

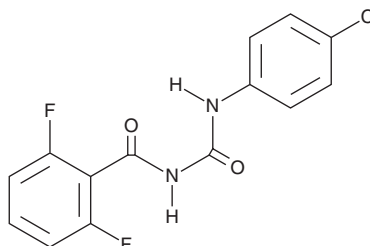
PRODUCT INFORMATION



Diflubenzuron

Item No. 23095

CAS Registry No.: 35367-38-5
Formal Name: N-[[4-chlorophenyl]amino]carbonyl]-2,6-difluoro-benzamide
MF: C₁₄H₉ClF₂N₂O₂
FW: 310.7
Purity: ≥98%
UV/Vis.: λ_{max}: 256 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

Diflubenzuron is supplied as a crystalline solid. A stock solution may be made by dissolving the diflubenzuron in the solvent of choice, which should be purged with an inert gas. Diflubenzuron is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of diflubenzuron in these solvents is approximately 10 mg/ml.

Diflubenzuron is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, diflubenzuron should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Diflubenzuron has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Diflubenzuron is a benzoylphenylurea insecticide that inhibits chitin synthesis in insects with an IC₅₀ value of 0.611 nM for ¹⁴C-labeled N-acetyl-D-glucosamine incorporation in the cockroach.^{1,2} Specifically, it inhibits chitin synthetase at the egg and larval stages, leading to an inability to exit the egg or exocuticle, respectively.² Diflubenzuron is genotoxic and mutagenic in mice at doses of 0.3, 1, and 3 mg/kg.³ Formulations containing diflubenzuron are used primarily in agricultural applications but are also used to control insects in livestock production.

References

1. Verloop, A. and Ferrell, C.D. Pesticide Chemistry in the 20th Century. **37**, 237-270 (1977).
2. de Barros, A.L., de Souza, V.V., Navarro, S.D., *et al.* Genotoxic and mutagenic effects of diflubenzuron, an insect growth regulator, on mice. *J. Toxicol. Environ. Health A*. **76(17)**, 1003-1006 (2013).
3. Heuckeroth, R.O., Glaser, L., and Gordon, J.I. Heteroatom-substituted fatty acid analogs as substrates for N-myristoyltransferase: An approach for studying both the enzymology and function of protein acylation. *Proc. Natl. Acad. Sci. U.S.A.* **85(23)**, 8795-9799 (1988).

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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