

Ring test

Dithiocarbamates in raspberry and tomato

P1715-RT



Summary

The entire report is made available to participants only.

Designed, realised and evaluated by

PROOF-ACS GmbH
Hamburg, Germany

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A handwritten signature in blue ink that reads "Schindler".

Dr. Birgit Schindler

The proficiency test evaluates the performances of laboratories with respect to their ability to quantify dithiocarbamates in vegetables and fruits. Twelve laboratories across four countries (Austria, Germany, Italy and Switzerland) took part. All laboratories kept the term of submission of results and are considered for evaluation.

Two test materials are provided:

- Raspberry homogenate, spiked at a level of 0.088 mg/kg CS₂.
- Tomato homogenate, spiked at a level of 0.14 mg/kg CS₂.

The test materials are prepared of frozen organic raspberries resp. fresh organic tomatoes, both free from incurred residues of dithiocarbamates at a level of 0.01 mg/kg. The raspberries resp. tomatoes 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, which allows for taking sub-samples without freeze-thawing cycles of the test sample.

The sophisticated process of test material preparation at very low temperatures avoids a degradation of thiram and the loss of CS₂. The spiked levels are confirmed in the test material during homogeneity and stability testing as well as by the results of the participants of the test.

Consequently, the performance of 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 $\leq |2|$.
- 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 raspberry	0.088	0.0929	12	11	10
CS ₂ in tomato	0.14	0.144	12	9	8