COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Erbium fluoride; ErF_3; [13760-83-3] (2) Alcohols	Kirmse, E.M. *Wiss. Hefte, Paed. Inst. Koethen* 1978, *2*, 85-90.
VARIABLES:	**PREPARED BY:**
Room temperature	T. Mioduski and M. Salomon

EXPERIMENTAL VALUES:

solvent			ErF_3 solubility[a,b] mass %	mol kg^{-1}
methanol	CH_4O;	[67-56-1]	0.01	4.5×10^{-4}
ethanol	C_2H_6O	[64-17-5]	0.01	4.5×10^{-4}

[a]Molalities calculated by the compilers.

[b]Solid phases were dried in a desiccator over P_4O_{10} and the Er:F ratio found to equal almost 1:3.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 100 mg of ErF_3 was added to 10-20 cm^3 of solvent, and the mixture mechanically agitated at room temperature for 100 h. 5-10 g of saturated solution were removed by decanting or by centrifuging, and the solution evaporated to dryness. The residue was heated with about 10 cm^3 of 10% KOH solution for 1-2 h to obtain solid $Er(OH)_3$ and a basic F^- solution. The precipitate was washed, dissolved in aq HCl, and Er determined several times by complexometric titration with potentiometric endpoint detection (1). The fluoride content in the filtrate was determined photometrically using Al-Eriochrome cyanine color lake indicator.

The reported solubility is a mean of "numerous parallel determinations," or "at least two parallel determinations."

SOURCE AND PURITY OF MATERIALS:

Er_2O_3 (source and purity not specified) was dissolved in HCl and the fluoride precipitated by addition of aq HF. The solid produced was $ErF_3.0.5H_2O$ and was dehydrated by washing with acetone followed by drying at 310°C for 120 hours.

The solvents were dried and purified by "standard methods."

ESTIMATED ERROR:

Soly: results with relative errors exceeding 50% were rejected.

Temp: unknown.

REFERENCES:

1. Schilbach, U.; Kirmse, E.M. *Z. Chem.* 1974, *14*, 484.
2. Schilbach, U.; Hetze, I.; Kirmse, E.M. *Chemia Analityczna* 1975, *20*, 33.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Erbium fluoride; ErF_3; [13760-83-3] (2) Ethers	Dressler, H. *Dissertationschrift. Paed. Inst. Koethen.* GDR. 1980.
VARIABLES:	**PREPARED BY:**
Room temperature	T. Mioduski and M. Salomon

EXPERIMENTAL VALUES:

solvent			ErF_3 solubility mass %	ErF_3 solubility mol/100 g sln	solid phase Er:F:solvent ratio
1-methoxydecane;	$n\text{-}C_{11}H_{24}O$;	[7289-52-3]	0.02	9×10^{-5}	1:2.95:0.15
1-(chloromethoxy)butane;	$n\text{-}C_5H_{11}ClO$;	[2351-69-1]	0.02	9×10^{-5}	1:2.88.0.33

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Method analogous to that described in (1). No other information available.

SOURCE AND PURITY OF MATERIALS:

It appears that the fluoride was prepared as in (1). In spite of drying the fluoride by two methods at 573 K, the Er:F:H_2O ratio was 1:3.01:0.50.

No other information available.

ESTIMATED ERROR:

Nothing specified.

REFERENCES:

1. Kirmse, E.M. *Wiss. Hefte, Paed. Inst. Koethen.* 1978, 2, 85.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Erbium fluoride; ErF_3; [13760-83-3] (2) Tributyl phosphate; $C_{12}H_{27}O_4P$; [126-73-8]	Kirmse, E.M. *Wiss. Hefte, Paed. Inst. Koethen* 1978, *2*, 85-90.
VARIABLES:	**PREPARED BY:**
Room Temperature	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of ErF_3 in $[CH_3(CH_2)_3]_3P(O)$ at room temperature was given as

0.01 mass %

The corresponding molality calculated by the compiler is

4.5×10^{-4} mol kg^{-1}

The solid phase was dried in a desiccator over P_4O_{10} and the Er:F ratio determined to be almost 1:3.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 100 mg of ErF_3 was added to 10-20 cm^3 of solvent, and the mixture mechanically agitated at room temperature for 100 h. 5-10 g of saturated solution were removed by decanting or by centrifuging, and the solution evaporated to dryness. The residue was heated with about 10 cm^3 of 10% KOH solution for 1-2 h to obtain solid $Er(OH)_3$ and a basic F^- solution. The precipitate was washed, dissolved in aq HCl, and Er determined several times by complexometric titration with potentiometric end-point detection (1). The fluoride content in the filtrate was determined photometrically using Al-Eriochrome cyanine color lake indicator (2).

The reported solubility is a mean of "numerous parallel determinations," or "at least two parallel determinations."

SOURCE AND PURITY OF MATERIALS:

Er_2O_3 (source and purity not specified) was dissolved in HCl and the fluoride precipitated by addition of aq HF. The solid produced was $ErF_3.0.5H_2O$ and was dehydrated by washing with acetone followed by drying at 310°C for 120 hours.

The solvent was dried and purified by "standard methods."

ESTIMATED ERROR:

Soly: results with relative errors exceeding 50% were rejected.

Temp: unknown.

REFERENCES:

1. Schilbach, U.; Kirmse, E.M. *Z. Chem.* 1974, *14*, 484.
2. Schilbach, U.; Hetze, I.; Kirmse, E.M. *Chemia Analityczna* 1975, *20*, 33.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Erbium fluoride; ErF_3; [13760-83-3] (2) Dimethylsulfoxide; C_2H_6OS; [67-68-5]	Kirmse, E.M. *Wiss. Hefte, Paed. Inst. Koethen* 1978, *2*, 85-90.
VARIABLES:	**PREPARED BY:**
Room Temperature	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of ErF_3 in $(CH_3)_2SO$ at room temperature was given as

0.03 mass %

The corresponding molality calculated by the compiler is

1.3×10^{-3} mol kg^{-1}

The solid phase was dried in a desiccator over P_4O_{10} and the Er:F ratio found to be almost 1:3.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 100 mg of ErF_3 was added to 10-20 cm^3 of solvent, and the mixture mechanically agitated at room temperature for 100 h. 5-10 g of saturated solution were removed by decanting or by centrifuging, and the solution evaporated to dryness. The residue was heated with about 10 cm^3 of 10% KOH solution for 1-2 h to obtain solid $Er(OH)_3$ and a basic F^- solution. The precipitate was washed, dissolved in aq HCl, and Er determined several times by complexometric titration with potentiometric end-point detection (1). The fluoride content in the filtrate was determined photometrically using Al-Eriochrome cyanine color lake indicator (2).

The reported solubility is a mean of "numerous prallel determinations," or "at least two parallel determinations."

SOURCE AND PURITY OF MATERIALS:

Er_2O_3 (source and purity not specified) was dissolved in HCl and the fluoride precipitated by addition of aq HF. The solid produced was $ErF_3.0.5H_2O$ and was dehydrated by washing with acetone followed by drying at 310°C for 120 hours.

The solvent was dried and purified by "standard methods."

ESTIMATED ERROR:

Soly: results with relative errors exceeding 50% were rejected.

Temp: unknown.

REFERENCES:

1. Schilbach, U.; Kirmse, E.M. *Z. Chem.* 1974, *14*, 484.
2. Schilbach, U.; Hetze, I.; Kirmse, E.M. *Chemia Analityczna* 1975, *20*, 33.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Erbium fluoride; ErF_3; [13760-83-3] (2) Pyridine; C_6H_5N; [110-86-1]	Kirmse, E.M. *Wiss. Hefte, Paed. Inst. Koethen* 1978, *2*, 85-90.
VARIABLES:	**PREPARED BY:**
Room Temperature	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of ErF_3 in pyridine at room temperature was reported to be

0.02 mass %

The corresponding molality calculated by the compiler is

8.9×10^{-4} mol kg^{-1}

The solid phase was dried in a desiccator over P_4O_{11} and the Er:F ratio found to equal almost 1:3.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 100 mg of ErF_3 was added to 10-20 cm^3 of solvent, and the mixture mechanically agitated at room temperature for 100 h. 5-10 g of saturated solution were removed by decanting or by centrifuging, and the solution evaporated to dryness. The residue was heated with about 10 cm^3 of 10% $er(OH)_3$ and a basic F^- solution. The precipitate was washed, dissolved in aq HCl, and Er determined several times by complexometric titration with potentiometric end-point detection (1). The fluoride content in the filtrate was determined photometrically using Al-Eriochrome cyanine color lake indicator (2).

The reported solubility is a mean of "numerous parallel determinations," or "at least two parallel determinations."

SOURCE AND PURITY OF MATERIALS:

Er_2O_3 (source and purity not specified) was dissolved in HCl and the fluoride precipitated by addition of aq HF. The solid produced was $ErF_3.0.5H_2O$ and was dehydrated by washing with acetone followed by drying at 310°C for 120 hours.

The solvent was dried and purified by "standard methods."

ESTIMATED ERROR:

Soly: results with relative errors exceeding 50% were rejected.

Temp: unknown.

REFERENCES:

1. Schilbach, U.; Kirmse, E.M. *Z. Chem.* 1974, *14*, 484.

2. Schilbach, U.; Hetze, I.; Kirmse, E.M. *Chemia Analityczna* 1975, *20*, 33.