lysine HCl (657-27-2)

Oral LD50 Rat 10 g/kg

Monocalcium phosphate (7758-23-8)

Oral LD50 Rat 3986 mg/kg

Dermal LD50 Rabbit >2 g/kg

Choline chloride (67-48-1)

Oral LD50 Rat 3400 mg/kg

Vitamin A acetate (127-47-9)

Oral LD50 Rat 4980 mg/kg

Red Iron Oxide (1309-37-1)

Oral LD50 Rat >10000 mg/kg

Zinc oxide (1314-13-2)

Oral LD50 Rat >5000 mg/kg

Copper chloride oxide (1332-40-7)

Oral LD50 Rat 833 mg/kg

Safety Data Sheet

Material Name: ShoMax® Starter Basemix, Product Code: 5653

SDS ID: 5653

Dermal LD50 Rat >5000 mg/kg
 Pyridoxine hydrochloride (58-56-0)
 Oral LD50 Rat 4000 mg/kg
 Vitamin D3 (67-97-0)
 Oral LD50 Rat 42 mg/kg
 L-Tryptophan (73-22-3)
 Oral LD50 Rat >16 g/kg
 Zinc sulfate, monohydrate (7446-19-7)
 Oral LD50 Mouse 1891 mg/kg
 Potassium chloride (7447-40-7)
 Oral LD50 Rat 2600 mg/kg
 Selenium (7782-49-2)
 Oral LD50 Rat 6700 mg/kg
 Corn oil (8001-30-7)
 Oral LD50 Rat >100 mL/kg
 White mineral oil (8042-47-5)
 Oral LD50 Rat >5000 mg/kg
 Riboflavin (83-88-5)
 Oral LD50 Rat >10 g/kg
 Sodium saccharin (128-44-9)
 Oral LD50 Rat 14200 mg/kg
 Calcium pantothenate (137-08-6)
 Oral LD50 Rat >10 g/kg
 Niacin (59-67-6)
 Oral LD50 Rat 7 g/kg
 Dermal LD50 Rat >2000 mg/kg
 L-Methionine (63-68-3)
 Oral LD50 Rat 36 g/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

Red Iron Oxide	1309-37-1
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Supplement 7 [1987]; Monograph 1 [1972] (Group 3 (not classifiable))

Safety Data Sheet

Material Name: ShoMax® Starter Basemix, Product Code: 5653
SDS ID: 5653

DFG:	Category 3B (could be carcinogenic for man;with the exception of non-bioavailable ferrous oxides)
Diatomaceous earth	61790-53-2
IARC:	Monograph 68 [1997] (Group 3 (not classifiable))
Selenium	7782-49-2
IARC:	Supplement 7 [1987]; Monograph 9 [1975] (Group 3 (not classifiable))
DFG:	Category 3B (could be carcinogenic for man)
Silica, amorphous, precipitated and gel	112926-00-8
IARC:	Monograph 68 [1997] (Group 3 (not classifiable))
Clinoptilolite	12173-10-3
IARC:	Monograph 68 [1997] (Group 3 (not classifiable))
Cobalt carbonate hydroxide	12602-23-2
IARC:	Monograph 52 [1991] (Group 2B (possibly carcinogenic to humans))
OSHA:	Present
Sodium saccharin	128-44-9
IARC:	Monograph 73 [1999] (downgraded from 2B to 3); Supplement 7 [1987]; Monograph 22 [1980] (Group 3 (not classifiable))

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

Sodium chloride	7647-14-5
Fish:	LC50 96 h Lepomis macrochirus 5560 - 6080 mg/L [flow-through]; LC50 96 h Lepomis macrochirus 12946 mg/L [static]; LC50 96 h Pimephales promelas 6020 - 7070 mg/L [static]; LC50 96 h Pimephales promelas 7050 mg/L [semi-static]; LC50 96 h Pimephales promelas 6420 - 6700 mg/L [static]; LC50 96 h Oncorhynchus mykiss 4747 - 7824 mg/L [flow-through]
Invertebrate:	EC50 48 h Daphnia magna 1000 mg/L IUCLID; EC50 48 h Daphnia magna 340.7 - 469.2 mg/L [Static] EPA
Choline chloride	67-48-1
Algae:	EC50 72 h Desmodesmus subspicatus >500 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna Straus >500 mg/L IUCLID; EC50 48 h Daphnia magna >320 mg/L [Static] EPA
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
Sodium saccharin	128-44-9
Fish:	LC50 96 h Pimephales promelas 16400 - 20400 mg/L [static] (30 days old)
Niacin	59-67-6
Fish:	LC50 96 h Salmo trutta 520 mg/L
Algae:	EC50 72 h Desmodesmus subspicatus 89.93 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 77 mg/L IUCLID

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents/container in accordance with local/regional/national/international regulations.
Avoid release to the environment.

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)

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
Red Iron Oxide	1309-37-1	Yes	Yes	Yes	Yes	Yes
Zinc oxide	1314-13-2	Yes	Yes	Yes	Yes	Yes
Diatomaceous earth	61790-53-2	No	No	Yes	Yes	No
Selenium	7782-49-2	Yes	Yes	No	Yes	Yes
Corn oil	8001-30-7	No	No	No	No	Yes
Silica, amorphous, precipitated and gel	112926-00-8	No	Yes	Yes	Yes	Yes
Sodium saccharin	128-44-9	No	Yes	No	No	Yes

Safety Data Sheet

Material Name: ShoMax® Starter Basemix, Product Code: 5653

SDS ID: 5653

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

Red Iron Oxide	1309-37-1	1 %
Zinc oxide	1314-13-2	1 %
Selenium	7782-49-2	0.1 %

Component Analysis - Inventory

Red Iron Oxide (1309-37-1)

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

Zinc oxide (1314-13-2)

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

Selenium (7782-49-2)

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

Section 16 - OTHER INFORMATION

Summary of Changes

SDS: 11/28/2017

Supersedes: 12/08/2015

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; ENCS - Japan Existing and New Chemical Substance Inventory; 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; ISHL - Japan Industrial Safety and Health Law; JP - Japan; Kow - Octanol/water partition coefficient; KECI - Korea Existing Chemicals Inventory; KECL - Korea Existing Chemicals List; 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; MX - Mexico; 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; TCCA - Korea Toxic Chemicals Control Act.; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TW - Taiwan; 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.