COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) Methanol; CH_4O; [67-56-1]	Kirmse, E. M. *Z. Chem.* 1961, *1*, 332-4.
VARIABLES: One temperature: T/K = 298.2	**PREPARED BY:** T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in methanol at 25°C was reported to be

45.5 mass %

The corresponding molality calculated by the compiler is

5.52 mol kg^{-1}

The solid phase was reported to be $ScCl_3.3CH_3OH$ which could be further dehydrated to $ScCl_3.2CH_3OH$ (see discussion below).

COMMENTS AND/OR ADDITIONAL DATA:

Since in the saturated solution there are almost 6 moles of solvent per mole of salt, the author suggests that $ScCl_3$ has a coordination number of 6.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 10-15 cm^3 alcohol and $ScCl_3$ placed in glass stoppered bottles and mechanically rotated at 200 rpm in a thermostat for 14-15 days. After allowing the equilibrated slns to settle for 3 days, aliquots were removed for analyses. Sc determined gravimetrically by evaporation of solvent followed by ignition to Sc_2O_3. Identical results obtained by centrifuging the equilibrated slns prior to analyses.

Solid phase composition determined by analysis of wet residues. Samples dried in vacuum (11 ± 1 mm Hg) over P_2O_5 at 18 ± 1°C and weighed every 24 hours until the mass was constant. Sc and Cl analysed gravimetrically as Sc_2O_3 and AgCl. It is not clear if elemental C and H analyses were also carried out. After 28 days of drying, the solid phase composition was found to be $ScCl_3.3CH_3OH$. Additional drying in a desiccator or in a dry box yielded a solid phase of composition $ScCl_3.2CH_3OH$.

SOURCE AND PURITY OF MATERIALS:

Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900-1000°C (1). Source and purity of Sc_2O_3 not specified.

Methanol was purified by fractional distillation from $CaSO_4.0.5H_2O$.

ESTIMATED ERROR:

Soly: nothing specified.

Temp: precision ± 0.2 K.

REFERENCES:

1. Petru, F.; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Comm.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) Ethanol; C_2H_6O; [64-17-5]	Kirmse, E. M. *Z. Chem.* 1961, *1*, 332-4.
VARIABLES:	**PREPARED BY:**
One temperature: T/K = 298.2	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in ethanol at 25°C was reported as follows:

	aliquot 1 soly/mass %	aliquot 2 soly/mass %
first analyses	37.5	37.3
second analyses	37.0	37.4

The mean solubility is 37.3 mass %, and the corresponding (mean) molality calculated by the compiler is 3.93 mol kg^{-1}.

The solid phase was reported to be $ScCl_3.3CH_3CH_2OH$ which could be further dehydrated to $ScCl_3.2CH_3CH_2OH$.

COMMENTS AND/OR ADDITIONAL DATA:

Since in the saturated solution there are almost 6 moles of solvent per mole of salt, the author suggests that $ScCl_3$ has a coordination number of 6.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 10-15 cm^3 alcohol and $ScCl_3$ placed in glass stoppered bottles and mechanically rotated at 200 rpm in a thermostat for 14-15 days. After allowing the equilibrated slns to settle for 3 days, aliquots were removed for analyses. Sc determined gravimetrically by evaporation of solvent followed by ignition to Sc_2O_3. Identical results obtained by centrifuging the equilibrated slns prior to analyses.

Solid phase composition determined by analysis of wet residues. Samples dried in vacuum (11 ± 1 mm Hg) over P_2O_5 at 18 ± 1°C and weighed every 24 hours until the mass was constant. Sc and Cl analysed gravimetrically as Sc_2O_3 and AgCl. It is not clear if elemental C and H analyses were also carried out. After 57 days of drying, the solid phase composition was found to be $ScCl_3 3CH_3CH_2OH$. Additional drying in a desiccator or in a dry box yielded a solid phase of composition $ScCl_3.2CH_3CH_2OH$.

SOURCE AND PURITY OF MATERIALS:

Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900-1000°C (1). Source and purity of Sc_2O_3 not specified.

Ethanol was dried with metallic sodium and distilled.

ESTIMATED ERROR:

Soly: std deviation about 0.2 mass % (compiler).

Temp: precision ± 0.2 K.

REFERENCES:

1. Petru, F.; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Commn.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 1-Propanol; C_3H_8O; [71-23-8]	Kirmse, E. M. *Z. Chem.* 1961, *1*, 332-4.
VARIABLES:	PREPARED BY:
One temperature: T/K = 298.2	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in 1-propanol at 25°C was reported as follows

	Run 1	Run 2	
	aliquot 1	aliquot 1	aliquot 2
	soly/mass %	soly/mass %	soly/mass %
first analyses	26.1	25.7	26.3
second analyses	26.2	26.1	---
third analyses	26.1	---	---

The mean solubility is 26.1 mass %, and the corresponding (mean) molality calculated by the compiler is 2.33 mol kg^{-1}.

The solid phase was reported to be $ScCl_3.4C_3H_7OH$ which could be further dehydrated to $ScCl_3.2C_3H_7OH$.

COMMENTS AND/OR ADDITIONAL DATA:

Since in the saturated solution there are almost 6 moles of solvent per mole of salt, the author suggests that $ScCl_3$ has a coordination number of 6.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 10-15 cm^3 alcohol and $ScCl_3$ placed in glass stoppered bottles and mechanically rotated at 200 rpm in a thermostat for 14-15 days. After allowing the equilibrated slns to settle for 3 days, aliquots were removed for analyses. Sc determined gravimetrically by evaporation of solvent followed by ignition to Sc_2O_3. Identical results obtained by centrifuging the equilibrated slns prior to analyses.

Solid phase composition determined by analysis of wet residues. Samples dried in vacuum (11 ± 1 mm Hg) over P_2O_5 at 18 ± 1°C and weighed every 24 hours until the mass was constant. Sc and Cl analysed gravimetrically as Sc_2O_3 and AgCl. It is not clear if elemental C and H analyses were also carried out. After 28 days of drying, the solid phase composition was found to be $ScCl_3.4C_3H_7OH$. Additional drying in a desiccator or in a dry box yielded a solid phase of composition $ScCl_3.2C_3H_7OH$.

SOURCE AND PURITY OF MATERIALS:

Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900-1000°C (1). Source and purity of Sc_2O_3 not specified.

1-Propanol was dried with freshly prepared CaO and distilled.

ESTIMATED ERROR:

Soly: std deviation 0.2 mass % (compiler).

Temp: precision ± 0.2 K.

REFERENCES:

1. Petru, F.; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Commun.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 1-Butanol; $C_4H_{10}O$; [71-36-3]	Kirmse, E. M. *Z. Chem.* 1961, *1*, 332-4.
VARIABLES:	**PREPARED BY:**
One temperature: T/K = 298.2	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in 1-butanol at 25°C was reported as follows:

	Run 1	Run 2	
	aliquot 1	aliquot 1	aliquot 2
	soly/mass %	soly/mass %	soly/mass %
first analyses	27.9	23.6	23.7
second analyses	27.7	23.7	---
third analyses	27.8	---	---

The mean solubility is 25.2 mass %, and the corresponding (mean) molality calculated by the compiler is 2.23 mol kg^{-1}.

The solid phase was reported to be $ScCl_3.3C_4H_9OH$ which could be further dehydrated to $ScCl_3.2C_4H_9OH$.

COMMENTS AND/OR ADDITIONAL DATA:

Since in the saturated solution there are almost 6 moles of solvent per mole of salt, the author suggests that $ScCl_3$ has a coordination number of 6.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 10-15 cm^3 alcohol and $ScCl_3$ placed in glass stoppered bottles and mechanically rotated at 200 rpm in a thermostat for 14-15 days. After allowing the equilibrated slns to settle for 3 days, aliquots were removed for analyses. Sc determined gravimetrically by evaporation of solvent followed by ignition to Sc_2O_3. Identical results obtained by centrifuging the equilibrated slns prior to analyses.

Solid phase composition determined by analysis of wet residues. Samples dried in vacuum (11 ± 1 mm Hg) over P_2O_5 at 18 ± 1°C and weighed every 24 hours until the mass was constant. Sc and Cl analysed gravimetrically as Sc_2O_3 and AgCl. It is not clear if elemental C and H analyses were also carried out. After 29 days of drying, the solid phase composition was found to be $ScCl_3.3C_4H_9OH$. Additional drying in a desiccator or in a dry box yielded a solid phase of composition $ScCl_3.2C_4H_9OH$.

SOURCE AND PURITY OF MATERIALS:

Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900-1000°C (1). Source and purity of Sc_2O_3 not specified.

1-Butanol was purified by fractional distillation.

ESTIMATED ERROR:

Soly: std deviation about 2.2 mass % (compiler).

Temp: precision ± 0.2 K.

REFERENCES:

1. Petru, F.; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Commun.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 1-Pentanol; $C_5H_{12}O$; [71-41-0]	Kirmse, E. M. *Z. Chem.* 1961, *1*, 332-4.
VARIABLES:	**PREPARED BY:**
One temperature: T/K = 298.2	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in 1-pentanol at 25°C was reported as follows:

	aliquot 1	aliquot 2
	soly/mass %	soly/mass %
first analyses	23.9	23.7
second analyses	23.7	23.6
third analyses	---	23.5

The mean solubility is 23.7 mass %, and the corresponding (mean) molality calculated by the compiler is 2.05 mol kg^{-1}.

The solid phase was reported to be $ScCl_3.4C_5H_{11}OH$ which could be further dehydrated $ScCl_3.2C_5H_{11}OH$.

COMMENTS AND/OR ADDITIONAL DATA:

Since in the saturated solution there are almost 6 moles of solvent per mole of salt the author suggests that $ScCl_3$ has a coordination number of 6.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 10-15 cm^3 alcohol and $ScCl_3$ placed in glass stoppered bottles and mechanically rotated at 200 rpm in a thermostat for 14-15 days. After allowing the equilibrated slns to settle for 3 days, aliquots were removed for analyses. Sc determined gravimetrically by evaporation of solvent followed by ignition to Sc_2O_3. Identical results obtained by centrifuging the equilibrated slns prior to analyses.

Solid phase composition determined by analysis of wet residues. Samples dried in vacuum (11 ± 1 mm Hg) over P_2O_5 at 18 ± 1°C and weighed every 24 hours until the mass was constant. Sc and Cl analysed gravimetrically as Sc_2O_3 and AgCl. It is not clear if elemental C and H analyses were also carried out. After 57 days of drying, the solid phase composition was found to be $ScCl_3.4C_5H_{11}OH$. Additional drying in a desiccator or in a dry box yielded a solid phase of composition $ScCl_3.2C_5H_{11}OH$.

SOURCE AND PURITY OF MATERIALS:

Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900-1000°C (1). Source and purity of Sc_2O_3 not specified.

1-Pentanol was purified by fractional distillation.

ESTIMATED ERROR:

Soly: std deviation about 0.15 mass % (compiler).

Temp: precision ± 0.2 K.

REFERENCES:

1. Petru, F.; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Commun.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 1-Hexanol; $C_6H_{14}O$; [111-27-3]	Kirmse, E. M. *Z. Chem.* 1961, *1*, 332-4.
VARIABLES: One temperature: T/K = 298.2	**PREPARED BY:** T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in 1-hexanol at 25°C was reported as follows:

	aliquot 1 soly/mass %	aliquot 2 soly/mass %
first analyses	22.0	22.2
second analyses	21.4	21.1
third analyses	---	21.1

The mean solubility is 21.5 mass %, and the corresponding (mean) molality calculated by the compiler is 1.81 mol kg^{-1}.

The solid phase was reported to be $ScCl_3.3C_6H_{13}OH$ which could be further dehydrated to $ScCl_3.2C_6H_{13}OH$.

COMMENTS AND/OR ADDITIONAL DATA:

Since in the saturated solution there are almost 6 moles of solvent per mole of salt, the author suggests that $ScCl_3$ has a coordination number of 6.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 10-15 cm^3 alcohol and $ScCl_3$ placed in glass stoppered bottles and mechanically rotated at 200 rpm in a thermostat for 14-15 days. After allowing the equilibrated slns to settle for 3 days, aliquots were removed for analyses. Sc determined gravimetrically by evaporation of solvent followed by ignition to Sc_2O_3. Identical results obtained by centrifuging the equilibrated slns prior to analyses.

Solid phase composition determined by analysis of wet residues. Samples dried in vacuum (11 ± 1 mm Hg) over P_2O_5 at 18 ± 1°C and weighed every 24 hours until the mass was constant. Sc and Cl analysed gravimetrically as Sc_2O_3 and AgCl. It is not clear if elemental C and H analyses were also carried out. After 57 days of drying, the solid phase composition was found to be $ScCl_3.3C_6H_{13}OH$. Additional drying in a desiccator or in a dry box yielded a solid phase of composition $ScCl_3.2C_6H_{13}OH$.

SOURCE AND PURITY OF MATERIALS:

Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900-1000°C (1). Source and purity of Sc_2O_3 not specified.

1-Hexanol was purified by fractional distillation.

ESTIMATED ERROR:

Soly: std deviation about 0.5 mass % (compiler).

Temp: precision ± 0.2 K.

