COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Gadolinium bromide; $GdBr_3$; [13818-75-2] (2) 1,2-Diethoxyethane; $C_6H_{14}O_2$; [629-14-1]	Kirmse, E.M. *Tr. II Vses. Konf. po Teor. Rastvorov* 1971, 200-6.
VARIABLES:	**PREPARED BY:**
T/K = 298	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $GdBr_3$ in 1,2-diethoxyethane at 25°C was reported as

0.9 mass %.

The corresponding molality calculated by the compiler is

$0.023 \text{ mol kg}^{-1}$

The nature of the solid phase was not specified.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:
Experimental details not given, but were probably similar to previous works of the author which are compiled throughout this volume.

Nature of solid phase not specified.

SOURCE AND PURITY OF MATERIALS:
Nothing specified, but based on previous work by the author the anhydrous salt was probably prepared by the method of Taylor and Carter (1).

ESTIMATED ERROR:
Nothing specified.

REFERENCES:
1. Taylor, M.D.; Carter, C.P. *J. Inorg. Nucl. Chem.* 1962, *24*, 387.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Gadolinium bromide; $GdBr_3$; [13818-75-2] (2) Tetrahydrofuran; C_4H_8O; [109-99-9]	Rossmanith, K. *Monatsh. Chem.* 1966. 97, 1357-64.
VARIABLES:	PREPARED BY:
Room Temperature: T/K = 294-296	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $GdBr_3$ in tetrahydrofuran at 21-23°C was reported to be

0.38 g per 100 ml of solution (0.0096 mol dm^{-3}, compiler).

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Isothermal method employed. The solution was equilibrated in an extractor with agitation for 60-80 hours at room temperature. Gadolinium was determined by the oxalate method and by titration with EDTA using Xylenol Orange indicator. The solvent was determined by difference. Anhydrous materials were handled in a dry box through which was passed a stream of nitrogen free of carbon dioxide. The solid phase is $GdBr_3.3.5C_4H_8O$.	Sources and purities of initial materials not specified. $GdBr_3$ was prepared by conversion of the oxide by high temperature reaction with an excess of NH_4Br followed by heating the product in a stream of dry nitrogen, and then in vacuum to remove unreacted NH_4Br. Tetrahydrofuran was distilled from $LiAlH_4$.
	ESTIMATED ERROR: Nothing specified.
	REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Gadolinium bromide; $GdBr_3$; [13818-75-2] (2) 1,4-Dioxane; $C_4H_8O_2$; [123-91-1]	Kirmse, E.M.; Zwietasch, K.J.; Tirschmann, J.; Oelsner, L.; Niedergesaess, U. *Z. Chem.* **1968**, *8*, 472-3. Kirmse, E.M. *Tr. II Vses. Konf. po Teor. Rastvorov.* **1971**, 200-6.
VARIABLES: Room Temperature: T/K around 298	PREPARED BY: T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $GdBr_3$ in p-dioxane at around 25°C was given as

0.9_5 mass %

The corresponding molality calculated by the compiler is

0.024 mol kg^{-1}

The nature of the solid phase was not specified.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

The solute-solvent mixtures were isothermally agitated at 25°C or at room temperature. Authors state that the difference found for the solubility was within experimental error limits.

Gd was determined by complexometric titration.

No other details given.

SOURCE AND PURITY OF MATERIALS:

The anhydrous salt was prepared by the method of Taylor and Carter (1).

No other information given.

ESTIMATED ERROR:

Nothing specified.

REFERENCES:

1. Taylor, M.D.; Carter, C.P. *J. Inorg. Nucl. Chem.* **1962**, *24*, 387.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Gadolinium bromide; $GdBr_3$; [13818-75-2] (2) Alkyl amines	Kirmse, E.M. *Tr. II Vses. Konf. po Teor. Rastvorov* 1971, 200-6.
VARIABLES:	**PREPARED BY:**
T/K = 298	T. Mioduski and M. Salomon

EXPERIMENTAL VALUES:

solvent			$GdBr_3$ solubility[a] mass %	mol kg^{-1}
2-propanamine;	iso-C_3H_9N;	[75-31-0]	26.3	0.899
1-butanamine;	n-$C_4H_{11}N$;	[109-73-9]	27.8	0.970
2-butanamine;	sec-$C_4H_{11}N$;	[13952-84-6]	26.25	0.897
di-2-butylamine;	$(sec\text{-}C_4H_9)_2NH$;	[626-23-3]	0.25	0.0063

[a]Molalities calculated by the compilers.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Experimental details not given, but were probably similar to previous works of the author which are compiled throughout this volume.

Nature of solid phases not specified.

SOURCE AND PURITY OF MATERIALS:

Nothing specified, but based on previous work by the author, the anhydrous salt was probably prepared by the method of Taylor and Carter (1).

ESTIMATED ERROR:

Nothing specified.

REFERENCES:

1. Taylor, M.D.; Carter, C.P. *J. Inorg. Nucl. Chem.* 1962, *24*, 387.