COMPONENTS:

(1) Dibenz[a,j]anthracene; $C_{22}H_{14}$; [224-41-9]

(2) Water; H_2O; [7732-18-5]

ORIGINAL MEASUREMENTS:

Davis, W.W.; Krahl, M.E.; Cloves, G.H.A.

J. Am. Chem. Soc. 1942, *64*, 108-10.

VARIABLES:

One temperature: 27°C

PREPARED BY:

M.C. Haulait-Pirson

EXPERIMENTAL VALUES:

Solubility of dibenz[a,j]anthracene in water

t/°C	10^5 g(1) L^{-1} (2)
27	1.1 ± 0.1
	1.0 ± 0.2
	1.3 ± 0.2

The best value recommended by the authors is 1.2 x 10^{-5} g(1) L^{-1} (2). With the assumption that 1.00 L sln = 1.00 kg sln, the corresponding mass percent and mole fraction, x_1, calculated by the compiler are 1.2 x 10^{-6} g(1)/100 g sln and 7.8 x 10^{-10}.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The method consisted of preparing serial dilutions of a suspension of (1) in (2) and determining nephelometrically the amount of (1) per unit volume beyond which further dilution caused no reduction in light scattering, which remained equal to that of pure (2).
A Bausch and Lomb Dubosque colorimeter model 100-mm was employed. Many details are reported in ref 1.

SOURCE AND PURITY OF MATERIALS:

(1) prepared at the Ohio State University;
m.p. range 198.0-198.4°C (cf. ref 2).

(2) dust-free.

ESTIMATED ERROR:

temp. ± 3°C
soly. see above

REFERENCES:

1. Davis, W.W.; Parker, Jr., T.V. *J. Am. Chem. Soc.* 1942, *64*, 101.
2. Davis, W.W.; Krahl, M.E.; Cloves, G.H.A. *J. Am. Chem. Soc.* 1940, *62*, 3086.

COMPONENTS:

(1) Dibenz[a,j]anthracene; $C_{22}H_{14}$; [224-41-9]

(2) Salt Water

ORIGINAL MEASUREMENTS:

Krasnoshchekova, R.Ya.; Pakhapill, Yu.A.; Gubergrits, M.Ya.

Khim. Tverd. Topl. 1977, *11*, 133-6.

VARIABLES:

One temperature: 25°C

Salinity: 6 g/kg sln (ref. 1)

PREPARED BY:

M. Kleinschmidt and D. Shaw

EXPERIMENTAL VALUES:

The solubility of dibenz[a,j]anthracene in salt water was reported to be 10.544 μg/L.

The corresponding mass percent and mole fraction, x_1, calculated by the compilers are 1.029×10^{-6} g(1)/100 g sln and 6.970×10^{-10} assuming a solution density of 1.004 kg/L.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

1 L of a 0.5 g/L solution of the hydrocarbon in acetone was distributed over the inside surface of a 1-L round-bottomed flask; the acetone was evaporated with gentle heating. 0.5 L water [or salt water] was added to the dried residue, and the solution was stirred for 6 hr and allowed to settle for 16-18 hr. The upper layer (about 0.3 L) was taken for analysis. The solution was centrifuged twice at 7000 g to remove suspended particles. The hydrocarbon was extracted with benzene and concentrated by evaporation, then purified using thin-layer chromatography. Spectrometric analysis of an octane solution of the hydrocarbon was done using the quasilinear luminescence spectra.

SOURCE AND PURITY OF MATERIALS:

not given.

ESTIMATED ERROR:

temp. ± 1°C
soly. ± 1.05
type of error not specified

REFERENCES:

1. Krasnoshchekova, R.Ya; Gubergrits, M.Ya. *Neftekhimiya* 1973, *13*, 885.