

**Product Specification # 20-52-1.5**

**Calf Pregastric Esterase Liquid (PGE)**  
**Strength - 80 LFU/mL**

**Description:**

Calf Pregastric Esterase Liquid (PGE) is an extract of the epiglottis (tongue root) of calves containing lipolytic and esterase activity. The product is supplied as a non-drying water-miscible liquid. The liquid is red in colour.

**Purity:**

Calf PGE liquid is extracted from certified disease-free export quality calf tongue roots. The product contains no solvent residues and is stabilised by the addition of food-grade glycerol and salt.

**Strength:**

Calf PGE is standardised to 80 LFU/mL (lipase fore-stomach units), where 1 LFU releases 1.25 $\mu$ moles of butyric acid per minute at 42°C and at pH 6.20 from tributyrin as substrate under the conditions defined in the IDF 218:2011 test procedure.

**Use:**

PGE liquid can be added directly, or preferably, dispersed in **chlorine free water** prior to addition. The product is non-settling so can be pumped if required. Addition rates can only be ascertained by trials under manufacturing conditions.

**Packaging:**

Calf PGE liquid is available in 20L cubes. Other packaging configurations are available upon request.

**Storage:**

It is recommended that product be stored and transported under refrigeration (less than 8°C) and kept away from sunlight. Containers should be kept closed. Stock should be used in rotation to maintain maximum strength.

**Stability:**

At the recommended storage conditions, the liquid loses activity at a rate of less than 2% per month. Higher storage temperatures will lead to increased rates of activity loss.

**Halal Certification:**

Halal certified Calf PGE Liquid is available on request. It is manufactured from Halal raw materials by a Halal approved process.

**Certification:**

Each batch of PGE is analysed and certified to meet the following standards at the time of manufacture:

## Chemical Analysis

Strength: 80 LFU/mL, based on IDF 218:2011 test procedure.

## Bacteriological Analysis

	<b>Specification</b>	<b>Method</b>
Standard plate count	<1,000 cfu/mL	Modified AS 5013.1
Anaerobic plate count	<1,000 cfu/mL	APHA 4th Ed. Ch.6
Yeasts and Moulds	<50 cfu/mL	APHA 4th Ed. Chapter 20
Lactobacilli	<50 cfu/mL	APHA 4th Ed. Chapter 19
Coliforms	<1 cfu/mL	Modified AS 5013.3
Ecoli	Not detected in 50mL	Modified AS 5013.3
Staphylococci (coagulase positive)	Not detected in 5mL	Modified AS 5013.12.3
Salmonella	Not detected in 100mL	Modified Rappaport-Vassiliadis Soy
Listeria	Not detected in 100mL	FDA BAM Ch.10 (mod)

## Food Chemicals Codex:

Product conforms to additional requirements of FCC IV, vis.,

Arsenic (as As)	< 3 ppm
Heavy metals (as Pb)	< 40 ppm
Lead	< 10 ppm
Cadmium	< 0.5 ppm
Mercury	< 0.5 ppm

## Compliance:

Conforms to the requirements of the Australia New Zealand Food Standards and to the specifications of the Joint FAO/WHO Expert Committee on Food Additives (JECFA).

Not subjected to any irradiation treatment.