SAFETY DATA SHEET

Version: 2.0
Date: 21. Mar. 2021
Supersedes: v1.0

Microplex®3%

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier:

Product Name	Microplex® 3% Chromium amino acid complex Livestock nutritional feed ingredient

1.2 Recommended use of the chemical and restrictions:

Identified Use(s)	A nutritional animal feed ingredient.
Uses Advised Against	For use only as an animal feed additive.

1.3 Supplier's details

Company Identification	Zinpro Corporation 10400 Viking Drive, Suite 240 Eden Prairie, MN 55344-7265
Telephone	952-944-2736
E-Mail (competent person)	zinpro@zinpro.com

1.4 Emergency Phone No. (Spill, Leak, Fire, Exposure, or Accident):

CHEMTREC 1-800-424-9300 (US and Canada)
1-703-527-3887 (collect calls accepted)
Reference CCN 725293

Languages spoken: 24 hours, English spoken.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Hazard Classification: **Not Classified**

2.2 Labelling: **None Required**

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures Substances in preparations / mixtures

Ingredient	CAS No	% Wt	EPCRA 313
Chromium amino acid complex	None	3.0% (as Cr)	No
DL methionine	50-51-8	20%	No
Maltodextrin	9050-36-6	60%	No

SECTION 4: FIRST AID MEASURES

Description of first aid. Avoid contact with all workplace chemicals.

4.1 EYES: Wash eyes with copious amounts of water. Consult a physician.

4.2 SKIN: After contact with skin, wash immediately with plenty of water.

4.3 INGESTION: Wash mouth and throat repeatedly without swallowing. Do not induce vomiting without medical advice. Consult a physician if you feel unwell.

4.4 INHALATION: Move to fresh air. Provide oxygen or artificial respiration if needed. Consult a physician without delay.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 SUITABLE EXTINGUISHING MEDIA: Dry chemical, CO_2, water spray, or foam as appropriate for surrounding materials.

5..2 COMBUSTION PRODUCTS: Burning may produce irritant fumes such as metal oxides, or toxic gases such as carbon monoxide.

5.3 FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus in enclosed areas. Do not inhale combustion gases. Do not flush into storm drains.

5.4 UNUSUAL FIRE AND EXPLOSION HAZARDS: All granular materials have the potential to create a fire hazard if dust is generated during handling.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS: Use personal protective equipment including gloves and safety glasses or face shield when handling this product. When handling, do not eat, drink, or smoke.

6.2 ENVIRONMENTAL PRECAUTIONS: Prevent product from entering drains.

6.3 METHODS FOR CLEANING: Carefully sweep up and recover uncontaminated material for re-use. Scoop remaining waste into suitable, labeled container for disposal.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING AND STORAGE: Use only in an area provided with adequate ventilation.
Use personal protective equipment when handling this product.
Remove and wash contaminated clothing before re-use.
Store in tightly closed container at room temperature in a dry location.

7.2 OTHER PRECAUTIONS: ALWAYS minimize the generation of dust when handling.
This product contains metal compounds.
Do not mix with acids or oxidizers except under controlled conditions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Potential workplace routes of exposure include inadvertent, incidental oral ingestion and inadvertent, incidental dermal contact. Inhalation is not a significant route of exposure.

8.1 Occupational Exposure Limits

Substance	Permissible Exposure Level
Chromium methionine complex	None listed
Chromium (III) dust	0.5 mg/m^3 (TWA)
Chromium metal dust	1.0 mg/m^3 (TWA)
Methionine (total dust)	15.0 mg/m^3 (TWA)
methionine (respirable fraction)	5.0 mg/m^3 (TWA)
Nuisance dust (total)	15.0 mg/m^3 (TWA)
Nuisance dust (respirable fraction)	5.0 mg/m^3 (TWA)

8.1.1 ENGINEERING CONTROLS: Use only in a well-ventilated area to prevent exposure from exceeding regulatory levels.

8.1.2 RESPIRATORY PROTECTION: Protection is needed only when dust is formed. Use a mask suitable for dust. Proper handling to minimize dust is required. Do not smoke when handling this product.

