


**CERTIFIED REFERENCE MATERIAL - CRM ISO 17034**

## Deoxynivalenol in Acetonitrile LCMS grade

The Certified Reference Material is produced in compliance with NF ISO 33401, ISO 17034, ISO/IEC 17025, ISO33405, ISO TR 16476 and JCGM 100.

### Description of the CRM

|                               |   |                        |   |
|-------------------------------|---|------------------------|---|
| Product name:                 | Deoxynivalenol  |                        |  |
| Product number:               | FIA000391   |                        |   |
| CAS number:                   | Deoxynivalenol  | 51481-10-8             |   |
| Lot number:                   | DON19060202   |                        |   |
| Expiry date:                  | 04-Mar-2026   |                        |   |
| Certified value (s):          | Deoxynivalenol  | 100,16 ± 2,31 with k=2 | µg/mL   |
| Physical description:         | Clear solution of toxins mixture in Acetonitrile LCMS grade |                        |   |
| Packing:                      | 5 mL in amber glass vial                                    |                        |   |
| Storage conditions:           | ≤ -10°C   |                        |   |
| Matrix and starting material: | This material was prepared with/from:                       |                        |   |
|                               | Acetonitrile LCMS grade                                     | Batch: P4B637154B      |   |
|                               | Deoxynivalenol  | Internal ID: DON018A   |   |

### Intended use of the CRM:

The main purpose of this material is :

- Calibration & Control of measuring instruments or systems;
- Validation of analytical methods and recommended for the accuracy;
- Determination of recovery rates from matrix separation such as extraction.

### Instruction for the correct use:

The vial should be stored in a dark place at Acetonitrile LCMS grade. Before usage of the CRM, allow the vial to warm to room temperature. If condensation is present on the bottle, the bottle should be wiped before opening. Homogenization can be done by vortexing for at least 10 seconds. There is no indication as to the vortex speed, but the vortex must be visible to the user. The bottle should not be left open on the bench, it should be opened only to take the necessary quantity and immediately closed. If storage after opening is necessary, the Certified Reference Material should be tightly closed and kept from light and moisture in amber glass.

### Hazardous situation:

H225 : Flammable liquid - Category 2 - Highly flammable liquid and vapour

H302 : Acute toxicity - Oral - Category 4 - Harmful if swallowed

H312 : Acute toxicity - Dermal - Category 4 - Harmful in contact with skin

H319 : Eye irritation - Category 2 - Causes serious eye irritation

H332 : Acute toxicity - Inhalation - Category 4 - Harmful if inhaled

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid exposure. Wear suitable protective clothing.

## Safety measures:

Special care must be taken when manipulating this CRM. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Use in a chemical fume hood. Safety shower and eye bath must be near. In case of spills, cover and absorb with an inert dry material such as dry-lime, sand or soda ash and place in an appropriate waste disposal container.

Keep container tightly closed. Do not store in direct sunlight. Keep away from heat, sparks, flame and incompatible material. Storage area should be cool, dry and away from incompatible materials.

Final users should conduct their own investigations to determine the suitability of the information for their particular research purposes. Under no circumstances will the supplier of this CRM be held responsible for any damage resulting from handling or contact with the product.

More information are available on the SDS online on [www.fianovis.com/documentation](http://www.fianovis.com/documentation).

## Commutability

As part of the CRM produced by Fianovis, the property values are guaranteed for chromatography analysis. For another use, the user must make additional qualification to use it in this context.

## Traceability

The certified value is based on gravimetric and volumetric preparation. The purity and identification of the molecule were determined by quantitative <sup>1</sup>H NMR. Production is carried out with specially dedicated glassware. Only Class A glassware is used for volumetric measurements. The certified value is traceable to the International System.

## Calculation of uncertainties

The uncertainty ( $u_{CRM}$ ) is the combination of the batch characterization ( $u_{Char}$ ), between-unit variation ( $u_{Hom}$ ) and stability (including shipment) ( $u_{Stab}$ ). The constant is  $k=2$  used for the total uncertainty ( $U_{Total}$ ). The Certified Reference Material uncertainty is expressed in the following table :

$$U_{Total} = u_{CRM} \times 2 = \sqrt{u_{Char}^2 + u_{Hom}^2 + u_{Stab}^2} \times 2$$

| Uncertainty    | $u_{Char}$       | $u_{Hom}$        | $u_{Stab}$       | $u_{CRM}$        | $U_{Total}$      |
|----------------|------------------|------------------|------------------|------------------|------------------|
| Molécule       | $\mu\text{g/mL}$ | $\mu\text{g/mL}$ | $\mu\text{g/mL}$ | $\mu\text{g/mL}$ | $\mu\text{g/mL}$ |
| Deoxynivalenol | 0,68             | 0,38             | 0,83             | 1,14             | 2,28             |

Note: Following the Guide to the Expression of Uncertainty in measurement (GUM) the expanded uncertainty of toxin level is obtained by multiplication with a coverage factor  $k$  for which 2 is usually chosen to obtain a confidence level of 95 %.

## Quality control

The material has a high degree of homogeneity as it is a pure solution. The homogeneity was tested with HPLC-PDA and evaluated by variance analysis (ANOVA). The within a between unit variability was determined. The characterisation of the Certified Reference Material is done by <sup>1</sup>H-qNMR. The shelf-life & stability has been determined with the uncertainty of shipment, on the bench & long-term storage.