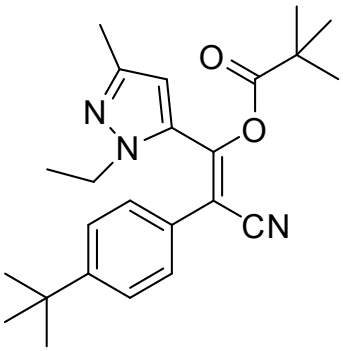
# CIPAC STATUS REPORT

**16/09/2020**




## 0997 Cyetpyrafen (old name Etpyrafen)

Allocated to

CIPAC methods published in:

CIPAC P

**CIPAC** 62sd meeting, June 2018 in Panama City

**Etpyrafen by Ms Haixia Wang (5141, 5142)**
Ms Haixia Wang presented the results of a small scale collaborative trial on the determination of the active ingredient etpyrafen in one technical material (TC-1) and two suspension concentrates (SC-1 and SC-2).
Etpyrafen was determined by reversed phase HPLC using UV detection at 230 nm and external standardization. Elution was performed with acetonitrile-0.05% phosphoric acid in water (80-20 (v/v)) on an Agilent ZORBAX SB C18, 150 x 4.6 mm (i.d.), 5µm, reversed phase column with a flow rate of 1.0 ml/min. The retention time of etpyrafen was approx. 8.4 min.
Proposed identity tests were based on Infrared (for TC-1) and LC-MS (for SC-1 and SC-2). However the identity test was not part of the small scale trial.
Seven Chinese laboratories participated in the trial and reported results. Deviations of the proposed method were mentioned by several participants, mainly related to the use of different reversed phase columns (four times). One laboratory reported that they used a column temperature of 40°C whereas the method prescribed a column temperature of 30°C.
Statistical evaluation of the data was performed following DIN ISO 5725 and "Guidelines for CIPAC Collaborative Study Procedure for Assessment of Performance of Analytical Methods". No Cochran's or Grubb's stragglers or outliers were identified and the Horwitz criteria were met for all three samples. HorRat values of 0.16, 0.31, and 0.38 were reported for TC-1, SC-1, and SC-2 respectively.
The organizers recommended that the etpyrafen method should progress to a full scale collaborative study.

The following comments were received from the meeting:

- Mr Hänel expressed his sincere gratitude for calculating and reporting the HorRat value.
- Mr Ramesh asked whether any difference in the isomer ratio has been noticed in the case of the laboratory using 40 °C? The answer was that the E isomer separation was not influenced by this increase of temperature.
- Mrs Nováková asked whether brown glassware (as described in the method) was necessary. Ms Wang answered that etpyrafen is photosensitive and that brown glassware had to be used.
- Mrs Nováková asked whether the LC-MS identity test for the SC formulation could also be performed by FTIR. Ms Wang answered that the SC formulation composition was complex and that therefore FTIR was less suited for the identification of etpyrafen.

- Mr Garvey asked whether additional identification methods for the SC formulation could be tested, for example UV, as LC-MS equipment was not widely available in testing laboratories. Ms Wang answered that this will be checked. It was also recommended to show a chromatogram of the separation of the two isomers.
- Mrs Saravia asked why two different HPLC eluents were used for the identity test and the active ingredient determination. Ms Wang explained that this was needed because of the used ionisation mode in MS with the remark that phosphoric acid based eluents cannot be used in LC-MS equipment.

**Closed Meeting:**
A small scale trial was presented and the method was proposed for a **full scale collaborative study.** It was proposed to check if UV is possible as ID test.

**CIPAC** 63rd meeting, June 2019 in Braunschweig

**Etpyrafen by Ms Haixia Wang (5191, 5192)**
Ms Haixia Wang presented the results of a large scale CIPAC collaborative trial for the determination of "etpyrafen" (transitional name as the proposed name was not accepted by ISO) in two TCs; and three SC formulations. The method consisted of a dilution with water (SC only) and acetonitrile, and sonication for three min. Identification of 'etpyrafen" was based on the infrared spectrum and the HPLC retention time. Quantitation was performed by reversed phase C18 HPLC (eluent: acetonitrile/ 0.05% phosphoric acid (800/200 (v/v))) and detection at 230 nm. The retention time of "etpyrafen" was approx. 8.4 min.
Samples were sent to 21 laboratories and 20 labs (from Europe, Asia, and North-America) returned results, using 11 different brands of reversed phase C18 HPLC columns, varying in length (100-250 mm), internal diameter (2.1-4.6 mm), and particle size (2.6-5 µm). Other deviations were related to using centrifugation instead of filtration, adjusting of the injection volume, enlarging the sonication time to 10 min, and adjusting the flow rate.
The statistical evaluation of the data was done following DIN ISO 5725 and "Guidelines for CIPAC Collaborative Study Procedure for Assessment of Performance of Analytical Methods". For TC1 lab 1 and 2 were Cochrans' outliers. For SC1 lab 3 and 11 were Cochrans' outliers. For SC2 lab 1 and 11 were Cochrans' outliers, and finally for SC3 lab 1 was a Cochrans' outlier. Including all results the Horrat values were 0.45, 0.36, 0.63, 0.78, and 1.08 for TC1, TC2, SC1, SC2, and SC3 respectively. After elimination of the outliers Horrat values of 0.36, 0.36, 0.49, 0.60, and 0.62 were obtained for TC1, TC2, SC1, SC2, and SC3 respectively.

The organizers proposed that the method would be accepted as a provisional CIPAC method.

The following comments were received from the meeting:

- Mr Bascou remarked that etpyrafen is transitional name as the proposed name was not accepted by ISO. This was acknowledged by Ms Wang and both she and Mr Hänel remarked that the acceptance of a new name is expected soon. However, this will not block the acceptance of the method as provisional CIPAC method.
- Mr Hänel made a remark that many different HPLC columns were used which was not the aim of the method. During the 2010 meeting in Geneva he will address this item further.

**Closed Meeting**:
A large-scale trial was presented, the method can be promoted to **a provisional CIPAC method** including a remark about the transitional name. CIPAC should be informed as soon as possible about the decision of ISO concerning the ISO common name. Mr Hänel mentioned that the aim of CIPAC collaborative trials is to test methods and not proficiency of the laboratories. In this case only 4 laboratories used the respective column.

**CIPAC** 64th meeting, June 2020 virtual (Geneva, Corona)

hTe reversed phase HPLC method (CIPAC/5191) for the determination of etpyrafen in TC and SC formulations was accepted as a **full** CIPAC method, with the note that the name should be modified to cyetpyrafen.