

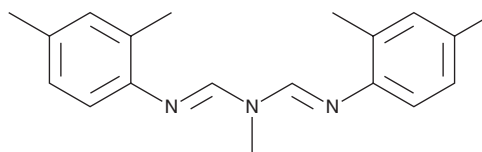
# PRODUCT INFORMATION



## Amitraz

Item No. 28852

**CAS Registry No.:** 33089-61-1  
**Formal Name:** N'-(2,4-dimethylphenyl)-N-[[2,4-dimethylphenyl]imino]methyl]-N-methyl-methanimidamide  
**Synonym:** NSC 324552  
**MF:** C<sub>19</sub>H<sub>23</sub>N<sub>3</sub>  
**FW:** 293.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 290 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Amitraz is supplied as a crystalline solid. A stock solution may be made by dissolving the amitraz in the solvent of choice, which should be purged with an inert gas. Amitraz is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of amitraz in these solvents is approximately 2, 20, and 30 mg/ml, respectively.

Amitraz is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, amitraz should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Amitraz has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Amitraz is a formamidine acaricide.<sup>1</sup> It induces mortality and reduces fecundity in adult *R. annulatus* when used at a concentration of 300 ppm. It is lethal to adult *H. bipinosa* (LC<sub>50</sub> = 181 ppm). Amitraz (100 μM) reduces viability of primary rat hippocampal cells.<sup>2</sup> *In vivo*, amitraz (170 mg/kg) increases malondialdehyde (MDA) and nitric oxide (NO) levels and decreases superoxide dismutase (SOD), catalase (CAT), and glutathione peroxidase (GPX) activities in rat liver, kidney, brain, spleen, and testis.<sup>3</sup> Dietary administration of amitraz reduces larval weight and larval and pupal survival in honey bee (*A. mellifera*) populations.<sup>4</sup> Formulations containing amitraz have been used as insecticides in residential, agricultural, and veterinary settings.

### References

1. Ravindran, R., Jyothimol, G., Amithamol, K.K., *et al.* In vitro efficacy of amitraz, coumaphos, deltamethrin and lindane against engorged female *Rhipicephalus (Boophilus) annulatus* and *Haemaphysalis bispinosa* ticks. *Exp. Appl. Acarol.* **75(2)**, 241-253 (2018).
2. Del Pino, J., Frejo, M.T., Baselga, M.J.A., *et al.* Impaired glutamatergic and GABAergic transmission by amitraz in primary hippocampal cells. *Neurotoxicol. Teratol.* **50**, 82-87 (2015).
3. Kanbur, M., Siliğ, Y., Eraslan, G., *et al.* The toxic effect of cypermethrin, amitraz and combinations of cypermethrin-amitraz in rats. *Environ. Sci. Pollut. Res. Int.* **23(6)**, 5232-5242 (2016).
4. Dai, P., Jack, C.J., Mortensen, A.N., *et al.* Chronic toxicity of amitraz, coumaphos and fualinate to *Apis mellifera* L. larvae reared *in vitro*. *Sci. Rep.* **8(1)**, 5635 (2018).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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