

# Product data sheet



MedKoo Cat#: 461208 Name: Ronnel CAS#: 299-84-3 Chemical Formula: C <sub>8</sub> H <sub>8</sub> Cl <sub>3</sub> O <sub>3</sub> PS Exact Mass: 319.8997 Molecular Weight: 321.53	
Product supplied as: Powder	
Purity (by HPLC): ≥ 98%	
Shipping conditions: Ambient temperature	
Storage conditions: Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

## 1. Product description:

Ronnel is an organophosphate pesticide with growth-promoting properties.

## 2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

## 3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	100	310.99

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.11 mL	15.55 mL	31.10 mL
5 mM	0.62 mL	3.11 mL	6.22 mL
10 mM	0.31 mL	1.56 mL	3.11 mL
50 mM	0.06 mL	0.31 mL	0.62 mL

## 5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

## 6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Kahl S, Bitman J, Rumsey TS. In vitro studies of the effect of propylthiouracil and ronnel on thyroxine-5'-monodeiodinase activity in steers. *J Anim Sci.* 1985 Jul;61(1):197-202. doi: 10.2527/jas1985.611197x. PMID: 2411706.

In vivo study

1. Rimkus SA, Wassarman DA. A pharmacological screen for compounds that rescue the developmental lethality of a *Drosophila* ATM mutant. *PLoS One.* 2018 Jan 16;13(1):e0190821. doi: 10.1371/journal.pone.0190821. PMID: 29338042; PMCID: PMC5770031.

## 7. Bioactivity

Biological target:

Ronnel is an inhibitor of the enzyme acetylcholinesterase (AChE). Ronnel is able to cause mitochondrial dysfunction.

In vitro activity

The data from this study suggest that decreased conversion of thyroxine (T4) to triiodothyronine (T3) by propylthiouracil (PTU) or ronnel may be responsible for the increased plasma concentrations of T4 and slightly decreased plasma concentrations of T3 reported in steers treated with levels of both PTU and ronnel that are associated with growth stimulation.

Reference: *J Anim Sci.* 1985 Jul;61(1):197-202. <https://pubmed.ncbi.nlm.nih.gov/2411706/>

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## In vivo activity

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This study found that ronnel was toxic to the development of heterozygous ATM allele (ATM8) flies. Ronnel did not affect the innate immune response of ATM8 flies, and it increased the already high levels of DNA damage in brains of ATM8 flies. Ronnel's effects were not harmful to the lifespan of rescued ATM8 flies.

Reference: PLoS One. 2018 Jan 16;13(1):e0190821. <https://pubmed.ncbi.nlm.nih.gov/29338042/>

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*