EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
Institute for Reference Materials and Measurements

CERTIFIED REFERENCE MATERIAL
BCR® – 107

CERTIFICATE OF ANALYSIS

GAS OIL			
	Mass fraction		Number of accepted sets of data p
	Certified value [1] [g/kg]	Uncertainty [2] [g/kg]	
Sulfur	10.40	0.15	17

1) The certified value is the mean of p accepted series of results obtained by 13 laboratories using 5 independent methods. The value is traceable to the International System of Units (SI).
2) Half-width of the 95 % confidence interval of the mean defined in [1]).

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 10 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 1981
Latest revision: May 2007

Signed: 

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DESCRIPTION OF THE SAMPLE

The reference material is supplied in units of approximately 25 g of gas oil sealed in neutral amber glass ampoules under a nitrogen atmosphere.

ANALYTICAL METHOD USED FOR CERTIFICATION

- Wickbold combustion
- X-Ray Fluorescence (XRF)
- Bomb combustion
- Schöninger flask combustion
- Inductively coupled plasma atomic emission spectrometry (ICP-AES)

PARTICIPANTS

- National Institute for Testing and Verification 'DANTEST'', Copenhagen (DK)
- Centre National de la Recherche Scientifique 'CNRS', Service Centrale d'Analyse, Vernaison (FR)
- Centre de Recherches ELF-ERAP, Solaize (FR)
- Institut Français du Pétrole, Rueil-Malmaison (FR)
- Laboratoire National d'Essais, L.N.E., Paris (FR)
- Bundesanstalt für Materialforschung und -prüfung, (BAM), Berlin, (DE)
- Institute for Industrial Research and Standards 'IIRS', Dublin (IE)
- State Laboratory, Dublin (IE)
- Shell Nederland Raffinaderij BV., Rotterdam (NL)
- Hoofd Analytisch Laboratorium, Estel Hoogovens BV., IJmuiden (NL)
- British Petroleum Research Centre, B.P., Sunbury-on-Thames (GB)
- Mobil Oil Co. Ltd., Research and Technical Service Laboratory, Stanford-le-Hope (GB)
- National Physical Laboratory, NPL, Teddington (GB)
- Shell Research Ltd., Thornton Research Centre, Chester (GB)

SAFETY INFORMATION

The usual safety precautions for laboratory chemicals apply. For gas oil, the following R and S-clauses apply:

R51/53: Toxic to aquatic organisms; may cause long-term effects to the aquatic environment
R65: Harmful: may cause lung damage if swallowed
R66: Repeated exposure may cause skin dryness or cracking
S(02): Keep out of reach of children
S24: Avoid contact with skin
S61: Avoid release to the environment
S(62): If swallowed, do not induce vomiting: seek medical advice immediately

The material can be disposed together with other solvents as hazardous waste (91/689/EEC). Its waste material code is 13 07 01 (fuel oil and diesel) (91/689/EEC, Council decision 2001/118/EC, OJ L47 of 16/2/2001)

INSTRUCTIONS FOR USE

The material is intended for analytical purposes. Ampoules should be opened immediately before use. After thorough mixing of the contents by repeated inversion, the ampoules may be opened by making a deep scratch on the neck and applying a red-hot glass rod for about one second.

After opening the ampoule, the material must be used as soon as possible and precautions should be taken to guard against losses by volatilisation or oxidation. In particular the opened ampoule should be kept covered while weighing and analysing aliquots. Aliquots may be taken from the ampoule by means of a syringe or pipette.

The user is recommended not to take less than 10 mg per assay because of the risk of error in weighing small amounts of a volatile liquid. Opened ampoules must not be stored for re-use.

STORAGE

The ampoules should be stored at room temperature, well protected from light and large variations in temperature.
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-107 is available on the internet (EUR 7815 EN) (http://www.irmm.jrc.be). A paper copy can be obtained from IRMM on request.

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