

Safety Data Sheet

Material Name: ShoMax® Krave, Product Code: 5672

SDS ID: 5672

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

ShoMax® Krave, Product Code: 5672

Product Use

A Complete Livestock Feed.

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.

None needed according to classification criteria.

GHS Label Elements

Symbol(s)

None needed according to classification criteria.

Signal Word

None needed according to classification criteria

Hazard Statement(s)

None needed according to classification criteria.

Precautionary Statement(s)

Prevention

None needed according to classification criteria.

Response

None needed according to classification criteria.

Storage

None needed according to classification criteria.

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	Corn, 7.0	50-75
n/a	Soy Meal 46 2.93L	10-35
n/a	Oat Groats (Rolled)	1-25

Section 4 - FIRST AID MEASURES**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

IF IN 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

None Known.

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

None Known.

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 in a well-ventilated place. Keep container tightly closed. Store locked up.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Calcium carbonate	471-34-1
NIOSH:	10 mg/m ³ TWA total dust ; 5 mg/m ³ TWA respirable dust
Silica, amorphous, precipitated and gel	112926-00-8
OSHA (US):	20 mppcf TWA ; ((80)/(% SiO ₂)) mg/m ³ TWA)
Magnesium oxide	1309-48-4
ACGIH:	10 mg/m ³ TWA inhalable particulate matter
NIOSH:	750 mg/m ³ IDLH fume
OSHA (US):	15 mg/m ³ TWA fume, total particulate
Mexico:	10 mg/m ³ TWA [VLE-PPT] as Mg inhalable fraction
Zinc oxide	1314-13-2
ACGIH:	2 mg/m ³ TWA respirable particulate matter
	10 mg/m ³ STEL respirable particulate matter
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:	2 mg/m ³ TWA [VLE-PPT] respirable fraction
	10 mg/m ³ STEL [PPT-CT] respirable fraction
Diatomaceous earth	61790-53-2
OSHA (US):	((80)/(% SiO ₂)) mg/m ³ TWA) ; 20 mppcf TWA
Selenium	7782-49-2
ACGIH:	0.2 mg/m ³ TWA

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NIOSH:	0.2 mg/m ³ TWA
	1 mg/m ³ IDLH
Mexico:	0.2 mg/m ³ TWA [VLE-PPT] as Se

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

Wear eye protection/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	granular, or as a meal.	Physical State	solid
Odor	cereal grains.	Color	yellow.
Odor Threshold	Not available	pH	Not available
Melting Point	Not available	Boiling Point	Not available
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not available
Autoignition Temperature	Not available	Flash Point	Not available
Lower Explosive Limit	Not available	Decomposition temperature	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	Kinematic 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.

Generation/formation of dust.

Incompatible Materials

None Known.

Hazardous decomposition products

None Known.

Section 11 - TOXICOLOGICAL INFORMATION**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:

Calcium carbonate (471-34-1)

Oral LD50 Rat 6450 mg/kg

Corn oil (8001-30-7)

Oral LD50 Rat >100 mL/kg

L-Lysine HCl (657-27-2)

Oral LD50 Rat 10 g/kg

L-Tryptophan (73-22-3)

Oral LD50 Rat >16 g/kg

Calcium phosphate, monobasic (7758-23-8)

Oral LD50 Rat 3986 mg/kg

Dermal LD50 Rabbit >2 g/kg

Cinnamaldehyde (104-55-2)

Oral LD50 Rat 2220 mg/kg

Dermal LD50 Rabbit 1260 mg/kg

Vitamin A acetate (127-47-9)

Oral LD50 Rat 4980 mg/kg

Sodium saccharin (128-44-9)

Oral LD50 Rat 14200 mg/kg

Magnesium oxide (1309-48-4)

Oral LD50 Rat 3990 mg/kg (females)

Zinc oxide (1314-13-2)

Oral LD50 Rat >5000 mg/kg (in water ;no deaths occurred)

Copper chloride hydroxide (1332-40-7)

Oral LD50 Rat 833 mg/kg

Dermal LD50 Rat >5000 mg/kg

Calcium pantothenate (137-08-6)

Oral LD50 Rat >10 g/kg

Pyridoxine hydrochloride (58-56-0)

Oral LD50 Rat 4000 mg/kg

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Niacin (59-67-6)

Oral LD50 Rat 7 g/kg

Dermal LD50 Rat >2000 mg/kg

Choline chloride (67-48-1)

Oral LD50 Rat 3400 mg/kg

Vitamin D3 (67-97-0)

Oral LD50 Rat 42 mg/kg

Dermal LD50 Rat 61 mg/kg (males)

Inhalation LC50 Rat 0.13 - 0.38 mg/L 4 h

Zinc sulfate, monohydrate (7446-19-7)

Oral LD50 Mouse 1891 mg/kg

Potassium chloride (7447-40-7)

Oral LD50 Rat 2600 mg/kg

Sodium chloride (7647-14-5)

Oral LD50 Rat 3 g/kg

Inhalation LC50 Rat >42 g/m³ 1 h

Copper sulfate pentahydrate (7758-99-8)

Oral LD50 Rat 960 mg/kg

Dermal LD50 Rabbit >8 g/kg

Selenium (7782-49-2)

Oral LD50 Rat 6700 mg/kg

Oils, origanum (8007-11-2)

Oral LD50 Rat 1850 mg/kg

White mineral oil (8042-47-5)

Oral LD50 Rat >5000 mg/kg

Riboflavin (83-88-5)

Oral LD50 Rat >10 g/kg

Water (7732-18-5)

Oral LD50 Rat >90 mL/kg

Calcium phosphate monohydrate (10031-30-8)

Oral LD50 Rat 17500 mg/kg

Product Toxicity Data

Acute Toxicity Estimate

Dermal	> 2000 mg/kg
Inhalation - Dust and Mist	> 5 mg/L
Oral	> 2000 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.

