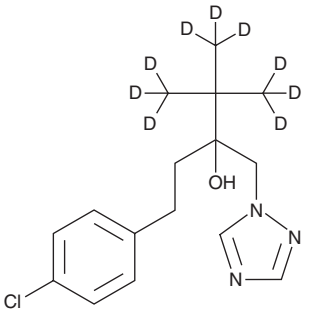
PRODUCT INFORMATION

Tebuconazole-d_9

Item No. 33287

CAS Registry No.:	1246818-83-6
Formal Name:	α-[2-(4-chlorophenyl)ethyl]-α-(1,1-dimethylethyl-d_9)-1H-1,2,4-triazole-1-ethanol
MF:	$C_{16}H_{13}ClD_9N_3O$
FW:	316.9
Chemical Purity:	≥98% (Tebuconazole)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_9); ≤1% d_0
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

Tebuconazole-d_9 is intended for use as an internal standard for the quantification of tebuconazole (Item No. 24052) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Tebuconazole-d_9 is supplied as a solid. A stock solution may be made by dissolving the tebuconazole-d_9 in the solvent of choice, which should be purged with an inert gas. Tebuconazole-d_9 is soluble in methanol, DMSO, and acetonitrile.

Description

Tebuconazole is a triazole fungicide that is active against both seed and foliar fungi.[1] It inhibits 14α-demethylase isolated from *U. maydis* and *S. bicolor* with IC_{50} values of 0.05 and 0.16 nM, respectively.[2] It inhibits the androgenic effect of the androgen receptor agonist DHT (IC_{20} = 2.89 µM) and is cytotoxic (EC_{20} = 38.9 µM) in an MDA-kb2 assay.[3] Tebuconazole (50 and 100 mg/kg per day) administered during gestation reduces testosterone levels and increases testicular levels of progesterone and 17α-hydroxyprogesterone in male rat fetuses.[4] It has a feminizing effect on male pups and a virilizing effect on female pups. When administered to rats gestationally through postnatal day 42, tebuconazole (20 and 60 mg/kg per day) leads to cell death of pyramidal cells in the CA3-4 region of the hippocampus and layer V of the cortex concomitant with impairment in learning the platform location in the Morris water maze.[5] Formulations containing tebuconazole have been used as preservatives for wood and other materials, as well as fungicides in agricultural, commercial, industrial, and residential areas.

References

1. Reinecke, P., Kaspers, H., Scheinpflug, H., *et al. Br. Crop Prot. Conf.--Pests Dis., Proc.* **1**, 41-46 (1986).
2. Zarn, J.A., Brüschweiler, B.J., and Schlatter, J.R. *Environ. Health Perspect.* **111(3)**, 255-261 (2003).
3. Orton, F., Rosivatz, E., Scholze, M., *et al. Environ. Health Perspect.* **119(6)**, 794-800 (2011).
4. Taxvig, C., Hass, U., Axelstad, M., *et al. Toxicol. Sci.* **100(2)**, 464-473 (2007).
5. Moser, V.C., Barone, S., Jr., Smialowicz, R.J., *et al. Toxicol. Sci.* **62(2)**, 339-352 (2001).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM