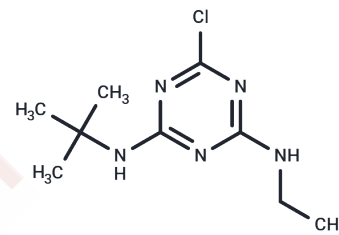


## Terbuthylazine

## Chemical Properties

CAS No. :	5915-41-3
Formula:	C <sub>9</sub> H <sub>16</sub> ClN <sub>5</sub>
Molecular Weight:	229.71
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Terbuthylazine is a triazine herbicide and a selective acetolactate synthase (ALS) inhibitor, toxic to aquatic organisms, and capable of disrupting gut microbiota. Terbuthylazine induces significant damage to the jejunal barrier and mitochondrial quality control imbalance.
Targets(IC50)	Others
In vitro	Terbuthylazine induces innate immune response and inflammation by activating the cGAS-STING/NF-κB pathway in broiler heart muscle. [1] Terbuthylazine exposure activates the Nrf2/HO-1 pathway, leading to iron death. [2]
In vivo	Terbuthylazine (0.4 mg/kg) exposure caused cardiomyopathic rational changes in broilers. [1] Terbuthylazine (0.4 or 4 mg/kg, 28 days) broilers showed pathological damage such as widening of interstitial space, breaking of muscle fibers, and deposition of myocardial collagen fibers. [2]

## Solubility Information

Solubility	DMSO: 40 mg/mL (174.13 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (8.71 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	4.3533 mL	21.7666 mL	43.5332 mL
5 mM	0.8707 mL	4.3533 mL	8.7066 mL
10 mM	0.4353 mL	2.1767 mL	4.3533 mL
50 mM	0.0871 mL	0.4353 mL	0.8707 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Li H, et al. Terbutylazine exposure induces innate immune response and inflammation through activating cGAS-STING/NF- $\kappa$ B pathway in myocardium of broiler chicken (*Gallus gallus*). *Pestic Biochem Physiol.* 2023 Dec;197:105700.

Wu H, et al. Effects of terbutylazine on myocardial oxidative stress and ferroptosis via Nrf2/HO-1 signaling pathway in broilers. *Pestic Biochem Physiol.* 2023 Dec;197:105698.

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