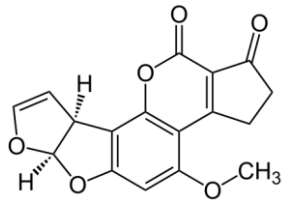
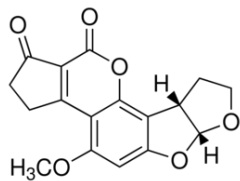
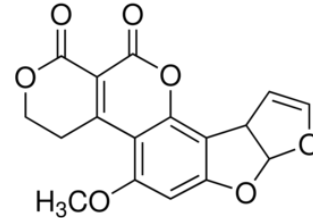
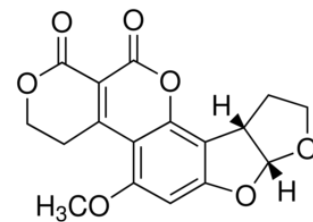


Standard solution

known concentration of Mycotoxin

Order-No: CH-03-L1-001

Lot: xxx xxx xxx xxx

*Aflatoxin B1 (AFLA B1)**Aflatoxin B2 (AFLA B2)**Aflatoxin G1 (AFLA G1)**Aflatoxin G2 (AFLA G2)***Specification:**

Substance / Concentration: Aflatoxin B1 1 µg/mL
 Aflatoxin B2 1 µg/mL
 Aflatoxin G1 1 µg/mL
 Aflatoxin G2 1 µg/mL

Diluted in: Acetonitrile

Volume: 1 mL

Approved by Kinetic Fluorescence Polarization

Expiry date: 1 year after delivery

Calculation of uncertainty: (After the concentration of the gravimetric prepared solution was confirmed by kinetic fluorescent polarization, the uncertainty of the calibrant solution was calculated on the basis of preparation)	Uncertainty components	Description	Standard uncertainty (u)		expanded standard uncertainty (U)
	Purity (P) of solid Aflatoxin B1	P = 100.0% ± 0.3%	u(P) = 0.3%	a	
Purity (P) of solid Aflatoxin B2	P = 99.88% ± 0.02%	u(P) = 0.2%			0,037
Purity (P) of solid Aflatoxin G1	P = 99.8% ± 0.2%	u(P) = 0.3%			0,037
Purity (P) of solid Aflatoxin G2	P = 99.72 ± 0.3%	u(P) = 0.1%			0,037
Weighing procedure weighted sample: m _{ws} = 1.278 mg	repeatability: 0.03 mg linearity: 0.01 mg	u(m) = 0.03 mg	b		
Dilution procedure Performed by volume	calibration: 10 mL ± 0,01 mL repeatability: 0.01 mL volume expansion solvent	u(cal) = 0.018mL u(rep) = 0.007 mL u(Vol.exp.) = 0,205 ml u(V) = 0,222 mL	c d e f		

^a Maximum tolerance of purity (rectangular distribution) was divided by $\sqrt{3}$

^b Estimation of this u-value is based upon the values for repeatability and linearity described in the user manual of the microbalance

^c A triangular distribution (division by $\sqrt{6}$) was chosen for the calculation of u(cal)

^d Based on a series of ten weigh experiments; the value was used directly as a standard deviation

^e Based on the density of 0.7857 g/cm³ at temperature T = 20°C and a maximum temperature variation of ± 3°C, of volume expansion, relative volume expansion coefficient of acetonitrile is 1370 * 10⁻⁶/°C, volume expansion term (rectangular distribution) was divided by $\sqrt{3}$

^f The three contributions are combined to give the $u(V) = \sqrt{u(cal)^2 + u(rep)^2 + u(Vol.exp.)^2}$

Calculation of the combined uncertainty u_c and the expanded standard uncertainty U:

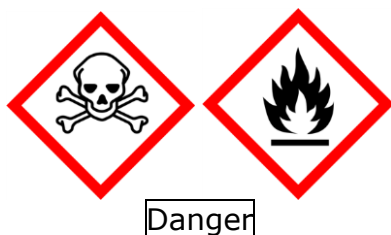
$$c_{toxin} = \frac{10 \times m_{ws} \times P \times V}{V_f \times V_f} = \frac{10 \times 1,278 \times 99 \times 25}{250 \times 250} = 0.506 \text{ mg/L}$$

$$\frac{u_c(c_{toxin})}{c_{toxin}} = \sqrt{\left[\frac{u(P)}{P}\right]^2 + \left[\frac{u(m)}{m_{ws}}\right]^2 + \left[\frac{u(V)}{V_f}\right]^2} = \sqrt{\left[\frac{0.3}{100}\right]^2 + \left[\frac{0.03}{1.0}\right]^2 + \left[\frac{0.222}{10}\right]^2} = 0.02$$

$$u_c(c_{toxin}) = c_{toxin} \times 0.02 = 0,506 \times 0.02 = 0,01 \text{ mg/L}$$

Expanded uncertainty

$$U(c_{toxin}) = u(c_{toxin}) \times 2 = 0,01 \times 2 = 0,02 \frac{\text{mg}}{\text{L}} = 0,02 \mu\text{g/mL}$$



H300

P264

P301 + P310

Toxic and flammable.

Contains: Aflatoxins 1 µg/mL, Acetonitrile

Volume: 1mL

Fatal if swallowed

Wash ... thoroughly after handling

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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