

Safety Data Sheet: Maleic Anhydride

1. Identification

Product	Maleic Anhydride; CAS 108-31-6; EC 203-571-6
Use	Resin manufacture and specialty chemical synthesis.
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 Maleic Anhydride. 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	Acute oral toxicity Category 4; skin corrosion Category 1B; serious eye damage Category 1; respiratory sensitization Category 1; skin sensitization Category 1; specific target organ toxicity, repeated exposure Category 1 (respiratory system).
Signal word / symbols	Danger; GHS05, GHS07, GHS08
Hazard statements	H302: harmful if swallowed. H314: severe skin burns and eye damage. H317: allergic skin reaction. H334: allergy or asthma symptoms or breathing difficulty if inhaled. H372: respiratory-organ damage after prolonged or repeated exposure.
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	Maleic anhydride, CAS 108-31-6, EC 203-571-6; >95% in the selected reference. Supply assay ≥99%; batch impurities are not assigned by this reference.
Supply grade	Assay ≥99.0%
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 rescuers and obtain immediate medical assistance after significant exposure. Show this information to medical personnel.
Inhalation	Move to fresh air without exposing rescuers. Seek urgent medical care for breathing difficulty, wheezing or suspected sensitization. Trained personnel should use suitable medical equipment for assisted ventilation.
Skin	Remove contaminated clothing while rinsing with plenty of water for at least 15 minutes. Obtain urgent care for burns or allergic symptoms.
Eyes	Immediately irrigate gently with clean water for at least 15 minutes, including under the eyelids. Remove contact lenses when easy and obtain urgent medical treatment.
Ingestion	Rinse the mouth, do not induce vomiting and contact emergency medical services. Give nothing by mouth to an unconscious person. Corrosive gastrointestinal injury is possible.
Treatment	Medical personnel should assess corrosive injury and respiratory effects. Respiratory sensitization may require continued observation.

5. Fire-Fighting Measures

Extinguishing media	Use carbon dioxide, suitable alcohol-resistant foam or controlled water spray according to the fire situation. Avoid uncontrolled water addition to bulk material; protect responders and contain runoff.
Hazards	Heating or fire can release carbon oxides and hazardous fumes; severe decomposition may produce acetylene.
Protection	Firefighters require suitable protective clothing and self-contained breathing equipment. Prevent contaminated firefighting water entering drains.

6. Accidental Release Measures

Personnel	Isolate the area, control airborne dust and avoid skin or eye contact. Use protective equipment and appropriate local extraction.
Environment	Prevent entry into drains and waterways. Keep spilled material dry where safe and retain contaminated material for disposal.
Cleanup	Collect carefully by suitable mechanical or vacuum methods without dispersing dust into closed, labelled containers. Avoid introducing water into bulk spilled material; manage residual cleaning under a controlled procedure.

7. Handling and Storage

Handling	Avoid generating or inhaling dust. Use enclosed handling and local extraction, chemical-resistant gloves, eye and face protection and protective clothing. Provide eyewash and emergency washing facilities; manage dust under the workplace exposure-control program.
Storage	Keep tightly sealed in a cool, dry, ventilated area. Protect from moisture and water contact. Store away from alcohols, alkali metals, strong oxidizers and strong reducing agents.
Incompatibilities	Water, alcohols, alkali metals, strong oxidizing agents and strong reducing agents.
Specific use	Use a dry, controlled process and assess the complete reaction before industrial use.

8. Exposure Controls / Personal Protection

Exposure limits	reference: ACGIH TWA 0.01 mg/m ³ ; OSHA PEL and NIOSH REL 0.25 ppm (1 mg/m ³). Control dust at source and verify current local limits.
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	White crystalline flakes or needles
Formula / molecular weight	C ₄ H ₂ O ₃ / 98.06 g/mol
Melting range, reference	52–55°C
Boiling point, reference	200°C at 760 mmHg
Flash point, reference; method unspecified	102°C
Relative density, reference	1.48
Autoignition temperature, reference	477°C
Decomposition temperature, reference	290°C
Water reactivity	Hydrolyzes to maleic acid
Other properties	Reported properties are manufacturer-reference values, not purchasing acceptance limits. Properties of a formulated or diluted material may differ.

10. Stability and Reactivity

Stability	Protect from moisture. Water contact hydrolyzes maleic anhydride to maleic acid.
Hazardous reactions	Avoid uncontrolled contact with water or incompatible reactants. Dispersed organic dust can present a dust-explosion hazard.
Conditions to avoid	Moisture, dust accumulation, excessive heating and incompatible materials.
Incompatibilities	Water, alcohols, alkali metals, strong oxidizing agents and strong reducing agents.
Decomposition	Heating or fire can release carbon oxides and hazardous fumes; severe decomposition may produce acetylene.

11. Toxicological Information

Exposure effects	Corrosive injury, skin allergy and respiratory sensitization. Repeated inhalation can damage the respiratory system. Finely divided material can present a combustible-dust hazard.
Reference classification	Acute oral toxicity Category 4; skin corrosion Category 1B; serious eye damage Category 1; respiratory sensitization Category 1; skin sensitization Category 1; specific target organ toxicity, repeated exposure Category 1 (respiratory system).
Toxicological data	The selected reference identifies harmful ingestion, corrosive injury, skin and respiratory sensitization and repeated-exposure respiratory toxicity. Individual study values are not used to establish a safe dose or exposure.

12. Ecological Information

Environmental effects	reference: fish LC50 75 mg/L at 96 hours; algae EC50 29 mg/L at 72 hours. Prevent release to drains and waterways and retain contaminated cleanup material.
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	Class 8 — Corrosive
UN number	UN 2215
Shipping name	Maleic anhydride
Class / packing group	DOT, ADR/RID, IMDG and IATA: Class 8, packing group III.
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	Maleic Anhydride; CAS 108-31-6; EC 203-571-6
HS reference	291714; reference heading rather than a destination customs ruling.
Compliance	Apply applicable workplace, environmental and transport rules. A raw-material listing does not establish finished-product authorization.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H302: harmful if swallowed. H314: severe skin burns and eye damage. H317: allergic skin reaction. H334: allergy or asthma symptoms or breathing difficulty if inhaled. H372: respiratory-organ damage after prolonged or repeated exposure.
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	2026.2; 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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