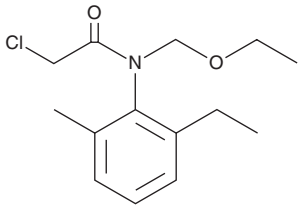
PRODUCT INFORMATION

Acetochlor

Item No. 24131

CAS Registry No.:	34256-82-1
Formal Name:	2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methylphenyl)-acetamide
MF:	$C_{14}H_{20}ClNO_2$
FW:	269.8
Purity:	≥95%
Supplied as:	An oil
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Acetochlor is supplied as an oil. A stock solution may be made by dissolving the acetochlor in the solvent of choice, which should be purged with an inert gas. Acetochlor is slightly soluble in chloroform, DMSO, and water.

Description

Acetochlor is an herbicide that completely inhibits shoot growth of oat (*A. sativa*) and mustard (*S. alba*) plants when used at a concentration of 2 kg/hectare.[1] It accelerates thyroid hormone-induced metamorphosis of and alters thyroid hormone-responsive gene expression in *X. laevis*. *In vivo*, acetochlor induces formation of thyroid, bone, stomach, and nasal tumors in rats as well as liver and lung tumors in mice.[3] Acetochlor also induces pericardial edema, thrombosis, circulation defects, and a reduction in the number of cardiomyocytes in zebrafish larvae when administered in tank water at the maximum non-lethal concentration (MNLC) of 9.6 µg/ml.[4] Formulations containing acetochlor have been used as herbicides in agricultural settings.

References

1. Jablonkai, I. Alkylating reactivity and herbicidal activity of chloroacetamides. *Pest. Manag. Sci.* **59(4)**, 443-450 (2003).
2. Crump, D., Werry, K., Veldhoen, N., *et al.* Exposure to the herbicide acetochlor alters thyroid hormone-dependent gene expression and metamorphosis in *Xenopus Laevis*. *Environ. Health Perspect.* **110(12)**, 1199-1205 (2002).
3. Hurley, P.M. Mode of carcinogenic action of pesticides inducing thyroid follicular cell tumors in rodents. *Environ. Health Perspect.* **106(8)**, 437-445 (1998).
4. Liu, H., Chu, T., Chen, L., *et al. In vivo* cardiovascular toxicity induced by acetochlor in zebrafish larvae. *Chemosphere* **181**, 600-608 (2017).

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