| Neoaymium Fluoriae | | | | |
|--|----------------------------|---|---|---|
| COMPONENTS: (1) Neodymium f [13709-42-7 | luoride; Nd | ^{IF} 3; | ORIGINAL MEASUREMENT Kirmse, E.M. | rs : |
| (2) Alcohols | | | Wiss. Hefte, Paed. <u>1978</u> , 2, 85-90. | Inst. Koethen |
| VARIABLES: | | | PREPARED BY: | |
| Room temperature | | | T. Mioduski and M. | Salomon |
| EXPERIMENTAL VALU | ES: | | | |
| | | | Nation - 1 1. 1. 1. 1. | a,b |
| solvent | | | Mar 3 SOLUDILIT | mol kg ⁻¹ |
| 5017010 | | | | mor ve |
| methanol; | сн _ц о; | [67-56-1] | 0.02 | 1 x 10 ⁻³ |
| ethanol; | C_H_0; | [64-17-5] | 0.02 | 1×10^{-3} |
| | 20 | | | |
| ^a Molalities calcu | ulated by t | he compilers. | | |
| almost 1:3. | | | | |
| | | AUXILIARY | INFORMATION | |
| METHOD/APPARATUS/PROCEDURE: Isothermal method. About 100 mg of NdF ₃ was added to 10-20 cm ³ of solvent, and the mix- ture mechanically agitated at room tempera- ture 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 preci- pitate was washed, dissolved in aq HCl, and Nd determined several times by complexometric titration with potentiometric end-point de- tection (1). The fluoride content in the filtrate was determined as described in (2). | | SOURCE AND PURITY O Nd ₂ O ₃ (source and p dissolved in HCl ar tated by addition o produced was NdF ₃ .0 by washing with ace at 310°C for 120 ho The solvents were o "standard methods." ESTIMATED ERROR: Soly: results with ing 50% were | F MATERIALS: purity not specified) was not the fluoride precipi- of aq HF. The solid 0.5H20 and was dehydrated stone followed by drying purs. dried and purified by " | |
| The reported coll |],,],]] | | Temp: unknown. | |
| Ine reported solf "numerous paralle least two paralle | el determin el determin | a mean of ations," or "at ations." | REFERENCES: 1. Schilbach, U.; H <u>1974</u>, 14, 484. 2. Schilbach, U.; H Chemia Analitycz | Girmse, E.M. Z. Chem. Hetze, I.; Kirmse, E.M. zna <u>1975</u> , 20, 33. |
| 1 | | | | |

| COMPONENTE | OPTCINAL MEASUPENENTS . | |
|--|--|--|
| ()) No long fluoride: NdF : | Dressler. H. | |
| [1] Neodymium iluoriue, nur 3, $[12700-h2-7]$ | | |
| [1][0] [] | Dissertationschrift. Paed. Inst. Koethen, | |
| (2) Ethers | GDR. <u>1980</u> . | |
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| VARIABLES: | PREPARED BY: | |
| | T Mioduski and M Salomon | |
| Room temperature | | |
| | | |
| EXPERIMENTAL VALUES: | | |
| | | |
| | solubility | |
| solvent | mass % mol/100 g sln | |
| | a _5 | |
| l-methoxydecane; $C_{ll}H_{24}0;$ [7289- | -52-3] 0.01 5.0 x 10 5 | |
| (able a constants) by take (B, B, C, H, C, D) | -69-1] 0.02 ^b 9.9 × 10 ⁻⁵ | |
| 1=(enforomethoxy)butane, 5-11 | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | |
| | | |
| | | |
| | | |
| ^a Solid phase. Nd:F:ether:H ₂ O ratio found to | be 1:3.03:0.06:0.24. | |
| - 2 | | |
| ^b Solid phase. Nd:F:ether:H ₂ O ratio found to | be 1:2.89:0.51:0.25 | |
| - 2 | | |
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| AUXILIARY | INFORMATION | |
| METHOD /ABBADATUS /BROCEDURE | SOURCE AND DUDITY OF MATERIALS. | |
| Method analogous to that described in (1). | It appears that the fluoride was prepared | |
| No other information available. | as in (1). In spite of drying the fluoride | |
| | by two methods at 573 K, the Nd:F:H ₂ O ratio | |
| 1 | was 1:3.01:0.45. | |
| | No other information available. | |
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| | | |
| | ESTIMATED EPDAD. | |
| | ESTIMATED ERKUR: | |
| | Nothing specified. | |
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| | REFERENCES: | |
| | 1. Kirmse, E.M. Wiss. Hegte, Paea. Inst. | |
| | 1910, 2, 07. | |
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| 148 | Neodymium Fluoride | | |
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| COMPONE (1) N | NTS: Meodymium fluoride; NdF.; | ORIGINAL MEASUREMENTS: Kirmse, E.M. | |
| Ľ | 13709-42-7] | Wiss. Hefte, Paed. Inst. Koethen | |
| (2) T [| ributyl phosphate; C ₁₂ H ₂₇ 0 ₄ P; [126-73-8] | <u>1978</u> , 2, 85-90 | |
| | | | |
| VARIABI | LES : | PREPARED BY: | |
| Room t | emperature | T. Mioduski | |
| EXPERIM | ENTAL VALUES: | | |
| The so | lubility of NdF ₃ in [CH ₃ (CH ₂) ₃] ₃ P(0) at | room temperature was given as | |
| | 0.04 mass | ; <i>%</i> | |
| The co | rresponding molality calculated by the | compiler is | |
| | 2.0 x 10 | ³ mol kg ⁻¹ | |
| The solid phase was dried in a desiccator over P_4O_{10} and the Nd:F ratio determined to be almost 1:3. | | | |
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| | AUXILIARY | INFORMATION | |
| METHOD Isothe | /APPARATUS/PROCEDURE: rmal method. About 100 mg of NdF3 was | SOURCE AND PURITY OF MATERIALS: Nd203 (source and purity not specified) was | |
| added | to 10-20 cm ³ of solvent, and the mix- | dissolved in HCl and the fluoride precipita- ted by addition of an HF. The solid pro- | |
| ture f | or 100 h. 5-10 g of saturated solu- | duced was NdF ₃ .0.5H ₂ O and was dehydrated by | |
| fuging | ere removed by decanting or by centri- | 310°C for 120 hours. | |
| cm ³ of | The sln was heated with about 10 10% KOH solution for 3-5 h to obtain | The solvent was dried and purified by | |
| solid | $Nd(OH)_3$ and a basic F solution. The | "standard methods." | |
| and Nd | determined several times by complexo- | | |
| metric titration with potentiometric end- point detection (1). The fluoride content | | EGTIVATED EDDOD. | |
| in the in (2) | filtrate was determined as described . | Soly: results with relative errors exceed- ing 50% were rejected. | |
| | | Temp: unknown. | |
| The re "numer | ported solubility is a mean of ous parallel determinations," or "at | REFERENCES: | |
| least | two parallel determinations." | Schilbach, U.; Kirmse, E.M. Z. Chem. <u>1974</u>, 14, 484. Schilbach, H.; Hetza, L.; Kirman, F.M. | |
| | | Chemia Analityczna <u>1975</u> , 20, 33. | |

