

Issue Date 02-Oct-2014

Revision Date 07-Oct-2014

Version 1

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****Product Name** MICRO-ZYME L PLUS**Other means of identification****Product Code** 172  
**Synonyms** None**Recommended use of the chemical and restrictions on use****Recommended Use** Liquid enzyme concentrate.  
**Uses advised against** No information available**Manufacturer Address**

Anderson Chemical Company, 325 South Davis Avenue, Litchfield, MN 55355 (320-693-2477)

**Emergency telephone number**

Chemtrec 1-800-424-9300

**2. HAZARDS IDENTIFICATION****Classification****OSHA Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1

**Label elements****Emergency Overview****Danger****Hazard statements**Causes serious eye irritation  
May cause allergy or asthma symptoms or breathing difficulties if inhaled**Appearance** aqueous solution**Physical state** liquid**Odor** Solvent**Precautionary Statements - Prevention**Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
In case of inadequate ventilation wear respiratory protection**Precautionary Statements - Response**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 INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)****Other Information**

• Causes mild skin irritation

Unknown Acute Toxicity

7.75% of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%	Trade Secret
TSRN1311	Proprietary	0 - 10%	

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

**First aid measures**

<b>Eye contact</b>	Flush immediately with water for 15 minutes. Lift upper and lower eyelids for complete rinsing. Get immediate medical attention.
<b>Skin Contact</b>	Flush with water for 15 minutes. If irritation persists after rinsing, get medical attention. Remove contaminated clothing and wash before reuse.
<b>Inhalation</b>	Remove victim to fresh air. If breathing difficulty occurs or persists, get medical attention.
<b>Ingestion</b>	Rinse mouth with water. Give water to dilute. Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to a semi-comatose, comatose, convulsing or unconscious person.

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

<b>Symptoms</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes moderate eye irritation. Skin contact may cause irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
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**Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Treat symptomatically.
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### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** None known.

**Specific hazards arising from the chemical**

No information available.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

- Personal precautions** Evacuate nonessential personnel. Ventilate area. Wear appropriate personal protection equipment.
- Environmental precautions** See Section 12 for additional ecological information.
- Methods for containment** Completely contain spilled material with dikes or sand bags, etc.
- Methods for cleaning up** Recover as much material as possible into containers for disposal. Remaining material may be absorbed with sand, earth or vermiculite. Sweep up. Flush spill area with water. Avoid creating dust.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Do not get in eyes, on skin, or clothing. Do not breathe vapors or mists. Do not ingest. Wash thoroughly after handling. Wear protective clothing/equipment. Use with adequate ventilation.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed and properly labeled. Containers that have been emptied will retain product residue and should be handled as if they were full. Store in a cool, dry, well-ventilated place away from incompatible materials. Wash hands before eating, drinking, using tobacco, applying make-up or using the toilet. Do not store, use, and/or consume foods, beverages, tobacco in areas where this product is stored.

**Incompatible materials** Oxidizing agents. Strong acids.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
TSRN1311	Ceiling: 0.00006 mg/m <sup>3</sup> as crystalline active enzyme	(vacated) STEL: 0.00006 mg/m <sup>3</sup> 60 min	STEL: 0.00006 mg/m <sup>3</sup> 60 min Subtilisins

**Appropriate engineering controls**

- Showers
- Eyewash stations
- Ventilation systems.

**Individual protection measures, such as personal protective equipment**

- Eye/face protection** Wear safety glasses with side shields (or goggles).
- Skin and body protection** If contact is anticipated, wear protective clothing appropriate to use conditions.

**Respiratory protection**

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	liquid	<b>Odor</b>	Solvent
<b>Appearance</b>	aqueous solution	<b>Odor threshold</b>	No information available
<b>Color</b>	clear dark amber		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.3	
Melting point/freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	1.067	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

**Other Information**

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Density</b>	No information available
<b>Bulk density</b>	No information available

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

None known.

**Incompatible materials**

Oxidizing agents. Strong acids.

**Hazardous Decomposition Products**Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Oxides of sulfur.**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

<b>Product Information</b>	No data available
<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	Irritating to eyes.
<b>Skin Contact</b>	Irritating to skin.
<b>Ingestion</b>	Ingestion may cause stomach irritation with stomach discomfort.

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**Numerical measures of toxicity - Product Information**

**Unknown Acute Toxicity** 7.75% of the mixture consists of ingredient(s) of unknown toxicity  
The following values are calculated based on chapter 3.1 of the GHS document .

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

21.65% of the mixture consists of component(s) of unknown hazards to the aquatic environment

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

#### 14. TRANSPORT INFORMATION

DOT Not regulated

#### 15. REGULATORY INFORMATION

##### International Inventories

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies

##### Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

##### US Federal Regulations

##### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

##### SARA 311/312 Hazard Categories

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

##### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

##### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations****U.S. EPA Label Information**

EPA Pesticide Registration Number Not Applicable

<b>16. OTHER INFORMATION</b>
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<b><u>NFPA</u></b>	Health hazards 1	Flammability 0	Instability 0	<b>Physical and Chemical Properties -</b>
<b><u>HMIS</u></b>	Health hazards 1	Flammability 0	Physical hazards 0	<b>Personal protection X</b>

<b>Prepared By</b>	lmt
<b>Issue Date</b>	02-Oct-2014
<b>Revision Date</b>	07-Oct-2014
<b>Revision Note</b>	No information available

**Disclaimer**

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release 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 or in any process, unless specified in the text.

**End of Safety Data Sheet**