REFERENCES:

1. Petru, F.; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Commun.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 1-Heptanol; $C_7H_{16}O$; [111-70-6]	Kirmse, E. M. *Z. Chem.* 1961, *1*, 332-4.
VARIABLES: One temperature: T/K = 298.2	**PREPARED BY:** T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in 1-heptanol at 25°C was reported as follows:

	aliquot 1	aliquot 2
	soly/mass %	soly/mass %
first analyses	19.2	19.4
second analyses	19.1	19.7

The mean solubility is 19.3 mass %, and the corresponding (mean) molality calculated by the compiler is 1.58 mol kg^{-1}.

The solid phase was reported to be $ScCl_3.4C_7H_{15}OH$ which could be further dehydrated to $ScCl_3.3C_7H_{15}OH$.

COMMENTS AND/OR ADDITIONAL DATA:

Since in the saturated solution there are almost 6 moles of solvent per mole of salt, the author suggests that $ScCl_3$ has a coordination number of 6.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 10-15 cm^3 alcohol and $ScCl_3$ placed in glass stoppered bottles and mechanically rotated at 200 rpm in a thermostat for 14-15 days. After allowing the equilibrated slns to settle for 3 days, aliquots were removed for analyses. Sc determined gravimetrically by evaporation of solvent followed by ignition to Sc_2O_3. Identical results obtained by centrifuging the equilibrated slns prior to analyses.

Solid phase composition determined by analysis of wet residues. Samples dried in vacuum (11 ± 1 mm Hg) over P_2O_5 at 18 ± 1°C and weighed every 24 hours until the mass was constant. Sc and Cl analysed gravimetrically as Sc_2O_3 and AgCl. It is not clear if elemental C and H analyses were also carried out. After 59 days of drying, the solid phase composition was found to be $ScCl_3.4C_7H_{15}OH$. Additional drying in a desiccator or in a dry box yielded a solid phase of composition $ScCl_3.3C_7H_{15}OH$.

SOURCE AND PURITY OF MATERIALS:

Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900-1000°C (1). Source and purity of Sc_2O_3 not specified.

1-Heptanol was purified by fractional distillation.

ESTIMATED ERROR:

Soly: std deviation about 0.3 mass % (compiler).

Temp: precision ± 0.2 K.

REFERENCES:

1. Petru, F.; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Commun.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 1-Octanol; $C_8H_{18}O$; [111-87-5]	Kirmse, E. M. *Z. Chem.* 1961, *1*, 332-4.
VARIABLES:	**PREPARED BY:**
One temperature: T/K = 298.2	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in 1-octanol at 25°C was reported as follows:

	aliquot 1	aliquot 2
	soly/mass %	soly/mass %
first analyses	16.9	16.9
second analyses	17.0	17.0

The mean solubility is 16.9 mass %, and the corresponding (mean) molality calculated by the compiler is 1.34 mol kg^{-1}.

The solid phase was reported to be $ScCl_3.4C_8H_{17}OH$ which could be further dehydrated to $ScCl_3.3C_8H_{17}OH$.

COMMENTS AND/OR ADDITIONAL DATA:

Since in the saturated solution there are almost 6 moles of solvent per mole of salt, the author suggests that $ScCl_3$ has a coordination number of 6.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 10-15 cm^3 alcohol and $ScCl_3$ placed in glass stoppered bottles and mechanically rotated at 200 rpm in a thermostat for 14-15 days. After allowing the equilibrated slns to settle for 3 days, aliquots were removed for analyses. Sc determined gravimetrically by evaporation of solvent followed by ignition to Sc_2O_3. Identical results obtained by centrifuging the equilibrated slns prior to analyses.

Solid phase composition determined by analysis of wet residues. Samples dried in vacuum (11 ± 1 mm Hg) over P_2O_5 at 18 ± 1°C and weighed every 24 hours until the mass was constant. Sc and Cl analysed gravimetrically as Sc_2O_3 and AgCl. It is not clear if elemental C and H analyses were also carried out. After 114 days of drying the solid phase composition was found to be $ScCl_3.4C_8H_{17}OH$. Additional drying in a desiccator or in a dry box yielded a solid phase of composition $ScCl_3.3C_8H_{17}OH$.

SOURCE AND PURITY OF MATERIALS:

Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900-1000°C (1). Source and purity of Sc_2O_3 not specified.

1-Octanol was purified by fractional distillation.

ESTIMATED ERROR:

Soly: std deviation about 0.1 mass % (compiler).

Temp: precision ± 0.2 K.

REFERENCES:

1. Petru, F.; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Commun.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 1-Nonanol; $C_9H_{20}O$; [143-08-8]	Kirmse, E. M. *Z. Chem.* 1961, *1*, 332-4.
VARIABLES: One temperature: T/K = 298.2	**PREPARED BY:** T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in 1-nonanol at 25°C was reported as follows:

first analyses	13.6 mass %
second analyses	13.4 mass %

The mean solubility is 13.5 mass %, and the corresponding (mean) molality calculated by the compiler is 1.03 mol kg^{-1}.