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Component Carcinogenicity

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))
Sodium saccharin	128-44-9
IARC:	Monograph 73 [1999] (downgraded from 2B to 3); Supplement 7 [1987] ; Monograph 22 [1980] (Group 3 (not classifiable))
Magnesium oxide	1309-48-4
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
DFG:	Category 4 (no significant contribution to human cancer ;inhalable fraction)
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)
Cobalt[II] carbonate hydroxide (2:3) monohydrate	51839-24-8
IARC:	Monograph 52 [1991] (Group 2B (possibly carcinogenic to humans))
OSHA:	Present

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.

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Section 12 - ECOLOGICAL INFORMATION
Component Analysis - Aquatic Toxicity

L-Lysine HCl	657-27-2
Fish:	LC50 96 h <i>Oryzias latipes</i> >103 mg/L [semi-static]
Vitamin A acetate	127-47-9
Fish:	LC50 96 h <i>Oncorhynchus mykiss</i> 1.37 mg/L
Sodium saccharin	128-44-9
Fish:	LC50 96 h <i>Pimephales promelas</i> 16400 - 20400 mg/L [static] (30 days old)
Zinc oxide	1314-13-2
Fish:	LC50 96 h <i>Danio rerio</i> 1.55 mg/L [static]
Niacin	59-67-6
Fish:	LC50 96 h <i>Salmo trutta</i> 520 mg/L
Algae:	EC50 72 h <i>Desmodesmus subspicatus</i> 89.93 mg/L IUCLID
Invertebrate:	EC50 48 h <i>Daphnia magna</i> 77 mg/L IUCLID
Choline chloride	67-48-1
Algae:	EC50 72 h <i>Desmodesmus subspicatus</i> >500 mg/L IUCLID
Invertebrate:	EC50 48 h <i>Daphnia magna</i> Straus >500 mg/L IUCLID ; EC50 48 h <i>Daphnia magna</i> >320 mg/L [Static] EPA
Potassium chloride	7447-40-7
Fish:	LC50 96 h <i>Lepomis macrochirus</i> 1060 mg/L [static] ; LC50 96 h <i>Pimephales promelas</i> 750 - 1020 mg/L [static]
Algae:	EC50 72 h <i>Desmodesmus subspicatus</i> 2500 mg/L IUCLID
Invertebrate:	EC50 48 h <i>Daphnia magna</i> 825 mg/L IUCLID ; EC50 48 h <i>Daphnia magna</i> 83 mg/L [Static] EPA
Sodium chloride	7647-14-5
Fish:	LC50 96 h <i>Lepomis macrochirus</i> 5560 - 6080 mg/L [flow-through] ; LC50 96 h <i>Lepomis macrochirus</i> 12946 mg/L [static] ; LC50 96 h <i>Pimephales promelas</i> 6020 - 7070 mg/L [static] ; LC50 96 h <i>Pimephales promelas</i> 7050 mg/L [semi-static] ; LC50 96 h <i>Pimephales promelas</i> 6420 - 6700 mg/L [static] ; LC50 96 h <i>Oncorhynchus mykiss</i> 4747 - 7824 mg/L [flow-through]
Invertebrate:	EC50 48 h <i>Daphnia magna</i> 1000 mg/L IUCLID ; EC50 48 h <i>Daphnia magna</i> 340.7 - 469.2 mg/L [Static] EPA

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Vitamin E acetate	7695-91-2
Fish:	LC50 96 h Oncorhynchus mykiss >100 mg/L [static]
Copper sulfate pentahydrate	7758-99-8
Fish:	LC50 96 h Lepomis macrochirus 0.66 - 1.15 mg/L [semi-static]; LC50 96 h Lepomis macrochirus 0.96 - 1.8 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.1478 - 0.165 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 0.09 - 0.19 mg/L [static]; LC50 96 h Pimephales promelas 0.6752 mg/L [static]
Invertebrate:	EC50 48 h Daphnia magna 0.147 - 0.227 mg/L [Static] EPA
Potassium iodide	7681-11-0
Fish:	LC50 96 h Danio rerio >100 mg/L [static]
Selenium	7782-49-2
Fish:	LC50 96 h Oncorhynchus mykiss >100 mg/L [semi-static]
White mineral oil	8042-47-5
Fish:	LC50 96 h Lepomis macrochirus >10000 mg/L

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

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

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

No Classification assigned.

International Bulk Chemical Code

This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Corn oil	8001-30-7
IBC Code:	Category Y
Choline chloride	67-48-1
IBC Code:	Category Z (solution)
Potassium chloride	7447-40-7
IBC Code:	Category Z (solution)

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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)

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

No hazard categories applicable.

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
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
Magnesium oxide	1309-48-4	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

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Not listed under California Proposition 65.

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Component Analysis - Inventory
Corn, 7.0 (n/a)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
No	No	No	No	No	No	No	No	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
No	No	No	No	No	No	No

Soy Meal 46 2.93L (n/a)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
No	No	No	No	No	No	No	No	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
No	No	No	No	No	No	No

Oat Groats (Rolled) (n/a)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
No	No	No	No	No	No	No	No	No

KR - REACH CCA	MX	NZ	PH	TH-TECI	TW	VN (Draft)
No	No	No	No	No	No	No

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Section 16 - OTHER INFORMATION

Preparation Date

SDS: 03/05/2020

Supersedes: 05/13/2019

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); 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; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); 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; F - Background (for Venezuela Biological Exposure Indices); 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; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL), KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; 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; Ne - Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; 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; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

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.