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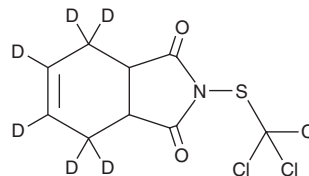
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PRODUCT INFORMATION



Captan-d₆ Item No. 39577

CAS Registry No.: 1330190-00-5
Formal Name: 2-((trichloromethyl)thio)-3a,4,7,7a-tetrahydro-1H-isoindole-1,3(2H)-dione-4,4,5,6,7,7-d₆
MF: C₉H₂Cl₃D₆NO₂S
FW: 306.6
Chemical Purity: ≥98% (Captan)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₆); ≤1% d₀
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

Captan-d₆ is intended for use as an internal standard for the quantification of captan (Item No. 24138) 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).

Captan-d₆ is supplied as a solid. A stock solution may be made by dissolving the captan-d₆ in the solvent of choice, which should be purged with an inert gas. Captan-d₆ is slightly soluble in chloroform, ethyl acetate, and methanol.

Description

Captan is a trichloromethyl sulfenyl fungicide that degrades into thiophosgene, a highly reactive compound that reacts with thiol and non-thiol proteins, in cells.¹ It reduces radial growth of, and starch depletion by, *A. fumigatus* on the leaf surface of *A. tenuis* when used at a concentration of 50 µg/ml.² Captan (50-1,000 mg/kg) increases the number of micronuclei and chromosomal aberrations in polychromatic erythrocytes in bone marrow in mice.³ It also induces chromosomal aberrations in spermatocytes and sperm head abnormalities in mice. Captan reduces survival of adult male and female alfalfa leafcutting bees (*M. rotunda*) when applied topically or administered in the diet at concentrations of 150-684 and 24.45-48.9 g/L, respectively.⁴ Formulations containing captan have been used in the control of fungi in agriculture.

References

1. Long, J.W. and Siegel, M.R. Mechanism of action and fate of the fungicide chlorothalonil (2,4,5,6-tetrachloroisophthalonitrile) in biological systems. 2. *In vitro* reactions. *Chem. Biol. Interact.* **10(6)**, 383-394 (1975).
2. Kithubutheen, A.J. and Pugh, G.J. Effects of fungicides on *Aspergillus fumigatus*. *Antonie Van Leeuwenhoek* **45(2)**, 303-312 (1979).
3. Feng, J.Y. and Lin, B.Y. Cytogenetic effects of an agricultural antibiotic, captan, on mouse bone marrow and testicular cells. *Environ. Res.* **43(2)**, 359-363 (1987).
4. Huntzinger, C.I., James, R.R., Bosch, J., *et al.* Fungicide tests on adult alfalfa leafcutting bees (Hymenoptera: Megachilidae). *J. Econ. Entomol.* **101(4)**, 1088-1094 (2008).

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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