

Safety Data Sheet: Bromelain

1. Identification

Product	Bromelain; CAS 37189-34-7; EC 253-387-5
Use	Professional enzyme and food-processing formulation development.
Company	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Telephone / email	+86-21-54265599 / sales@zxchem.com.cn
Emergency contact	ZXCHEM office number above, office hours, China time (UTC+8). For urgent medical assistance contact local emergency services.
Scope	Reference safety information for Bromelain. The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazards Identification

Classification	Skin irritation Category 2; eye irritation Category 2; respiratory sensitization Category 1; specific target organ toxicity, single exposure Category 3 (respiratory irritation).
Signal word / symbols	Danger; GHS07, GHS08
Hazard statements	H315: irritates skin. H319: causes serious eye irritation. H334: may cause respiratory allergy or asthma symptoms when inhaled. H335: may irritate the respiratory tract.
Prevention	Use adequate ventilation; avoid inhaling dust. Prevent skin and eye contact. Wear suitable chemical-resistant gloves and eye protection. Wash after handling; keep food and drink out of the work area.
Response	After exposure, stop work and seek medical advice. For severe exposure obtain urgent medical care. Rinse contaminated skin or eyes with water; move an inhalation casualty to fresh air.
Environment	Prevent uncontrolled release to drains, soil or surface water. Collect spills for appropriate disposal.



3. Composition / Information on Ingredients

Reference ingredient	Stem bromelain, CAS 37189-34-7, EC 253-387-5; matched substance reference up to 100%. The commercial preparation activity is $\geq 2,400$ GDU/g; activity is not a composition percentage. No carrier identity or fraction is assigned.
Supply grade	Activity $\geq 2,400$ GDU/g
Applicability	The cited concentration or purity describes the reference material. It is not a certificate of analysis for the delivered batch; different solvents or dilutions require the matching supplier safety document.

4. First-Aid Measures

General	Protect the rescuer from exposure and show the product information to medical personnel. Obtain medical advice if symptoms occur or exposure is significant.
Inhalation	Move to fresh air and keep the person comfortable. Seek medical care for breathing difficulty or persistent symptoms. Avoid exposing rescuers to dust.
Skin	Remove contaminated clothing and rinse skin thoroughly with water. Seek medical advice for persistent irritation.
Eyes	Rinse gently with clean water for at least 15 minutes. Remove contact lenses when easy and continue rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse the mouth. Do not induce vomiting. Give nothing by mouth to an unconscious person. Obtain medical advice.
Effects / treatment	Enzyme dust can cause respiratory sensitization with allergy or asthma symptoms, and irritation of skin, eyes and airways. Remove affected personnel from exposure and obtain medical care for breathing symptoms. Treatment is symptomatic and directed by a clinician.

5. Fire-Fighting Measures

Extinguishing media	Use water spray, foam, dry chemical or carbon dioxide suited to the surrounding fire.
Hazards	Combustible reference material. Fire may generate hazardous fumes; the source does not identify specific decomposition products. Fine airborne organic dust requires ignition control.
Protection	Firefighters require suitable protective clothing and self-contained breathing equipment. Prevent contaminated firefighting water entering drains.

6. Accidental Release Measures

Personnel	Isolate the spill and provide ventilation. Use chemical-resistant gloves and eye protection; avoid contact and dust exposure.
Environment	Contain the release and protect drains and waterways. Report significant environmental contamination to the responsible authority.
Cleanup	Collect spilled solid without raising dust into closed labelled containers.

7. Handling and Storage

Handling	Use controlled transfer and effective ventilation. Avoid generating dust and prevent contamination of the work area.
Storage	Keep original bags tightly sealed, dry and protected from light and moisture. For long-term storage, keep at or below 5°C to preserve enzyme activity. Prevent condensation when moving chilled material.
Incompatibilities	Strong oxidizing agents. Protect from light, excessive heat and moisture.
Specific use	Evaluate compatibility and appropriate operating conditions in the complete formulation before industrial use.