| Neodymiu | ım Fluoride 149 |
|---|---|
| <pre>COMPONENTS: (1) Neodymium fluoride; NdF₃; [13709-42-7] (2) Dimethylsulfoxide; C₂H₆OS; [67-68-5]</pre> | ORIGINAL MEASUREMENTS: Kirmse, E.M. Wiss. Hefte, Paed. Inst. Koethen <u>1978</u> , 2, 85–90. |
| VARIABLES: | PREPARED BY: |
| Room temperature | T. Mioduski |
| EXPERIMENTAL VALUES: | |
| The solubility of NdF ₃ in (CH ₃) ₂ SO at room te 0.02 mass | emperature was given as % |
| The corresponding molality calculated by the | compiler is |
| 1.0 x 10 ⁻³ | mol kg ⁻¹ |
| The solid phase was dried in a desiccator ove almost 1:3. | r $P_4 O_{10}$ and the Nd:F ratio found to be |
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AUXILIARY INFORMATION

| METHOD/APPARATUS/PROCEDURE: | SOURCE AND PURITY OF MATERIALS: |
|--|--|
| 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 | Algos (source and purity not specified) was dissolved in HCl and the fluoride precipita- ted by addition of aq HF. The solid pro- duced was NdF3.0.5H2O 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." |
| potentiometric end-point detection (1). The fluoride content of the basic filtrate was determined photometrically using Al-Eriochrome cyanine color lake (2). | ESTIMATED ERROR: Soly: results with relative errors exceed- ing 50% were rejected. Temp: unknown. |
| The reported solubility is a mean of "numerous parallel determinations," or at least two parallel determinations. | REFERENCES : |
| least two parallel determinations. | 1. Schilbach, U.; Kirmse, E.M. Z. Chem. <u>1974</u> , 14, 484. |

| Neodymium Fluoride | | | | |
|---|--|--|--|--|
| COMPONENTS: | ORIGINAL MEASUREMENTS: | | | |
| (1) Neodymium fluoride; NdF ₃ ; [13709-42-7] | Kirmse, E.M. | | | |
| (2) Pyridine; C ₆ H ₅ N; [110-86-1] | Wiss. Hefte, Paed. Inst. Koethen <u>1978</u> , 2, 85-90. | | | |
| | | | | |
| VARIABLES : | PREPARED BY: | | | |
| Room temperature | T. Mioduski | | | |
| EXPERIMENTAL VALUES: | | | | |
| The solubility of MdF_3 in pyridine at room te | mperature was reported to be | | | |
| 0.07 mass % | | | | |
| The corresponding molality calculated by the | compiler is | | | |
| 3.5 x 10 | ³ mol kg ⁻¹ | | | |
| The solid phase was dried in a desiccator ove equal almost 1:3. | r P_{40}^{0} and the Nd:F ratio found to | | | |
| | | | | |
| | | | | |
| | | | | |
| METHOD/APPARATUS/PROCEDURE: Isothermal method. About 100 mg NdF ₃ and $10-20 \text{ cm}^3$ 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 HC1. Nd determined several times by complexometric titration with | SOURCE AND PURITY OF MATERIALS: Nd ₂ O ₃ (source and purity not specified) was dissolved in HCl and the fluoride precipi- tated by addition of aq HF. The solid pro- duced 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." | | | |
| potentiometric end-point detection (1). The fluoride content of the basic filtrate was determined photometrically using Al-Eriochrome cyanine color lake (2). | ESTIMATED ERROR: Soly: results with relative errors exceed- ing 50% were rejected. Temp: unknown. | | | |
| The reported solubility is a mean of "numerous parallel determinations," or at least two parallel determinations. | REFERENCES: 1. Schilbach, U.; Kirmse, E.M. Z. Chem. <u>1974</u> , 14, 484. 2. Schilbach, U.; Hetze, I.; Kirmse, E.M. Chemia Analityczna <u>1975</u> , 20, 33. | | | |