1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( C_{11}H_{17}N_{3}O_{8} \)

Batch Molecular Weight: 319.27

Physical Appearance: White solid

Solubility: acidic buffer (pH 4.8) to 3 mM

Storage: Desiccate at -20°C

Batch Molecular Structure:

2. ANALYTICAL DATA

HPLC: Shows >99% purity
**Product Information**

**Product Name:** Tetrodotoxin  
**Catalog No.:** 1078  
**Batch No.:** 43  
**CAS Number:** 4368-28-9  
**EC Number:** 224-458-8

**IUPAC Name:** Octahydro-12-(hydroxymethyl)-2-imino-5,9:7,10a-dimethano-10aH-[1,3]dioxocino[6,5-d]pyrimidine-4,7,10,11,12-pentol

**Description:**
Selective inhibitor of Na⁺ channel conductance. Binding is reversible and of high affinity (Kᵢ = 1-10 nM). Blocks in a use-dependent manner.

**Physical and Chemical Properties:**
- **Batch Molecular Formula:** C₁₁H₁₂N₂O₆  
- **Batch Molecular Weight:** 319.27  
- **Physical Appearance:** White solid

**Batch Molecular Structure:**

**Storage:** Desiccate at -20°C

**Solubility & Usage Info:**
- **acidic buffer (pH 4.8):** to 3 mM
- **Tetrodotoxin is soluble to 3mM in 0.1M citrate or acetate buffer at pH 4.8. To make the buffer solution either sodium citrate or sodium acetate should be dissolved in water to a final concentration of 0.1M. The pH of the buffer solution can then be adjusted to pH 4.8 with the addition of citric acid, acetic acid or sodium hydroxide.

**Stability and Solubility Advice:**
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath). Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:
- **SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.
- **SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**Other Information:**
This is a dual-use item with associated conditions of supply; the relevant licence/documentation from the appropriate governing body will be required.

**Note on Biotubes:**
Toxins are supplied in protective biotubes. These biotubes have a screw top lid, which is manually tightened and can be easily unscrewed. If the lid is particularly tight, a coin placed in the top slot may be used to unscrew it.

**References:**
- Merck Index 12 9382.

**Caution:** Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**bio-techne.com**  
info@bio-techne.com  
techsupport@bio-techne.com

**North America**  
Tel: (800) 343 7475

**China**  
info.cn@bio-techne.com  
Tel: +86 (21) 52380373

**Europe Middle East Africa**  
Tel: +44 (0)1235 529449

**Rest of World**  
www.tocris.com/distributors  
Tel:+1 612 379 2956