8.1.3 EYE PROTECTION: Goggles or safety glasses with side-shields.

8.1.4 SKIN PROTECTION: Gloves

8.1.5 WORK HYGIENIC PRACTICES: Do not eat or drink when handling this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE:	Purple, Gray Powder
ODOR:	Sweet, organic
PHYSICAL STATE:	Solid
pH:	NA
MELTING POINT:	>200 ºC
SPECIFIC GRAVITY(H_2O=1) :	1.28 at 20ºC
SOLUBILITY IN WATER:	Active product is water soluble; Carrier is insoluble
PERCENT SOLIDS BY WEIGHT:	100%
PERCENT VOLATILE:	0%
VOLATILE ORGANIC CMPDS (VOC):	0%
FLAMMABLE LIMITS IN AIR UPPER:	NA
(% BY VOLUME) LOWER:	NA
FLASH POINT:	>200 ºC
AUTOIGNITION TEMPERATURE:	>200 ºC

SECTION 10: STABILITY AND REACTIVITY

10.1	**STABILITY:**	This product is stable under recommended storage conditions and in normal use.
10.2	**CONDITIONS TO AVOID (STABILITY):**	Avoid generation of dust while handling. As with all dusts, particularly those containing metals, finely divided airborne material may explode or burn when exposed to a source of ignition.
10.3	**INCOMPATIBILITY (MATERIALS TO AVOID):**	Organic and metallic compounds are incompatible with acids and strong oxidizers. Potentially violent reactions may occur on mixing with these materials.
10.4	**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:**	Thermal decomposition may release irritating gases, such as metal oxides, or toxic gases, such as carbon monoxide.
10.5	**HAZARDOUS POLYMERIZATION:**	None

SECTION 11: TOXICOLOGICAL INFORMATION

Essential trace minerals are not a health hazard at low concentrations. This product contains one or more nutritionally significant metals in organic complexes. The ingredients of this mixture have been evaluated in accordance with the health hazard criteria of the Globally Harmonized System of Classification and Labeling of Chemicals. The following information pertains to the individual mineral components of this product, but note that the product, as supplied contains no free metals.

11.1 Information on toxicological effects

Acute Toxicity: (Not Classified):

Acute toxicity data for chromium methionine:	LD_{50} (oral, rat) = 10,000 mg/kg
Acute toxicity data for methionine:	NOEL (oral, rat 10,000 mg/kg

Sub-Acute/Chronic Effects associated with mineral components:

Skin Sensitizer:	Not Classified.
Carcinogen:	Not Classified.
Mutagen:	Not Classified.
Skin Irritant:	Not Classified.
Eye Irritant:	Not Classified.
Reproductive Toxicity:	Not Classified.
Target Organ:	Not Classified
Aspiration toxicity:	Not Classified
SYMPTOMS OF OVEREXPOSURE to trace minerals:	Irritation or burning of nose, throat, or skin; stomach cramps, nausea, vomiting, diarrhea, behavior changes, deterioration of motor skills.

11.2 MEDICAL CONDITIONS GENERALLY AGGRAVATED BY OVEREXPOSURE: Asthma or other respiratory problems, existing dermatitis

SECTION 12: ECOLOGICAL INFORMATION

This product contains chromium and calcium. These are metals that occur naturally throughout the environment, in rocks, soil, and water and are essential elements in plants and animals. Inorganic compounds containing these metals are sometimes used as pesticides such as such as fungicides, algaecides, microbiocides, and wood preservatives, illustrating that targeted ecological effects of such materials do occur. There is no data regarding the actual eco-toxicity of the metal-amino acid complex in this product, which is formulated and approved for ingestion by livestock.

