

**Buffer RED****No MSDS Required****Information**

Material Safety Data Sheets are not provided for these products for the reason that they do not contain more than 1% of any component classified as hazardous and no more than 0.1% of any component classified as carcinogenic. These products are therefore classified as non-hazardous according to the standard guidelines; OSHA 29CFR1910.1200, Commonwealth of Australia [NOHSC:1005, 1008(1999)] and the latest amendments to the European Union Directives 67/548/EC and 1999/45/EC.

However, standard lab safety precautions and appropriate personal protective equipment (gloves, lab coats, and eye protection) are recommended, as is the case for the handling of any chemical reagents. ZyGEM Corporation Ltd assumes no liability for damage resulting from handling or contact with these products.

For *in-vitro* use only.

**livestockGEM™****1. Identification of Substance**

**Name:** livestockGEM™  
**Manufacturer:** ZyGEM Corporation Ltd, Waikato Innovation Park, Ruakura Road, Hamilton, New Zealand. Tel: +64 7 8570870

**2. Composition**

**Description:** Neutral metalloproteinase from *Bacillus* species strain EA1.  
**Classification:** Peptidase family M4 (Thermolysin family)  
**Purpose:** For the enzymatic hydrolysis of proteins.

**3. Hazards**

**Emergency Overview:** Caution – this substance is not yet fully tested. To our knowledge, there are no known hazards but we recommend handling all chemicals with caution.

**Potential Health Effects**

<b>Inhalation:</b>	Not determined
<b>Ingestion:</b>	Not determined
<b>Skin:</b>	Not determined
<b>Eyes:</b>	Not determined
<b>Chronic Exposures:</b>	Not determined
<b>Target Organs:</b>	Not determined

**4. First Aid Measures**

Potentially harmful. Avoid prolonged or repeated exposure. Wash thoroughly after handling. If eye or skin contact occurs, wash affected area with water for 15 minutes and seek medical advice. If inhaled, move individual to fresh air and seek medical advice. If swallowed, seek medical advice.

**5. Fire Fighting Measures**

Use CO<sub>2</sub>, dry powder or water.

**6. Accidental Release Measures**

Wash with plenty of water

**7. Handling and Storage**

Store at  $\leq -20^{\circ}\text{C}$ . Protect material from long-term exposure to light; may be exposed to light for short periods of time.

**8. Exposure Controls / Personal Protection**

Wear appropriate gloves, protective clothing and eyewear and follow safe laboratory practices.

**9. Stability and Reactivity**

**Thermal Decomposition:** No decomposition if used according to specifications.

**Dangerous Reactions:** No dangerous reactions identified.

**Dangerous Products of Decomposition:** No dangerous decomposition products identified.

**10. Toxicological Information**

**RTECS Number:** None known

**Toxicity:** We are not aware of any toxicity data for this product.

**Health Hazards:** We are not aware of any reported health hazards for this product. We recommend treating all chemicals with caution.

**Carcinogenicity:** Not listed by NTP, IARC or OSHA.

**11. Ecological Information**

No known ecological effects. Dispose of appropriately for any chemical substance

**12. Regulations**

**US Toxic Substances Control Act (TSCA):** Not listed

**US Other:** Not applicable

**EEC EINECS Number:** Not identified

**EEC Risk Statements:** Not determined

**Other Country Regulations:** None identified

**13 Other Information**

The preparation contains a low concentration of a proteinase that has been produced in synthetic form using an *Escherichia coli* K12 strain. This bacterial species is universally used and is a non-hazardous, non-pathogenic debilitated bacterial species. High temperatures are used in the production of the enzyme to kill all living cells and then the enzyme is purified to mass spectroscopy grade homogeneity. Subsequent to this meticulous purification, the potential for any trace DNA is totally removed by enzymatic treatment.