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Ring test
Ethylene oxide and pentachlorophenol in guar gum
P2419-RT

Summary

The entire report is available to participants only.

The ring test was designed, realised, evaluated, and authorised on behalf of PROOF-ACS GmbH by

Dr. Birgit Schindler
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Project coordinator

The report was approved by

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Participants with any comments or concerns related to this ring test are invited to contact:

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DAkkS
Deutsche
Akkreditierungsstelle
D-EP-22211-01-00

PROOF-ACS is a DAkkS accredited proficiency testing provider according to DIN EN ISO 17043:2010 (D-EP-22211-01-00). This ring test is covered by the scope of accreditation.

PROOF-ACS GmbH does not have any analytical laboratory facilities of its own. Homogeneity testing and stability testing are subcontracted to laboratories, accredited according to DIN EN ISO 17025. The subcontracted laboratory may also participate in the ring tests. If so, the laboratory is treated in the same way as other participants and the same rules of confidentiality apply.

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The proficiency test evaluates the performances of laboratories with respect to their ability to quantify ethylene oxide resp. 2-chloroethanol and/or pentachlorophenol (PCP) in guar gum. The laboratories were free to choose the modules ethylene oxide and/or PCP.

Eleven laboratories across seven European countries (Austria, Denmark, France, Germany, Netherlands, Poland, and Spain) took part in the test. Seven laboratories ordered the module ethylene oxide, and seven labs ordered the module PCP. Three labs reported results related to ethylene oxide and PCP.

The test material is prepared of commercially available organic guar gum. The guar gum is homogenised. The unspiked material is provided as blank material upon request.

To prepare the test material, the raw material is spiked with

2-chloroethanol, and pentachlorophenol.

All eleven labs kept the term of submission of results and are considered for evaluation.

The report contains an assessment related to

- 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. The trueness criterion is applied to ethylene oxide and PCP.
- 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 comparability criterion is applied to PCP. The comparability criterion is not applicable to ethylene oxide due to the limited number of results and the broad concentration range, which is covered by the results of the participants.

Results

Parameter	Spiked level [mg/kg]	Assigned value [mg/kg]	Assigned value in % of the spiked level	No. of results	No. of results with a z-score ≤ |2|	No. of results within 70-120 % of the spiked level
Ethylene oxide (sum)*	0.27	-	-	7	not applicable	6
PCP	0.073	0.0725	99	7	7	5

* Sum of ethylene oxide and 2-chloroethanol, expressed as ethylene oxide.

To summarise:

- Eleven laboratories took part in the tests. All laboratories kept the deadline for reporting of results and are considered for evaluation.
- Seven labs reported results related to ethylene oxide, and seven labs reported results related to PCP.
- The overall performance of the labs is satisfying.