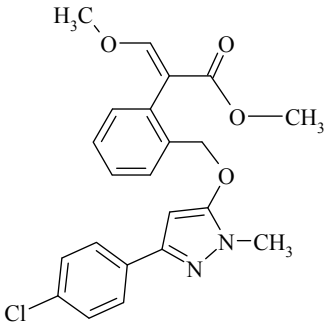
CIPAC STATUS REPORT

28/10/2015



0964 Pyraoxystrobin

Allocated to PR China

CIPAC methods published in:

Not published

CIPAC 56th meeting, June 2012 in Dublin

Mr Liang presented the results of a **small scale** collaborative study (4851, 4852) on the determination of pyraxastrobin in technical product (TC) and suspension concentrate (SC) formulations using HPLC-UV, detection at 280 nm and external standard calibration. One sample of TC and two samples of SC were provided. 5 laboratories participated.
One lab commented that more time was needed to dissolve the SC using sonication.

T The statistical evaluation was carried out according to the CIPAC guidelines. No stragglers or outliers were identified. All samples meet the Horwitz criteria.
Mr Liang proposed that a full scale study should be conducted.

The following comments were received from the meeting:

- The HPLC conditions state room temperature. It would be helpful to define a standard temperature for the method.
- It would be helpful to indicate the time of sonication. The problems with dissolution may be due to differences in the ultrasonic baths - it might be that different labs have baths that sonicate at different frequencies.
- For preparation of the SC it might help to add maybe 1-2ml of water to improve extraction.
- For both the sample and calibration solution an additional dilution step is included – why is this needed as the chromatograms show the response is not too high? Mr Liang replied that the column is very sensitive for this analysis so they wished to protect the column by diluting the standards and samples. It was suggested that using 20mg of standard and no dilution would be an alternative to dilution before analysis.
- Would it be possible to give a range/limit for column pressures to avoid any variation in retention time? Mr Liang replied that they will include a temperature for the column to avoid variations.
- The ISO common name refers to *E*-isomer only. We need to consider if there would be any resolution of the *E*- and *Z*- isomers. Do you have any info on the amount of *Z*-isomer in the TC and if the *Z*-isomer would be separated under the analytical conditions used? Mr Liang replied that he would check this and provide a response after the meeting.
- The meeting commented that a specific column was not clearly recommended in the method and that this would need clarifying. The meeting also noted that only 1 TC was analysed in the small scale trial. The company should be made aware that they will need to analyse 2 TCs, with a minimum of 5 samples overall in the full scale study.

The meeting recommended go to **a full scale trial.**

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CIPAC 57th meeting, June 2013 in Kyiv

A **small scale** collaborative study on the determination of pyraoxystrobin in technical product (TC) and suspension concentrate (SC) formulations using HPLC-UV, detection at 280 nm and external standard calibration was presented at the 56th CIPAC meeting in Dublin 2012. Following on from this there were four key questions that needed to be resolved before a full scale trial could be conducted. Ms Wang Haixia presented the progress made with the method since last year.

One issue was the need to define a standard temperature for the HPLC analysis rather than room temperature. The column temperature was fixed at 30°.

Adjustments were made to the sample and standard preparation to address some issues notices with dissolution.

It was also questioned whether the method could resolve the *E*- and *Z*- isomers of pyraoxystrobin, if there was any *Z*-isomer present in the TC sample (the ISO common name refers to *E*-isomer only). Further data was presented to the meeting to demonstrate that the *Z*-isomer could not be detected in the TC using several different analytical techniques and that synthesis of the *Z* -isomer was not possible.
Ms Haixia proposed that a full scale trial could now be conducted.
No comments were received from the meeting.

The meeting agreed that the company had made every effort to demonstrate that the pyraoxystrobin was present as predominantly *E*-isomer. The meeting agreed that a full scale trial could be conducted.

CIPAC 58th meeting, June 2014 in Liège

Ms Wang presented the results of a full scale collaborative study on the determination of pyraoxystrobin in technical material (TC) and suspension concentrate (SC) using HPLC-UV, with a C18 column (temperature = 30°C), detection at 280 nm and external standard calibration.
Two samples of TC and three samples of SC were provided. 26 laboratories offered to participate and data were received from all 26 laboratories.
15 different brands of HPLC column were used across the laboratories however these were mostly comparable to the column suggested in the method. Some laboratories conducted the HPLC analysis at 25 °C or ambient temperature rather than the proposed 30°C.

