Safety Data Sheet: Tetraacetylethylenediamine (TAED)

Version 2026 | Revision date: 2026-10-13 | Language: English

1. Identification

Product	Tetraacetylethylenediamine (TAED)
CAS / EC	10543-57-4 / 234-123-8
Use	Peroxide bleach activator for detergent and industrial cleaning formulations.
Uses advised against	Unassessed consumer, medical or other applications outside the qualified grade and intended use.
Supplier	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Contact	+86-21-54265599 | sales@zxchem.com.cn | www.zxchem.com
Emergency contact	+86-21-54265599; office hours, China time UTC+8. For an urgent incident, contact local emergency services.
Scope	Reference safety information for Tetraacetylethylenediamine (TAED). 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. Hazard identification

Classification	Not classified as hazardous in the matched reference.
Signal word	Not applicable
Pictograms	None required
Hazard statements	No GHS hazard statements assigned to the matched reference.
Prevention	Use ventilation, eye protection and appropriate gloves; avoid unnecessary exposure.
Response	Follow the exposure-specific first-aid measures in Section 4. Remove contaminated clothing. Seek urgent advice for severe symptoms.
Storage / disposal	Keep closed under the conditions in Section 7. Dispose through an authorized waste route under local rules.
Other hazards	Dust, splashes, process conditions and decomposition can create exposure risks not represented by the commercial assay.

3. Composition/information on ingredients

TAED	CAS 10543-57-4; reference >80 wt%; commercial grade 90–94%.
Organic binder	Reference sodium carboxymethylcellulose, CAS 9004-32-4, <20 wt%.
Water	CAS 7732-18-5; reference <2 wt%.
Commercial scope	Granulated TAED mixture reference. The commercial TAED assay is 90–94% with moisture ≤2%; binder and colorant identity/concentration are not certified by this reference.

4. First-aid measures

Eye contact	Rinse eyes immediately with water for at least 15 minutes; remove contact lenses when easily possible and continue rinsing. Seek medical attention if irritation persists.
Inhalation	Move to fresh air without exposing rescuers. Seek medical attention for persistent or developing symptoms.
Skin contact	Remove contaminated clothing and rinse thoroughly with water. Seek care if irritation or rash develops; wash clothing before reuse.
Ingestion	Rinse the mouth. Do not induce vomiting or give anything by mouth to an unconscious person. Seek medical advice after substantial ingestion or if symptoms occur.
Symptoms	The referenced granules are not GHS classified. Dust may irritate eyes and airways. Component oral LD50 >2,000 mg/kg, rat; negative genotoxicity results are reported for TAED, not for a delivered formulation.
Immediate treatment	Treat symptoms. Seek medical advice for persistent effects; protect rescuers against secondary exposure.

5. Fire-fighting measures

Media / specific hazards	Use appropriate surrounding-fire media; avoid airborne dust. Strong heating can release acetic acid and nitrogen oxides. Contain firewater.
Protection	Use full protective equipment and self-contained breathing apparatus. Fight from a safe position; contain contaminated firewater and cool exposed containers when safe.

6. Accidental release measures

Personal / environmental precautions	Restrict entry, avoid exposure and prevent environmental release. Use the controls and protection in Section 8.
Containment / cleanup	Exclude unprotected personnel and collect the solid without creating airborne dust, using suitable tools and labeled waste containers. Prevent drain and waterway entry.
References	See Sections 7, 8 and 13 for handling, protection and disposal.

7. Handling and storage

Handling	Avoid contact and inhalation; maintain ventilation and good hygiene. Use suitable equipment and prevent chemical contamination.
Storage	Keep tightly closed in a cool, dry, ventilated place. Protect against moisture and contamination; keep away from incompatible materials. Protect against heat, direct light and incompatible materials.
Incompatibilities	Avoid strong acids, alkalis, oxidizers and ignition sources. Finely dispersed dust can present a dust-explosion hazard. Wet granules can create slippery surfaces.
Specific end use	Peroxide bleach activator for detergent and industrial cleaning formulations.

