

COMPONENTS: (1) Neodymium fluoride; NdF ₃ ; [13709-42-7] (2) Alcohols	ORIGINAL MEASUREMENTS: Kirmse, E.M. <i>Wiss. Hefte, Paed. Inst. Koethen</i> <u>1978</u> , 2, 85-90.												
VARIABLES: Room temperature	PREPARED BY: T. Mioduski and M. Salomon												
EXPERIMENTAL VALUES: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">solvent</th> <th colspan="2" style="text-align: center;">NdF₃ solubility^{a,b}</th> </tr> <tr> <th></th> <th style="text-align: center;">mass %</th> <th style="text-align: center;">mol kg⁻¹</th> </tr> </thead> <tbody> <tr> <td>methanol ; CH₄O; [67-56-1]</td> <td style="text-align: center;">0.02</td> <td style="text-align: center;">1 x 10⁻³</td> </tr> <tr> <td>ethanol ; C₂H₆O; [64-17-5]</td> <td style="text-align: center;">0.02</td> <td style="text-align: center;">1 x 10⁻³</td> </tr> </tbody> </table> <p>^a Molalities calculated by the compilers.</p> <p>^b Solid phases were dried in a desiccator over P₄O₁₀ and the Nd:F ratio found to equal almost 1:3.</p>		solvent	NdF ₃ solubility ^{a,b}			mass %	mol kg ⁻¹	methanol ; CH ₄ O; [67-56-1]	0.02	1 x 10 ⁻³	ethanol ; C ₂ H ₆ O; [64-17-5]	0.02	1 x 10 ⁻³
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AUXILIARY INFORMATION													
METHOD/APPARATUS/PROCEDURE: Isothermal method. About 100 mg of NdF 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. The sln was heated with about 10 cm ³ of 10% KOH solution for 3-5 h to obtain solid Nd(OH) ₃ and a basic F ⁻ solution. The precipitate was washed, dissolved in aq HCl, and Nd determined several times by complexometric titration with potentiometric end-point detection (1). The fluoride content in the filtrate was determined as described in (2). The reported solubility is a mean of "numerous parallel determinations," or "at least two parallel determinations."	SOURCE AND PURITY OF MATERIALS: Nd ₂ O ₃ (source and purity not specified) was dissolved in HCl and the fluoride precipitated by addition of aq HF. The solid produced was NdF ₃ ·0.5H ₂ O 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. <i>Z. Chem.</i> <u>1974</u> , 14, 484. 2. Schilbach, U.; Hetze, I.; Kirmse, E.M. <i>Chemia Analytyczna</i> <u>1975</u> , 20, 33.												

COMPONENTS: (1) Neodymium fluoride; NdF ₃ ; [13709-42-7] (2) Ethers	ORIGINAL MEASUREMENTS: Dressler, H. <i>Dissertationschrift. Paed. Inst. Koethen,</i> GDR. <u>1980</u> .															
VARIABLES: Room temperature	PREPARED BY: T. Mioduski and M. Salomon															
EXPERIMENTAL VALUES: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">solvent</th> <th style="text-align: left;"></th> <th style="text-align: left;">solubility</th> <th style="text-align: left;">mass %</th> <th style="text-align: left;">mol/100 g sln</th> </tr> </thead> <tbody> <tr> <td>1-methoxydecane;</td> <td>C₁₁H₂₄O; [7289-52-3]</td> <td>0.01^a</td> <td>5.0 x 10⁻⁵</td> <td></td> </tr> <tr> <td>1-(chloromethoxy)butane;</td> <td>C₅H₁₁ClO; [2351-69-1]</td> <td>0.02^b</td> <td>9.9 x 10⁻⁵</td> <td></td> </tr> </tbody> </table> <p>^a Solid phase. Nd:F:ether:H₂O ratio found to be 1:3.03:0.06:0.24.</p> <p>^b Solid phase. Nd:F:ether:H₂O ratio found to be 1:2.89:0.51:0.25</p>		solvent		solubility	mass %	mol/100 g sln	1-methoxydecane;	C ₁₁ H ₂₄ O; [7289-52-3]	0.01 ^a	5.0 x 10 ⁻⁵		1-(chloromethoxy)butane;	C ₅ H ₁₁ ClO; [2351-69-1]	0.02 ^b	9.9 x 10 ⁻⁵	
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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 Nd:F:H ₂ O ratio was 1:3.01:0.45. No other information available. ESTIMATED ERROR: Nothing specified. REFERENCES: 1. Kirmse, E.M. <i>Wiss. Hefte, Paed. Inst. Koethen.</i> <u>1978</u> , 2, 85.															

