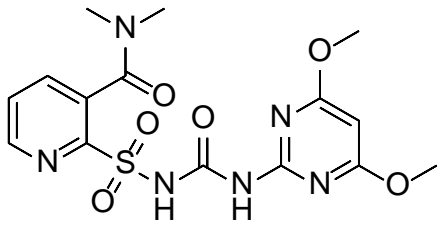


Product data sheet



MedKoo Cat#: 571484 Name: Nicosulfuron CAS: 111991-09-4 Chemical Formula: C ₁₅ H ₁₈ N ₆ O ₆ S Exact Mass: 410.1009 Molecular Weight: 410.405		
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:

Nicosulfuron is a pesticide that works by inhibiting the acetolactate synthase enzyme. Thus, crucial amino acids are not produced for the system. Nicosulfuron has not been found to induce mutagenic or carcinogenic effects.

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	33.33	81.21

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.44 mL	12.18 mL	24.37 mL
5 mM	0.49 mL	2.44 mL	4.87 mL
10 mM	0.24 mL	1.22 mL	2.44 mL
50 mM	0.05 mL	0.24 mL	0.49 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. Xu N, Wu Z, Li X, Yang M, Han J, Lu B, Lu B, Wang J. Effects of nicosulfuron on plant growth and sugar metabolism in sweet maize (*Zea mays* L.). PLoS One. 2022 Oct 21;17(10):e0276606. doi: 10.1371/journal.pone.0276606. PMID: 36269745; PMCID: PMC9586374.

2. Li M, Li Q, Yao J, Sunahara G, Duran R, Zhang Q, Ruan Z. Transcriptomic response of *Pseudomonas nicosulfuronedens* LAM1902 to the sulfonylurea herbicide nicosulfuron. Sci Rep. 2022 Aug 11;12(1):13656. doi: 10.1038/s41598-022-17982-7. PMID: 35953636; PMCID: PMC9372043.

In vivo study

1. Cheron M, Costantini D, Brischoux F. Nicosulfuron, a sulfonylurea herbicide, alters embryonic development and oxidative status of hatchlings at environmental concentrations in an amphibian species. Ecotoxicol Environ Saf. 2022 Mar 1;232:113277. doi: 10.1016/j.ecoenv.2022.113277. Epub 2022 Feb 2. PMID: 35123186.

7. Bioactivity

Biological target:

Nicosulfuron inhibits acetolactate synthase (ALS) enzyme activity.

Product data sheet



In vitro activity

In this study, a pair of corn sister lines, HK301 (nicosulfuron-tolerance, NT) and HK320 (nicosulfuron-sensitive, NS), was chosen to study the effect of nicosulfuron on plant growth and sugar metabolism in sweet maize (*Zea mays* L.) seedlings. All the experimental samples were subjected to treatment with water or 80 mg kg⁻¹ of nicosulfuron when the sweet maize seedlings grew to the four-leaf stage. Nicosulfuron significantly inhibited the growth of NS line.

Reference: PLoS One. 2022 Oct 21;17(10):e0276606. <https://pubmed.ncbi.nlm.nih.gov/36269745/>

In vivo activity

In a common garden experiment, eggs of a widespread amphibian (*Bufo spinosus*) were exposed to sublethal environmentally relevant concentrations of a widely used sulfonylurea herbicide, nicosulfuron, during the whole embryonic development. Embryos exposed to nicosulfuron displayed decreased thiols and increased catalase activity suggesting alteration of oxidative status.

Reference: Ecotoxicol Environ Saf. 2022 Mar 1;232:113277. <https://pubmed.ncbi.nlm.nih.gov/35123186/>

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.