8. Exposure controls/personal protection

Control parameters	No supply-specific occupational exposure limit or DNEL/PNEC is established by this record. Apply local substance and particulate exposure limits where relevant.
Engineering and personal protection	Use closed transfer or local extraction. Provide an eyewash and safety shower. Wear chemical-resistant gloves selected for the actual exposure, protective clothing and splash goggles. For airborne dust, use a suitable approved respirator selected through a workplace risk assessment; emergency or unknown atmospheres require independent air supply.
Hygiene / environmental control	Wash after handling; separate contaminated clothing. Contain product and process effluent; do not eat or drink in handling areas.

9. Physical and chemical properties

Physical state / appearance	White or colored granules
Formula / formula weight	C10H16N2O4; 228.25 g/mol; component identity
Bulk density	420–650 g/L
Odor / odor threshold	No supply-grade value provided.
Boiling / decomposition point	No supply-grade limit provided.
Flammability / flash point	No supply-grade test value provided; see fire and reactivity information in Sections 5 and 10.
Vapor pressure / density	No supply-grade value provided.
Partition coefficient / autoignition	No supply-grade value provided.

10. Stability and reactivity

Reactivity / stability / reactions	Avoid strong acids, alkalis, oxidizers and ignition sources. Finely dispersed dust can present a dust-explosion hazard. Wet granules can create slippery surfaces.
Conditions and materials to avoid	Follow the incompatible-material and storage requirements in Section 7.
Decomposition products	See Section 5. No normal-storage decomposition is indicated under the recommended conditions.

11. Toxicological information

Routes / effects	The referenced granules are not GHS classified. Dust may irritate eyes and airways. Component oral LD50 >2,000 mg/kg, rat; negative genotoxicity results are reported for TAED, not for a delivered formulation.
Other endpoints	Supply-batch sensitization, mutagenicity, carcinogenicity, reproduction and repeated-dose testing has not been provided. This does not override the classifications and target organs listed in Section 2.
Mixture assessment	Reference-substance or component results are not delivered-batch analytical or toxicological results.

12. Ecological information

Aquatic toxicity / behavior	Reference component Daphnia EC50 >1,000 mg/L, 48 h; algae EC50 >1,000 mg/L, 72 h. The component is described as readily biodegradable with log Kow −0.1 and BCF 3.2; prevent uncontrolled discharge.
Other environmental endpoints	Supply-batch PBT/vPvB, endocrine-disruption, persistence, degradation, mobility and bioaccumulation assessments have not been provided. Do not infer absence of effects from missing data.

13. Disposal considerations

Product and residues	Characterize waste under applicable local rules and use a licensed waste contractor. Do not discharge chemical residues or contaminated process water to drains.
Contaminated packaging	Do not reuse contaminated packaging for unrelated purposes. Handle retained material with the same protection as the product and use an authorized disposal or return route.

14. Transport information

ADR / RID	Not regulated as dangerous goods in the applicable reference.
IMDG	Not regulated as dangerous goods in the applicable reference.
IATA	Not regulated as dangerous goods in the applicable reference.
UN number / class / packing group	Not assigned for the reference material.
Special precautions	Keep packaging closed, secured and protected against damage; prevent release.
Maritime bulk transport	Not assessed for bulk shipment under IMO instruments.
Scope	Transport entries apply to the reference identity, concentration and form described in Section 3. Changes in composition require reassessment.

15. Regulatory information

Classification framework	GHS/CLP reference classification is given for the material in Section 3. Local worker-protection, labeling, transport, environmental and end-use requirements apply.
Registration / use status	No supply-specific registration number, market authorization or end-use certification is established by this reference record.
Chemical safety assessment	No supply-formulation chemical safety assessment is supplied by ZXCHEM in this record.

16. Other information

Revision date	2026-10-13; initial ZXCHEM reference safety document, version 2026.1.
Abbreviations	ADR/RID: road/rail dangerous goods; IMDG: maritime dangerous goods; IATA: air dangerous goods; PG: packing group; LD50/LC50: median lethal dose/concentration; STOT: specific target organ toxicity.
Use of information	Use together with the grade TDS and a workplace assessment. Concentration, solvent, impurity or physical-form changes require applicable safety information.
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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