

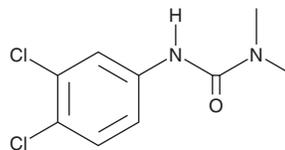
PRODUCT INFORMATION



Diuron

Item No. 24040

CAS Registry No.: 330-54-1
Formal Name: N'-(3,4-dichlorophenyl)-N,N-dimethyl-urea
Synonyms: DCMU, NSC 8950
MF: C₉H₁₀Cl₂N₂O
FW: 233.1
Purity: ≥98%
Supplied as: A 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

Diuron is supplied as a solid. A stock solution may be made by dissolving the diuron in the solvent of choice, which should be purged with an inert gas. Diuron is slightly soluble in methanol and DMSO.

Description

Diuron is a phenylurea herbicide that inhibits photosynthesis by preventing the formation of ATP and NADH.¹ It decreases total respiration in roots of wheat by 50% and ground respiration by 100% when used at a concentration of 25 nM/ml.² Diuron (2,500 ppm, dietary) increases the incidence of urinary bladder urothelial carcinomas in male and female mice by 73 and 27%, respectively.¹ It increases the production of reactive oxygen species (ROS) in MCF-7 human breast adenocarcinoma and BeWo human placental choriocarcinoma cells when used at a concentration of 200 μM and reduces viability of BeWo, but not MCF-7, cells when used at concentrations of 50 and 200 μM.³ Formulations containing diuron have been used to control broadleaf and grass weeds and as a biocidal antifouling agent.

References

1. Da Rocha, M.S., Arnold, L.L., De Oliveira, M.L., *et al.* Diuron-induced rat urinary bladder carcinogenesis: Mode of action and human relevance evaluations using the International Programme on Chemical Safety framework. *Crit. Rev. Toxicol.* **44**(5), 393-406 (2014).
2. Lundegårdh, H. The influence of diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea] on the respiratory and photosynthetic systems of plants. *Proc. Natl. Acad. Sci. U.S.A.* **53**(4), 703-710 (1965).
3. Huovinen, M., Loikkanen, J., Naarala, J., *et al.* Toxicity of diuron in human cancer cells. *Toxicol. In Vitro* **29**(7), 1577-1586 (2015).

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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