SAFETY DATA SHEET

1. Identification

Product Identifier	**Micro-Zyme Packets**	
Other means of identification		
Product code	CU-8100	
Recommended use	Sewer and wastewater treatment.	
Recommended restrictions	Professional use only.	
Manufacturer information		
Company name	Chemical Universe, Inc.	
Address	1133 Saline St. North Kansas City, MO 64116	
Telephone	(816) 471-3602	
Fax	(816) 474-3302	
Emergency phone number	PERS	(800) 633-8253
	24 hour Emergency	(800) 633-8253

2. Hazard(s) Identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	None.
Label elements	None.
Signal word	Warning.
Hazard statement	May form combustible concentrations in air.
Precautionary statement	
Prevention	Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves and eye protection.
Response	IF ON SKIN: Wash with plenty soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Specific treatment: See section 4 on the Safety Data Sheet.
Storage	
Disposal	Dispose of contents/containers in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures	No hazardous ingredients above reportable levels.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
Eye contact	Rinse with water for at least 15 minutes. Remove contact lenses if present and easy to do so. Immediately call a physician or transport to hospital.
Ingestion	Rinse mouth.
Most important	Shortness of breath, respiratory tract irritation or damage.

symptoms/effects, acute and delayed	
Indication of immediate medical attention and special treatment needed	Provide general support measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protecting clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large spills: Place the material in containers using a broom or shovel. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small spills: Sweep up and put into containers. Clean surface thoroughly to remove residual contamination. Never return spills to original container for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into areas not consistent with package labeling.

7. Handling and storage

Precautions for safe handling	Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No data available.
Biological limit values	No data available.

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels to an acceptable level. It is recommended that users of this product perform a risk assessment to determine the appropriate personal protective equipment.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Avoid contact with eyes. Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Those with sensitive skin should wear protective gloves.
Other	None.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke or use chewing tobacco. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Physical State	Fine powder.
Color	Brown
Odor	None.
Odor threshold	Not available.
pH	Neutral when mixed with water.
Melting/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable
Flammability	Not applicable
Flammability Limits	
Upper	Not applicable.
Lower	Not applicable.
Vapor pressure	Not applicable
Vapor density	Not applicable
Specific gravity (water=1)	0.7
Solubility in water	Dispersible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.

10. Stability and reactivity

Reactivity	This product is stable and non-reactive under normal conditions of use.
Chemical stability	Material is stable under normal conditions. Store in a cool dark place.
Possibility of hazardous reactions	Hazardous polymerization does not occur

Conditions to avoid	Avoid storage in elevated temperatures.
Incompatible materials	Bases, amines, metals.
Hazardous decomposition products	Carbon monoxide, carbon dioxide. In case of fire see section 5.

11. Toxicological information

Information on likely routes of exposure	
Ingestion	Expected to be a low inhalation hazard
Inhalation	Do not inhale. May irritate upper respiratory tract.
Skin contact	Prolonged contact may cause irritation.
Eye contact	Contact may cause irritation or redness.
Symptoms related to the physical, chemical and toxicological characteristics	Coughing, wheezing, shortness of breath.
Acute toxicity	Not classified.

Product	**Route and Species**	**LD_{50}**
Micro-Zyme Packets (CAS mixture)		
Acute	*Oral*, rat	>5,000 mg/kg estimated

*Estimates for product may be based on additional component data not shown

Skin corrosion/irritation	Not classified.
Serious eye damage/ irritation	Not classified.
Respiratory sensitization	Not considered a respiratory sensitizer.
Skin sensitization	Not considered a skin sensitizer.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not considered a carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not Listed.

Reproductive toxicity	No data available.
Specific target organ toxicity – single exposure	Not classified.
Specific target organ toxicity – repeated exposure	No data available.
Aspiration hazard	No data available.

12. Ecological information

Ecotoxicity	No data available.
Persistence and degradability	No data available.
Bioaccumulative potential	Bioaccumulative potential is low.

Partition coefficient n-octanol/water (log K_{OW})

Not available.

Mobility in soil	No data available.
Other adverse effects	May be harmful to plants or wildlife in high concentrations.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues/unused product	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may contain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	Not regulated as dangerous goods.

15. Regulatory information

US federal regulations .

SARA 302 Extremely hazardous substance

Not listed.

SARA 304 Emergency release notification

Not listed.

SARA 311/312 Hazard Categories

Immediate Hazard - Yes

Delayed Hazard – No

Fire Hazard – No

Pressure Hazard – No

Reactivity Hazard – No

SARA 313 (TRI reporting)

Not listed.

16. Other information, including date of preparation or last revision

Issue date	6/3/2015
Revision date	6/3/2015
Version #	1
HMIS® ratings	Health: 1 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 1 Flammability: 0 Instability: 0
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Revision information	First issue