8. Exposure Controls / Personal Protection

Exposure limits	The selected generic reference does not supply a numerical occupational exposure limit. Apply effective enzyme-dust control and local workplace requirements.
Engineering controls	Use local extraction where dust can be generated. Maintain accessible eyewash and emergency washing facilities.
Personal protection	Wear chemical-resistant gloves selected for the task, suitable protective clothing and splash goggles. Add face protection for splash-prone tasks.
Respiratory protection	Use a properly selected respirator under a respiratory-protection program where engineering controls do not adequately limit airborne exposure.
Hygiene	Wash after handling, remove contaminated clothing promptly and do not eat, drink or smoke in the work area.

9. Physical and Chemical Properties

Appearance	Off-white to light-yellow powder
Formula / molecular weight	Enzyme preparation / Variable protein molecular weight
Physical form, supply TDS	Off-white to light-yellow powder
Activity, supply TDS	≥2,400 GDU/g
Other properties	Product-specific values for odor threshold, vapor pressure, partition coefficient, autoignition temperature and viscosity are not supplied by the selected reference set. No values are inferred.

10. Stability and Reactivity

Stability	Handle and store under the recommended conditions. Prevent contamination and unnecessary heating.
Incompatibilities	Strong oxidizing agents. Protect from light, excessive heat and moisture.
Decomposition	Combustible reference material. Fire may generate hazardous fumes; the source does not identify specific decomposition products. Fine airborne organic dust requires ignition control.

11. Toxicological Information

Exposure effects	Enzyme dust can cause respiratory sensitization with allergy or asthma symptoms, and irritation of skin, eyes and airways. Remove affected personnel from exposure and obtain medical care for breathing symptoms.
Reference classification	Skin irritation Category 2; eye irritation Category 2; respiratory sensitization Category 1; specific target organ toxicity, single exposure Category 3 (respiratory irritation).
Data limits	No numerical oral, inhalation or dermal acute toxicity endpoint is supplied by the selected reference. Respiratory sensitization and skin/eye/respiratory irritation are identified; asthma can occur after enzyme-dust exposure.

12. Ecological Information

Environmental effects	No numerical aquatic toxicity, persistence, mobility or bioaccumulation endpoint is supplied by the selected reference. Prevent uncontrolled release.
Controls	Prevent uncontrolled release, collect spills and dispose of contaminated material through an authorized route.
Assessment	No product-specific PBT/vPvB assessment is claimed. Absence of data does not establish absence of environmental effects.

13. Disposal Considerations

Product	Collect surplus product and contaminated cleanup material for disposal by an authorized chemical-waste contractor in accordance with local requirements.
Packaging	Containers may retain product residues. Do not reuse contaminated packaging without an approved cleaning process; use an authorized disposal route.

14. Transport Information

Classification	Non-dangerous goods
UN number	Not assigned
Shipping name	Not regulated as dangerous goods
Class / packing group	ADR/RID / IMDG / IATA: non-dangerous goods for the matched stem enzyme reference; no packing group assigned.
Transport precautions	Protect packaging and closures from damage, secure loads and prevent releases. This reference is not a shipping declaration for a specific consignment.

15. Regulatory Information

Identity	Bromelain; CAS 37189-34-7; EC 253-387-5
HS reference	350790; reference heading rather than a destination customs ruling.
Compliance	Apply applicable workplace, environmental and transport rules. A raw-material listing does not establish authorization for a finished food, flavour or other formulation.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H315: irritates skin. H319: causes serious eye irritation. H334: may cause respiratory allergy or asthma symptoms when inhaled. H335: may irritate the respiratory tract.
Limitations	Prepared as reference safety information for the identified material. It is not a batch analytical certificate or safety assessment of a different solvent-containing formulation.
Revision	2026.1; prepared 2026-10-06. Customer-document branding and title corrected; technical safety data retained.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

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