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TECHNICAL DATA SHEET

TDS-ENZ273-EN · REV. 02 · 2026-11-03

Papain Enzyme for Beef and Steak Tenderizing

Papain powder for tenderizing beef and steak through controlled protein hydrolysis.

SKU **ENZ273** CATEGORY **PAPAIN** CAS **9001-73-4** ENZYME GROUP **CYSTEINE PROTEASE** SOURCE **PAPAYA LATEX**

Not restricted for transport

FORM	ADDITION LEVEL	PACK SIZE	RECOMMENDED STORAGE TEMPERATURE
White powder	**1% to 3%**	**1 kg/bag**	**0-10°C**
water soluble	based on total weight of the meat product	sealed food-grade aluminum foil bag	sealed package, cool, dry place

SPECIFICATION

IDENTITY		
Enzyme	**Papain (papaya protease)** Typical	
CAS	9001-73-4 Typical	
COMPOSITION		
Main ingredients	Papain, glucose, salt Typical	
PHYSICAL		
Appearance	**White powder** Typical	
Odor/Flavor	Characteristic papaya flavor Typical	
Solubility	Water soluble Typical	
WORKING WINDOW		
Standing time after mixing	20–40 minutes Typical	
Tumbling time	10–30 minutes Typical	

Spec = release limit, confirmed on every lot's Certificate of Analysis. **Typical** = normal product behaviour, not a release limit.

STORAGE & PACKAGING

SHELF LIFE
12 months

STORAGE
Sealed package, cool, dry place, away from direct sunlight; 0-10°C recommended; keep bag tightly closed after opening

PACK SIZE
1 kg/bag, sealed food-grade aluminum foil bag

ORDERING
Online or by e-mail; current price on the product page

APPLICATIONS

Tenderize beef steak and portioned or value-added beef cuts
Breaks down muscle proteins and connective tissue to reduce toughness

Treat fresh and frozen beef in processing workflows
Improves texture consistency across cuts and batches

Add to marinated beef products
Supports flavor uptake and moisture retention during marination

Incorporate into seasoning systems, marinades or soaking solutions
Delivers controlled protein hydrolysis in prepared and seasoned meat products

DOSAGE

1% to 3%

based on the total weight of the meat product

Substrate	**Beef (steak)**
Method 1	**Dissolve in water, add to the beef, mix evenly, stand 20–40 minutes**
Method 2	**Add beef to a tumbler and tumble for 10–30 minutes**

Adjust the rate to meat cut, product type, process conditions, desired tenderness and holding time.
Pilot trials are recommended to determine the use level in actual production.

Each lot is released against its specification; the lot Certificate of Analysis reports the measured values.

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Online: enzymes.bio/product/papain-enzyme-for-beef-and-steak-tenderizing

Enzyme preparations are proteins and may sensitise; avoid skin, eye and inhalation contact. This technical data sheet gives the product specification and typical values; it is not a batch certificate. A Certificate of Analysis for the supplied lot accompanies each shipment. Safety Data Sheet on request.

SCAN TO ORDER