



CERTIFIED REFERENCE MATERIAL BCR[®] – 365

CERTIFICATE OF ANALYSIS

POLYCHLORINATED BIPHENYL CONGENERS IN AN ISO-OCTANE SOLUTION			
PCB congener number	Mass fraction		Number of accepted sets of data p
	Certified value ¹⁾ [µg/g]	Uncertainty ²⁾ [µg/g]	
8	11.4	0.4	4 per PCB congener
20	15.2	0.9	
28	24.8	1.1	
35	14.3	0.8	
52	14.8	0.6	
101	14.4	0.6	
118	14.9	0.8	
138	8.6	0.6	
153	14.2	0.6	
180	15.2	0.5	
¹⁾ Each certified value is the unweighed mean of the means of four sets of results. These sets of results were provided by different laboratories and different GC methods. The values are therefore traceable to determination by gas chromatography.			
²⁾ The uncertainty is taken as the half-width of the 95 % confidence interval of the mean value (1).			

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is not critical as the sample can be regarded as homogeneous solution.

NOTE

This material has been certified by BCR (Community Bureau of Reference, the former reference materials programme of the European Commission). The certificate has been revised under the responsibility of IRMM.

Brussels, January 1991
Latest revision: November 2007

Signed: _____

Prof. Dr. Hendrik Emons
Unit for Reference Materials
EC-JRC-IRMM
Retieseweg 111
2440 Geel, Belgium

Indicative Values		
PCB congener number	Mass concentration	
	Indicative value ¹⁾ [µg/cm ³] at 25 °C	Uncertainty ²⁾ [µg/cm ³]
8	7.8	0.2
20	10.5	0.7
28	17.1	0.8
35	9.8	0.5
52	10.2	0.4
101	9.9	0.4
118	10.3	0.6
138	5.9	0.5
153	9.8	0.4
180	10.4	0.3

¹⁾ The mass concentration in µg/cm³ is derived from the certified mass fraction (µg/g) assuming a mass density in air at 25 °C of 0.68777 g/cm³ for iso-octane.

²⁾ The uncertainty is taken as the half-width of the 95 % confidence interval of the mean value (1).

DESCRIPTION OF THE SAMPLE

The reference material consists of 2 cm³ of a solution of 10 PCBs in iso-octane sealed in a dark glass ampoule. The samples are provided as a pair of ampoules in a sealed can containing absorbent material.

ANALYTICAL METHOD USED FOR CERTIFICATION

High Resolution Gas Chromatography with Flame Ionisation Detection (HRGC/FID).

PARTICIPANTS

- Biochemisches Institut für Umweltkarzinogene, Ahrensburg (DE)
- Centre National de la Recherche Scientifique, Vernaison (FR)
- Instituut voor Toegepaste Chemie (Hoofdgroep Maatschappelijke Technologie), TNO, Delft (NL)
- Instituut voor Toegepaste Chemie (Hoofdgroep Maatschappelijke Technologie), TNO, Zeist (NL)
- Studiecentrum voor Kernenergie/Centre d'Etudes Nucléaires, Mol (BE)

SAFETY INFORMATION

Cancer suspect agent. The material must be handled with great care. It is essential that this PCB solution (BCR-365) is only handled by persons who are properly qualified and trained in the handling and use of potentially toxic hazardous chemicals. It is the responsibility of laboratory management and personnel to ensure that good laboratory practice is followed in handling these compounds so that the health of the laboratory staff is protected. In particular:

- avoid skin contact when handling the ampoules by wearing protective gloves;
- avoid breaking of ampoules and inhalation arising from aerosol formation or vaporisation.

A Safety Data Sheet can be obtained on request.

INSTRUCTIONS FOR USE

This certified reference material may be employed:

- a) to verify the elution order and the identity of each PCB on GC columns such as SE 54 and DB 1701 or those of corresponding polarities,
- b) to serve as a calibrant,
- c) for control purposes to check the validity of a calibration curve.

In order to avoid risk of contamination by the packaging material the outside of the ampoule should be cleaned with n-hexane and/or acetone before use. The ampoule should be carefully opened in a restricted area and preferably in a protective hood or glove box set aside for this purpose. The PCB contents in BCR-365 are sufficiently high to allow dilution to prepare a series of calibration solutions covering the concentration range of interest.

STORAGE

The PCB solution should be stored at maximum 18 °C in the dark until required to prevent any photosensitised reaction.

However, the European Commission cannot be held responsible for changes that happen during storage of the material at the customer's premises, especially of opened samples.

LEGAL NOTICE

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NOTE

A technical report on the production of BCR-365 is available on the internet (<http://www.irmm.jrc.be>). A paper copy can be obtained from IRMM on request.