



**NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**GB 1886.347-2021**

---

**National food safety standard - Food additives  
-4-amino-5,6-dimethylthieno(2,3-d)pyrimidin-2(1H)-one  
hydrochloride**

**Issued on: February 22, 2021**

**Implemented on: August 22, 2021**

---

**Issued by: NHC; SAMR**

## Table of Contents

- 1 Scope
- 2 Chemical name, molecular formula, structural
  - 2.1 Chemical name
  - 2.2 Molecular formula
  - 2.3 Structural formula
  - 2.4 Relative molecular mass
- 3 Technical requirements
  - 3.1 Sensory requirements
- Appendix A Determination of the content of 4-amino-5,6-dimethylthieno(2,3-

### 1 Scope

This standard is applicable to food additives, 4-amino-5,6-dimethylthieno(2,3-d)pyrimidin-2(1H)-one hydrochloride, which are produced through chemical reaction, by the raw materials of malononitrile, 3-mercapto-2-butanone, etc.

### 2 Chemical name, molecular formula, structural

formula, relative molecular mass

#### 2.1 Chemical name

4-amino-5,6-dimethylthieno(2,3-d)pyrimidin-2(1H)-one hydrochloride

#### 2.2 Molecular formula

C<sub>8</sub>H<sub>9</sub>N<sub>3</sub>OS.HCl

#### 2.4 Relative molecular mass

231.7 (According to 2018 international relative atomic mass)

### Appendix A Determination of the content of 4-amino-5,6-dimethylthieno(2,3-

d)pyrimidin-2(1H)-one hydrochloride A.1 Reagents and materials A.1.1 Trifluoroacetic acid: Purity ≥ 98%.

A.1.1.1 The 0.1% trifluoroacetic acid solution: Pipette 1.00 mL of trifluoroacetic acid (A.1.1). Add it to a 1000 mL volumetric flask. Add water (A.1.3) to dilute it to the mark. Shake well.

A.1.1.2 The 0.05% trifluoroacetic acid solution: Pipette 0.50 mL of trifluoroacetic acid (A.1.1). Add it to a 1000 mL volumetric flask. Add water (A.1.3) to dilute it to the mark. Shake well.

A.1.2 Acetonitrile: Chromatographically pure.

A.1.3 Water: Grade 1 water as specified in GB/T 6682.

A.1.4 Control product of 4-amino-5,6-dimethylthieno(2,3-d)pyrimidin-2(1H)-one hydrochloride: Purity  $\geq 99.0\%$ .

A.2 Instrument and equipment Ultra-high performance liquid chromatograph: Equipped with a diode array detector.

A.3 Reference chromatographic conditions A.3.1 Chromatographic column: C18 liquid chromatographic column, which has a length of 100 mm, an inner diameter of 4.6 mm, a particle size of 3.5  $\mu\text{m}$ ; OR other equivalent chromatographic column.

A.3.2 Mobile phase: Composed of 0.1% trifluoroacetic acid solution (A.1.1.1) and acetonitrile (A.1.2), in a volume ratio of 95:5.

A.3.3 Column temperature: 30  $^{\circ}\text{C}$ .

A.3.4 Flow rate: 1.0 mL/min.

A.3.5 Injection volume: 1  $\mu\text{L}$ .

A.3.6 Detection wavelength: 245 nm.