



CERTIFIED REFERENCE MATERIAL BCR[®] – 291

CERTIFICATE OF ANALYSIS

| 2,4,4'-TRICHLOROBIPHENYL ¹⁾ | | |
|--|--|------------------------------------|
| | Mass fraction | |
| | Certified value ²⁾ [g/g] | Uncertainty ³⁾ [g/g] |
| 2,4,4'-Trichlorobiphenyl | 0.9979 | 0.0013 |

1) Classification according to IUPAC: No. 28.
2) Unweighted mean of accepted mean values. The certified value is traceable to the International System of Units (SI).
3) The certified uncertainty is the expanded uncertainty estimated in accordance with the Guide to Expression of Uncertainty in Measurement (GUM) with a coverage factor $k = 2$, corresponding to a level of confidence of about 95 %.

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 0.1 mg.

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, December 1986

Revised: June 2007

Signed: _____

Prof. Dr. Hendrik Emons
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EC-JRC-IRMM
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DESCRIPTION OF THE SAMPLE

The material is available in an amber glass vial containing 25 mg.

ANALYTICAL METHOD USED FOR CERTIFICATION

- Gas-liquid chromatography (GLC) coupled to flame ionisation detection (FID)
- Adsorption and reverse phase high performance liquid chromatography coupled to UV spectrometry (HPLC-UV)
- Capillary gas chromatography (GC) coupled to FID
- Capillary gas chromatography coupled to mass spectrometry (GC-MS)

PARTICIPANTS

- Biochemisches Institut für Umweltcarcinogene, Ahrensburg (DE)
- Bundesanstalt für Materialforschung und -prüfung, Berlin (DE)
- Centre d'Etudes et Recherches des Charbonnages de France, Verneuil (FR)
- CNR, Istituto sull' Inquinamento Atmosferico, Roma (IT)
- Community Bureau of Reference, Brussel (BE)
- Energie Centrum Nederland (ECN), Stichting Energieonderzoek Centrum Nederland, Petten (NL)
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- Istituto Superiore di Sanità, Roma (IT)
- National Physical Laboratory, Teddington (GB)
- Prins Maurits Laboratorium, Rijswijk (NL)
- Studiecetrum voor Kernenergie/Centre d'Etudes Nucléaire, Mol (BE)
- Universität Ulm, Ulm (DE)
- Universität Würzburg, Würzburg (DE)

SAFETY INFORMATION

Cancer suspect agent. The material must be handled with great care, especially avoiding skin contamination, ingestion or inhalation.

INSTRUCTIONS FOR USE

Solutions prepared for calibration purposes should be protected from extended exposure to light and air. Discard solutions after use in accordance with appropriate safety regulations for carcinogens or cancer suspect agents.

STORAGE

The material should be stored in darkness at 4 °C to prevent any photosensitised reactions. 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.

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NOTE

A technical report on the production of BCR-291 is available on the internet (<http://www.irmm.jrc.be>). A paper copy can be obtained from IRMM on request.