COMPONENTS: (1) Neodymium fluoride; NdF ₃ ; [13709-42-7] (2) Tributyl phosphate; C ₁₂ H ₂₇ O ₄ P; [126-73-8]	ORIGINAL MEASUREMENTS: Kirmse, E.M. <i>Wiss. Hefte, Paed. Inst. Koethen</i> <u>1978</u> , 2, 85-90
VARIABLES: Room temperature	PREPARED BY: T. Mioduski
EXPERIMENTAL VALUES: <p>The solubility of NdF₃ in [CH₃(CH₂)₃]₃P(O) at room temperature was given as</p> <p style="text-align: center;">0.04 mass %</p> <p>The corresponding molality calculated by the compiler is</p> <p style="text-align: center;">2.0×10^{-3} mol kg⁻¹</p> <p>The solid phase was dried in a desiccator over P₄O₁₀ and the Nd:F ratio determined to be almost 1:3.</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Isothermal method. About 100 mg of NdF 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. The sln was heated with about 10 cm ³ of 10% KOH solution for 3-5 h to obtain solid Nd(OH) ₃ and a basic F ⁻ solution. The precipitate was washed, dissolved in aq HCl, and Nd determined several times by complexometric titration with potentiometric endpoint detection (1). The fluoride content in the filtrate was determined as described in (2). The reported solubility is a mean of "numerous parallel determinations," or "at least two parallel determinations."	SOURCE AND PURITY OF MATERIALS: Nd ₂ O ₃ (source and purity not specified) was dissolved in HCl and the fluoride precipitated by addition of aq HF. The solid produced was NdF ₃ ·0.5H ₂ O 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. <i>Z. Chem.</i> <u>1974</u> , 14, 484. 2. Schilbach, U.; Hetze, I.; Kirmse, E.M. <i>Chemia Analityczna</i> <u>1975</u> , 20, 33.

COMPONENTS: (1) Neodymium fluoride; NdF_3 ; [13709-42-7] (2) Dimethylsulfoxide; $\text{C}_2\text{H}_6\text{OS}$; [67-68-5]	ORIGINAL MEASUREMENTS: Kirmse, E.M. <i>Wiss. Heftte, Paed. Inst. Koethen</i> <u>1978</u> , 2, 85-90.
VARIABLES: Room temperature	PREPARED BY: T. Mioduski
EXPERIMENTAL VALUES: The solubility of NdF_3 in $(\text{CH}_3)_2\text{SO}$ at room temperature was given as $0.02 \text{ mass } \%$ The corresponding molality calculated by the compiler is $1.0 \times 10^{-3} \text{ mol kg}^{-1}$ The solid phase was dried in a desiccator over P_4O_{10} and the Nd:F ratio found to be almost 1:3.	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Isothermal method. About 100 mg NdF_3 and 10-20 cm^3 of solvent mechanically agitated at room temperature for 100 hours. Samples of saturated solution for analyses were obtained by decantation or by centrifuging. 5-10 g of saturated solution were heated with about 10 cm^3 of 10 % KOH solution for 1-2 hours to obtain quantitative separation of solid $\text{Nd}(\text{OH})_3$ and a basic F^- solution. The $\text{Nd}(\text{OH})_3$ was filtered, washed and dissolved with HCl. Nd determined several times by complexometric titration with potentiometric end-point detection (1). The fluoride content of the basic filtrate was determined photometrically using Al-Eriochrome cyanine color lake (2). The reported solubility is a mean of "numerous parallel determinations," or at least two parallel determinations.	SOURCE AND PURITY OF MATERIALS: Nd_2O_3 (source and purity not specified) was dissolved in HCl and the fluoride precipitated by addition of aq HF. The solid produced was $\text{NdF}_3 \cdot 0.5\text{H}_2\text{O}$ 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. <i>Z. Chem.</i> <u>1974</u> , 14, 484. 2. Schilbach, U.; Hetze, I.; Kirmse, E.M. <i>Chemia Analytyczna</i> <u>1975</u> , 20, 33.

COMPONENTS: (1) Neodymium fluoride; NdF ₃ ; [13709-42-7] (2) Pyridine; C ₅ H ₅ N; [110-86-1]	ORIGINAL MEASUREMENTS: Kirmse, E.M. <i>Wiss. Hefte, Paed. Inst. Koethen</i> <u>1978</u> , 2, 85-90.
VARIABLES: Room temperature	PREPARED BY: T. Mioduski
EXPERIMENTAL VALUES: <p>The solubility of NdF₃ in pyridine at room temperature was reported to be</p> <p style="text-align: center;">0.07 mass %</p> <p>The corresponding molality calculated by the compiler is</p> <p style="text-align: center;">$3.5 \times 10^{-3} \text{ mol kg}^{-1}$</p> <p>The solid phase was dried in a desiccator over P₄O₁₀ and the Nd:F ratio found to equal almost 1:3.</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: Isothermal method. About 100 mg NdF ₃ and 10-20 cm ³ of solvent mechanically agitated at room temperature for 100 hours. Samples of saturated solution for analyses were obtained by decantation or by centrifuging. 5-10 g of saturated solution were heated with about 10 cm ³ of 10 % KOH solution for 1-2 hours to obtain quantitative separation of solid Nd(OH) ₃ and a basic F ⁻ solution. The Nd(OH) ₃ was filtered, washed and dissolved with HCl. Nd determined several times by complexometric titration with potentiometric end-point detection (1). The fluoride content of the basic filtrate was determined photometrically using Al-Eriochrome cyanine color lake (2). The reported solubility is a mean of "numerous parallel determinations," or at least two parallel determinations.	SOURCE AND PURITY OF MATERIALS: Nd ₂ O ₃ (source and purity not specified) was dissolved in HCl and the fluoride precipitated by addition of aq HF. The solid produced was NdF ₃ ·0.5H ₂ O 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. <i>Z. Chem.</i> <u>1974</u> , 14, 484. 2. Schilbach, U.; Hetze, I.; Kirmse, E.M. <i>Chemia Analytyczna</i> <u>1975</u> , 20, 33.