

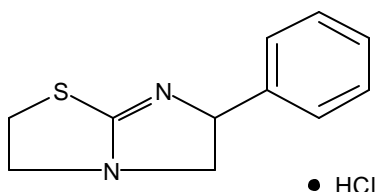
## Product Information

### TETRAMISOLE HYDROCHLORIDE

Product Number T1512

CAS #: 5086-74-8

#### Product Description



Appearance: White powder

Molecular formula:  $C_{11}H_{12}N_2S \cdot HCl$

Molecular weight: 240.8

Dissociation Constant:  $pK_a = 8.0^1$

Melting point:  $264-265^\circ C^2$

Tetramisole is an alkaline phosphatase inhibitor. It is a racemic mixture of (+) and (-) isomers. The (-) isomer (levamisole) accounts for most of the biological activity of tetramisole.<sup>3</sup>

Tetramisole has been used to inhibit alkaline phosphatase in the effective range of 0.4 – 2 mM.<sup>4,5,6</sup>

Inhibition of intestinal alkaline phosphate requires higher concentrations.<sup>7</sup> In addition to its use in enzyme<sup>7-13</sup> and protein phosphorylation<sup>14</sup> studies, tetramisole has been used to study membrane,<sup>13</sup> tissue<sup>15</sup> and animal<sup>5,16</sup> systems.

Tetramisole is an anthelmintic agent used in veterinary applications to treat helminth or worm infections.

Methods for gas chromatography (GC)<sup>17</sup> and high pressure liquid chromatography (HPLC)<sup>18</sup> analysis of levamisole levels in plasma have been published. The GC method has a limit of detection of 4 ng/mL and the HPLC method has a limit of detection of 20 ng/mL. Since these methods use achiral means of separation, the methods could presumably also be used for analysis of tetramisole.

#### Preparation Instructions

Tetramisole hydrochloride is soluble in water at a concentration of 50 mg/mL. A clear, colorless solution is obtained. Acid solutions are stable; however, hydrolysis occurs under alkaline conditions.<sup>1,19</sup>

The rate of hydrolysis increases with pH and temperature. Solutions are stable at 2-8°C for approximately one month.<sup>20</sup>

#### Storage/Stability

Stored at room temperature as a powder, tetramisole hydrochloride has a shelf-life of 8 years.<sup>20</sup>

#### References

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