proof acs

Ring test
Dithiocarbamates in
apples and peaches
P1911-RT

Summary

Designed, realised and evaluated by

PROOF-ACS GmbH
Bremen, Germany

November 2019,

Dr. Birgit Schindler

The proficiency test evaluates the performances of laboratories with respect to their ability to quantify dithiocarbamates as CS_2. 8 laboratories across five countries (Belgium, Germany, Italy, Netherlands and Spain) took part. All laboratories kept the term of submission of results and are considered for evaluation.

Two test materials are provided:

- Apple homogenate, spiked at a level of 0.10 mg/kg CS_2.

- Peach homogenate, spiked at a level of 0.052 mg/kg CS_2.

The test materials are prepared of organic apples and peaches, both free from incurred residues of dithiocarbamates at a level of 0.01 mg/kg. The apples resp. peaches are homogenised and spiked with thiram thereafter. Liquid nitrogen is used throughout the whole process of preparation, spiking and bottling of the test material to keep the material in deep-frozen condition. The test material consists of a powdery ice. Therefore, sub-samples can be taken without thawing the test samples.

The sophisticated process of test material preparation at very low temperatures avoids a degradation of thiram and the loss of CS_2. The spiked levels are confirmed in the test material during homogeneity and stability testing.

Consequently, the performance of the laboratories in the test is evaluated according to

- the *comparability* of the results. The evaluation of the comparability is based on the z-score model. The z-score should be at least ≤ |2|.

- the *trueness* of the results. The trueness is expressed as the coverage of the spiked level in %. The coverage should be at least between 70 and 120 % of the spiked level.

Summary of results:

Test material	Spiked level [mg/kg]	Assigned value [mg/kg]	Total number of results	No. of participants, which pass the **comparability criterion**	No. of participants which pass the **trueness criterion**
CS_2 in apple	0.10	0.0826	8	7	5
CS_2 in peach	0.052	0.0447	8	6	5