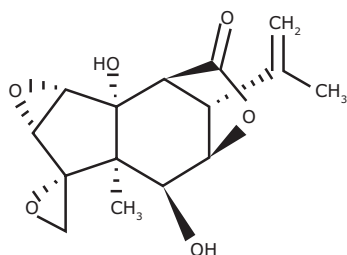


FOOD & BEVERAGE

Sweet Poison

New TraceCERT® CRM Solution for Tutin

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Tutin is a toxic oxygenated sesquiterpene occurring in the tutu plant (genus *coriaria*) that is found in New Zealand. It is responsible for poisoning through contaminated honey, when honeybees collect honeydew produced by sap-sucking vine hopper insects that feed on the tutu plant. Therefore, the Australia New Zealand Food Standards Code has set a maximum level of tutin of 0.7 milligrams per kilogram for honey and honey combs.¹

We present a new TraceCERT® certified reference material of Tutin as a 20 ppm solution in acetonitrile, suitable as a calibrant for chromatographical methods such as LC/MS. This product is produced in accordance with ISO/IEC 17025 and ISO Guide 34 accreditation and is traceable to NIST SRM through quantitative NMR measurement of a concentrated stock solution in deuterated acetonitrile. The final CRM is then produced by gravimetric dilution to the final concentration. Accelerated and real time stability tests as well as homogeneity tests have been performed by LC/MS and have been taken into account for the extended uncertainty of the CRM (see Figure 1).

Description	Certified Concentration	Solvent	Package Size	Cat. No.
Tutin TraceCERT® CRM	19.98 ug/g	Acetonitrile	0.5 mL	80718

For more details and ordering information, please visit SigmaAldrich.com/tutin

Figure 1. Cause effect diagram of the main uncertainty contributions

The relative contribution are:

$$U(m_{\text{Stock}}) < 0.02\%$$

$$U(m_{\text{Batch}}) < 0.02\%$$

$$U(w_{\text{Stock}}) < 0.4\%$$

$$U(hom) < 0.8\%$$

$$U(stab) < 1.8\%$$

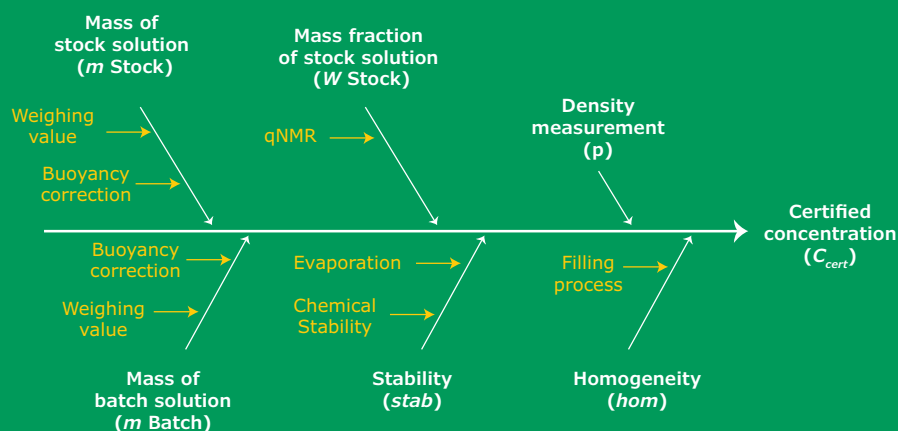
$$U(p) < 0.07\%$$

Combined uncertainty

$$U(C_{\text{cert}}) 2.0\%$$

Expanded uncertainty:

$$U(C_{\text{cert}}) 4.0\%$$



References:

- <http://www.foodsafety.govt.nz/industry/sectors/honey-bee/tutin/>