Safety Data Sheet: Tetrabutylurea

1. Identification

Product	Tetrabutylurea; CAS 4559-86-8; EC 224-929-8
Use	Industrial solvent and chemical-process 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 Tetrabutylurea. 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	US OSHA reference: flammable liquids Category 4 (combustible liquid); no GHS pictogram in that reference.
Signal word / symbols	Warning; No GHS pictogram in the selected reference
Hazard statements	H227: combustible liquid. Keep away from ignition sources and heated surfaces.
Prevention	Use adequate ventilation; avoid inhaling mist. 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	Tetrabutylurea CAS 4559-86-8, EC 224-929-8, substance reference up to 100%.
Supply grade	≥99.5%
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 mist.
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	Avoid ingestion, skin and eye contact and excessive vapour exposure. The reference lacks complete numerical toxicological studies. 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	Combustion can produce carbon and nitrogen oxides and hazardous smoke.
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 mist exposure.
Environment	Contain the release and protect drains and waterways. Report significant environmental contamination to the responsible authority.
Cleanup	Stop the leak if safe. Absorb liquid with a compatible inert material and collect in closed labelled containers. Do not wash into drains.

7. Handling and Storage

Handling	Use controlled transfer and effective ventilation. Avoid generating mist and prevent contamination of the work area.
Storage	Store closed in a cool, ventilated warehouse below 37°C, away from heat, sparks, flames and oxidizers. Use suitable grounded equipment and keep spill-control materials nearby.
Incompatibilities	Strong oxidizing agents.
Specific use	Evaluate compatibility and appropriate operating conditions in the complete formulation before industrial use.

8. Exposure Controls / Personal Protection

Exposure limits	The reference does not establish a product-specific exposure limit. Apply local workplace exposure requirements and control dust or mist.
Engineering controls	Use local extraction where mist 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	Colorless transparent liquid
Formula / molecular weight	C17H36N2O / 284.49 g/mol
Closed-cup flash point, reference	93°C
Boiling range, reference	177–178°C at 25 hPa
Relative density, reference	0.877 g/cm³
Molecular weight	284.49 g/mol
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.
Decomposition	Combustion can produce carbon and nitrogen oxides and hazardous smoke.

11. Toxicological Information

Exposure effects	Avoid ingestion, skin and eye contact and excessive vapour exposure. The reference lacks complete numerical toxicological studies.
Reference classification	US OSHA reference: flammable liquids Category 4 (combustible liquid); no GHS pictogram in that reference.
Toxicological data	The reference does not report complete numerical acute or chronic toxicity values. Do not interpret missing studies as proof of low toxicity.

12. Ecological Information

Environmental effects	The selected reference does not provide complete quantitative ecotoxicity or environmental-fate data. Avoid discharge to water or soil.
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 (IMDG / IATA)
UN number	IMDG / IATA: not regulated; US DOT: NA 1993
Shipping name	US DOT: combustible liquid, n.o.s. (tetrabutylurea); IMDG / IATA: non-dangerous goods
Class / packing group	IMDG / IATA: not dangerous goods. US DOT reference: NA 1993, class NONE, packing group III, combustible liquid. This regional DOT entry is not replaced with a blanket non-regulated claim.
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	Tetrabutylurea; CAS 4559-86-8; EC 224-929-8
HS reference	292419; 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 disinfectant or biocidal product.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H227: combustible liquid. Keep away from ignition sources and heated surfaces.
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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