SECTION 13: DISPOSAL CONSIDERATIONS

This product is not a hazardous waste when disposed. Under RCRA regulations, wastes are considered hazardous with respect to chromium if the result of testing by TCLP is equal to or greater than 5.0 mg/L. However, such waste can be excluded if it meets the criteria of 40 CFR 261.4(b)(6), wherein the chromium is exclusively (or nearly exclusively) trivalent chromium, the process generating the waste does not produce hexavalent chromium, and the waste is typically and frequently managed in nonoxidizing environments (such as a licensed, solid waste landfill). Residuals of this product and the container must be disposed at a licensed landfill or recycling center and must not be burned for disposal.

SECTION 14: TRANSPORT INFORMATION

This product is not listed or categorized as a hazardous material for transport in the U.S. at 49 CFR 172.101.

SECTION 15: REGULATORY INFORMATION

Mineral-amino acid complexes are not specifically regulated under any of the listed programs. The metallic component as a free metal or metal compound is regulated as follows:

15.1.	**U.S. FEDERAL REGULATIONS**	
15.1.1	**TSCA (TOXIC SUBSTANCE CONTROL ACT) listed:**	Chromium and chromium compounds
15.1.2	**CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT):**	particles <0.004 in diameter RQ 5000 lb
15.1.3	**EPCRA (EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT):**	
	302 EXTREMELY HAZARDOUS SUBSTANCE TPQ:	Not EHS
	304 EXTREMELY HAZARDOUS SUBSTANCE RQ:	Not EHS
	311/312 HAZARD CATEGORIES:	**Acute: No Chronic: Yes Fire: No Pressure: No Reactivity: No**
	313 REPORTABLE INGREDIENTS:	None. Chromium compounds N090 are <1% by weight
15.1.4	**CLEAN AIR ACT AMENDMENTS Section 112:**	Not listed as Hazardous Air Pollutant in Section 112 of the CAAA.
15.2	**U.S. FEDERAL REGULATIONS**	
15.2.1	**TSCA (TOXIC SUBSTANCE CONTROL ACT) listed:**	Methionine
15.2.2	**CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT):**	Not listed
15.2.3	**EPCRA (EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT):**	
	302 EXTREMELY HAZARDOUS SUBSTANCE TPQ:	Not EHS
	304 EXTREMELY HAZARDOUS SUBSTANCE RQ:	Not EHS
	311/312 HAZARD CATEGORIES:	**Acute: No Chronic: No Fire: No Pressure: No Reactivity: No**
	313 REPORTABLE INGREDIENTS:	Not listed in Section 313.
	CLEAN AIR ACT AMENDMENTS Section 112:	Not listed as Hazardous Air Pollutant in Section 112 of the CAAA.
15.3	**STATE REGULATIONS:**	Refer to individual state agency for information.
15.4	**INTERNATIONAL REGULATIONS:**	Refer to European Chemical Substance Information System (ESIS) Refer to Australian Hazardous Substance Information System (HSIS)

SECTION 16: OTHER INFORMATION

16.2 NFPA HAZARD CLASSIFICATION

HEALTH: 0 **FLAMMABILITY: 1** **REACTIVITY: 0**

16.3 HMIS HAZARD CLASSIFICATION

HEALTH: 1 **FLAMMABILITY: 1** **PHYSICAL: 0** **PROTECTION: 1B**

16.4 PREPARATION INFORMATION:

Centers for Disease Control (CDC) Agency for Toxic Substances and Disease Registry (ATSDR)
National Fire Protection Association (NFPA)
Hazardous Materials Information System (HMIS)
U.S. EPA Chemical Emergency Preparedness and Prevention Office (CEPPO) List of Lists
U.S. EPA Substance Registry Service (TSCA)
U.S. Dept of Labor Occupational Safety & Health Administration (OSHA) 29 CFR 1910.1000
U.S. Dept of Transportation (DOT) 49 CFR 172.101

DISCLAIMER: The information expressed in this document regarding this product is believed to be reliable. However, no guarantee or warranty of any kind, express or implied, concerning the use of this product is intended.