The following remarks were also received from the participating laboratories:

- We recommend choosing a wavelength equal to 254 nm;
- It is possible to use approximately 5 minutes instead of the recommended 15 minutes to dissolve the sample in an ultrasonic bath.
- It would be recommended to emulsify the SC samples with 10% water and then to dissolve in acetonitrile.
- It would be recommended to quantify the samples using a calibration curve.
- It would be better to increase the temperature by 5 ℃ or 10 ℃.

The statistical evaluation was carried out according to the CIPAC guidelines. In Lab 4, the response factor for the calibration solution B differed much more than 1.0% from that for the calibration solution A, which did not comply with the procedure of HPLC method of pyraoxystrobin for CIPAC full scale collaborative trial. So the data of the Lab 4 was invalid and excluded from the statistical evaluation.
The following outliers and stragglers were identified:

For TC1 Labs 13 and 17 were identified as Cochran's outliers and Lab 16 as a Grubb's outlier
For TC2 Labs 12 and 17 were identified as Cochran's outliers and Lab 16 as a Grubb's outlier
For SC1 Lab 9 was identified as a Dixon's outlier, Lab 23 as Cochran's outlier.
The results from Lab 16 were considered an outlier due to issues with overlapping peaks.
For SC2 Lab 15 was identified as a Grubb's outlier and Lab 16 as a Cochran's outlier
For SC3 Labs 2 and 23 were identified as Cochran's outliers, Labs 9 and 15 as Grubb's outliers.

All results, apart from Lab 4, were initially included in the evaluation. In the initial evaluation the Horwitz criteria were met for TC 1 and TC 2. For the SC samples (SC1, SC2 and SC3) the Horwitz criteria were met after the removal of stragglers and outliers
Ms Wang concluded that the method is suitable and proposed the method be adopted as provisional by CIPAC.
The following comments were received from the meeting:

- In my experience for SC formulations it is better and faster if the sample is dissolved in a small amount of water before adding the acetonitrile, that way you need have less time in the ultrasonic bath. Did you try this?
- Two other laboratories also commented that they would recommend the addition of some water to the SC samples and also a reduction of the time in the ultrasonic bath.
  Ms Wang replied that similar comments were received last year after the small scale trial so they had tried the addition of water. They believed it made no difference to the method.

- It was noted that two labs measured a pyraoxystrobin content of 108% in the TC. These labs should check their data more thoroughly and perhaps adjust the conditions of measurement because it is very strange to measure 108% for a TC.
- Why did you use the wavelength 280 nm instead of the absorbance maxima of 254 nm? Ms Wang replied if the absorption maxima were used then there was a risk of detector saturation and all the sample sizes would need to be reduced to avoid this.

The closed meeting discussed the comments received during the open meeting.
The meeting considered that the proposed sonication time of 15 minutes was too long and it was agreed that the description for the sample preparation should be amended to clarify that this time is only needed if there is an issue with dissolution of the SC samples
The meeting also reconsidered whether the addition of a small amount of water would be helpful to aid dissolution. The trial was conducted without this step included in the method so it was questioned whether the method should be amended seeing as it has not been tested.
The trial organisers have said that after they had received the comments on the addition of water they did try this and it made no significant difference. The meeting was reminded that this issue was also discussed last year during the small scale trial. It was agreed that this would be clarified with the trial organiser.
The meeting agreed that pending these clarifications the method can be adopted **as provisional**.

Decisions: The reversed phase HPLC method (CIPAC/4936) for the determination of pyraoxystrobin in TC and SC formulations was accepted as a **provisional** CIPAC method with the proposal of amending the description of the method concerning sonication time and clarification of a possible inclusion of a note concerning addition of water for the sample preparation of the SC.

CIPAC 59th meeting, June 2015 in Athens

At the 58th meeting, 2014 in Liège the method was accepted as provisional CIPAC method with the need for clarifications relating to the sonication time and adding water to aid dissolution.

Decision: After full clarification has been presented, this method can be promoted to a **full CIPAC method**. Mr Bura will advise editorial remarks with Mrs M. Mukumoto.