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IEC: ABCFG5010F · GSTIN: 09ABCFG5010F1ZU

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Safety Data Sheet

Bromelain 2,400 GDU/g

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1. Identification

Product identifier	Bromelain 2,400 GDU/g (powder)
Other names	Pineapple protease (Ananas comosus)
CAS / EC number	CAS 9001-00-7 · EC (enzyme) 3.4.22.32
Product code	HU-STA-30003 · bulk offer HB-BLK-001
Recommended use	Enzyme raw material for the manufacture of food supplements, foods and cosmetics
Restrictions on use	For industrial and professional use by trained personnel. Not a finished consumer product.
Supplier	Gausyn Global LLP (brand: Herbuno), B-57, Ground Floor, Sector 64, Noida 201301, Uttar Pradesh, India · +91 863-869-2590 · hello@herbuno.com
Emergency telephone	+91 863-869-2590 (Mon–Sat, 09:00–18:00 IST)

2. Hazard identification

Classification	Skin irritation, Category 2 · Eye irritation, Category 2 · Respiratory sensitisation, Category 1 · Specific target organ toxicity, single exposure, Category 3 (respiratory tract). Classified under US OSHA HCS (29 CFR 1910.1200).
Signal word	Danger
Pictograms	GHS08 (health hazard), GHS07 (exclamation mark)
Hazard statements	H315 Causes skin irritation · H319 Causes serious eye irritation · H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled · H335 May cause respiratory irritation
Precautionary statements	P261 Avoid breathing dust · P280 Wear protective gloves, eye protection and respiratory protection · P284 In case of inadequate ventilation wear respiratory protection · P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing · P305+P351+P338 IF IN EYES: rinse cautiously with water for several minutes; remove contact lenses if easy to do; continue rinsing · P342+P311 If experiencing respiratory symptoms: call a poison centre or doctor · P501 Dispose of contents and container in accordance with local regulations
Other hazards	Enzyme dust and aerosols are the route of concern. Fine dust may form combustible concentrations in air.

3. Composition / information on ingredients

Active component	Bromelain (proteolytic enzyme from pineapple stem/juice), CAS 9001-00-7
Hazardous components	The enzyme protein itself (respiratory sensitiser); no other hazardous components declared

4. First-aid measures

Inhalation	Move to fresh air and keep comfortable for breathing. If respiratory symptoms (wheezing, coughing, shortness of breath) develop, call a doctor.
Skin contact	Wash with plenty of water and soap. Remove contaminated clothing. Seek medical advice if irritation persists.
Eye contact	Rinse cautiously with water for at least 15 minutes, removing contact lenses if easy to do. Seek medical attention if irritation persists.
Ingestion	Rinse mouth and drink water. Seek medical attention if symptoms occur.
Symptoms	May cause allergy or asthma symptoms or breathing difficulties if inhaled; symptoms can be delayed. Irritation of skin, eyes and airways.
Medical attention	Treat symptomatically. Sensitised persons should not handle the product.

5. Fire-fighting measures

Suitable media	Water spray, alcohol-resistant foam, dry chemical, carbon dioxide
Unsuitable media	High-pressure water jet, which may raise a dust cloud
Specific hazards	Combustible organic solid. Fine dust dispersed in air in the presence of an ignition source is a potential dust explosion hazard. Combustion produces carbon monoxide and carbon dioxide.
Fire-fighter protection	Self-contained breathing apparatus and full protective gear.

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6. Accidental release measures

Personal precautions	Avoid generating dust or aerosol. Wear respiratory protection (P3 / N100), gloves and goggles. Ensure adequate ventilation.
Environmental precautions	Do not allow into drains or watercourses in quantity.
Clean-up	Do not dry-sweep. Collect with a vacuum cleaner fitted with a HEPA filter, or dampen and shovel into a closed container for disposal. Wash the area with water.

7. Handling and storage

Safe handling	Handle in enclosed systems or under local exhaust ventilation. Avoid dust formation and inhalation. Do not eat, drink or smoke in work areas; wash hands after handling. Ground equipment when transferring large quantities.
Storage	Tightly closed in a dry place below 25 °C; refrigerated storage preserves activity. Protect from moisture and heat.
Incompatible materials	Strong oxidising agents
Shelf life	24 months from manufacture under the conditions above, in the original package

8. Exposure controls / personal protection

Exposure limits	No substance-specific occupational exposure limit established. Industry practice for enzyme proteins targets airborne concentrations well below 60 ng/m³ (active protein).
Engineering controls	Process enclosure or local exhaust ventilation wherever dust can be generated.
Eye protection	Chemical safety goggles (EN 166)
Hand protection	Impermeable gloves (nitrile)
Respiratory protection	Particulate respirator P3 / N100 (EN 149 FFP3) during any open handling
Health surveillance	Respiratory health surveillance is recommended for staff routinely handling enzyme powders.

9. Physical and chemical properties

Physical state / appearance	Solid; powder
Colour	Off-white to cream
Odour	Characteristic natural odour of pineapple
Solubility	Completely water soluble
pH	4.0–7.0
Loss on drying	NMT 5%
Melting point	Not applicable; protein decomposes on heating
Flash point	Not applicable (solid)
Flammability	Combustible solid; dust may form explosive mixtures with air
Explosion limits	Not determined
Vapour pressure / density	Not applicable

10. Stability and reactivity

Reactivity	Not reactive under normal conditions of use and storage
Chemical stability	Stable under the recommended storage conditions; activity declines with heat and moisture.
Conditions to avoid	Heat, moisture, dust formation and ignition sources
Incompatible materials	Strong oxidising agents
Hazardous decomposition	Carbon monoxide and carbon dioxide on combustion; irritating gases and vapours on thermal decomposition

11. Toxicological information

Acute toxicity	No data available for this product. Slightly hazardous if ingested in quantity.
Skin / eye	Causes skin irritation (Category 2) and serious eye irritation (Category 2).
Respiratory sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled (Category 1). Enzymes are proteins; inhaled dust can induce sensitisation.
Single-exposure target organ	May cause respiratory irritation (Category 3)
Carcinogenicity, mutagenicity, reproductive toxicity	No data available. Not listed by IARC, NTP or OSHA.

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12. Ecological information

Ecotoxicity	No data available. Not classified as hazardous to the aquatic environment.
Persistence and degradability	Protein material; expected to be readily biodegradable
Bioaccumulation	Not expected

13. Disposal considerations

Product	Dispose of in accordance with local regulations. Avoid generating dust.
Packaging	Empty packaging retains dust residues; close before disposal or recycle in accordance with local regulations.

14. Transport information

UN number / class	Not regulated as dangerous goods (UN Model Regulations, ADR, IMDG, IATA, US DOT)
Packing group	Not applicable
Marine pollutant	No
HS code	3507.90

15. Regulatory information

Classification status	Classified as hazardous for supply and workplace use (respiratory sensitiser) under US OSHA HCS and EU CLP; see Section 2.
Intended application	Use in foods, food supplements or cosmetics is governed by the regulations of the destination market. The buyer is responsible for confirming regulatory status for the intended application.

16. Other information

Basis	Prepared in the 16-section format of the UN GHS. Hazard classification as stated in the manufacturer's safety data; physical data from the product specification and current lot certificate of analysis.
Abbreviations	GHS: Globally Harmonized System · HCS: Hazard Communication Standard · CLP: Classification, Labelling and Packaging · PEL: permissible exposure limit · HEPA: high-efficiency particulate air · STOT SE: specific target organ toxicity, single exposure

The information in this Safety Data Sheet is based on our present knowledge and is given in good faith. It describes the product with regard to safety requirements and does not constitute a warranty of specific properties. The user is responsible for observing applicable laws and for assessing suitability for the intended application.

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