The solid phase was reported to be $ScCl_3.3C_9H_{19}OH$.

COMMENTS AND/OR ADDITIONAL DATA:

Since in the saturated solution there are almost 6 moles of solvent per mole of salt, the author suggests that $ScCl_3$ has a coordination number of 6.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Isothermal method. About 10-15 cm^3 alcohol and $ScCl_3$ place in glass stoppered bottles and mechanically rotated at 200 rpm in a thermostat for 14-15 days. After allowing the equilibrated slns to settle for 3 days, aliquots were removed for analyses. Sc determined gravimetrically by evaporation of solvent followed by ignition to Sc_2O_3. Identical results obtained by centrifuging the equilibrated slns prior to analyses.

Solid phase composition determined by analysis of wet residues. Samples dried in vacuum (11 ± 1 mm Hg) over P_2O_5 at 18 ± 1°C and weighed every 24 hours until the mass was constant. Sc and Cl analysed gravimetrically as Sc_2O_3 and AgCl. It is not clear if elemental C and H analyses were also carried out. After 146 days of drying the solid phase composition was found to be $ScCl_3.3C_9H_{19}OH$. Additional drying in a desiccator or in a dry box did not change the composition of this solvate.

SOURCE AND PURITY OF MATERIALS:

Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900-1000°C (1). Source and purity of Sc_2O_3 not specified.

1-Nonanol was purified by fractional distillation.

ESTIMATED ERROR:

Soly: std deviation about 0.1 mass % (compiler).

Temp: precision ± 0.2 K.

REFERENCES:

1. Petru, F.; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Commun.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 2-Ethoxyethanol; $C_4H_{10}O_2$; [110-80-5]	Kirmse, E. M. *Tr. II Vses. Konf. po Teor. Rastvorov* 1971, 200-6.
VARIABLES:	PREPARED BY:
One temperature: T/K = 298	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in $C_2H_5OCH_2CH_2OH$ at 25°C was reported to be

26.3 mass %

The corresponding molality calculated by the compiler is

2.36 mol kg^{-1}

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Nothing specified. On the basis of previous papers by the author, it appears that reaction mixtures were equilibrated for several days and that Sc was determined by complexometric titration using xylenol orange indicator.	Nothing specified. Presumably, the anhydrous chloride was 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) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 1,2-Diethoxyethane; $C_6H_{14}O_2$; [629-14-]]	Kirmse, E. M.; Zwietasch, K. J. *Z. Chem.* 1967, *7*, 281.
VARIABLES: One temperature: T/K = 298	PREPARED BY: T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in $C_2H_5OCH_2CH_2OC_2H_5$ at 25°C was reported to be

1.22 mass %

The corresponding molatity calculated by the compiler is

0.0816 mol kg^{-1}

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:
Isothermal method employed. The reaction mixtures were equilibrated in a dry atmosphere with frequent shaking. The solid phase was dried in a vacuum desiccator over P_2O_5. Sc was determined by complexometric titration using xylenol orange indicator. Cl^- determined by the Volhard titration method. In the solid phase the Sc:Cl:ether ratio was found to be 1:3.00:1.13.

SOURCE AND PURITY OF MATERIALS:

Sources and purities of materials not given. The anhydrous chloride was prepared by the method of Taylor and Carter (1).

The solvent was prepared by the Williamson synthesis: i.e. by reaction of C_2H_5I with the monoethylether of ethylene glycol.

ESTIMATED ERROR:
Nothing specified.

REFERENCES:

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

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) 1-Methoxybutane (butyl methyl ether); $C_5H_{12}O$; [628-28-4]	Kirmse, E.M.; Dressler, H. *Z. Chem.* 1975, *15*, 239-40.
VARIABLES:	PREPARED BY:
Room Temperature : T/K = 293-298	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in $CH_3(CH_2)_3OCH_3$ at 20-25°C was reported to be

6.5 mass %.

The corresponding molality calculated by the compiler is

0.46 mol kg^{-1}.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
The solute-solvent mixtures were isothermally agitated (at room temperature) until equilibrium was attained. The anhydrous reagents were handled in a dry box containing P_4O_{10}. Sc was determined by complexometric titration using Xylenol Orange indicator.	Nothing specified.
	ESTIMATED ERROR: Nothing specified.
	REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) Tetrahydrofuran; C_4H_8O; [109-99-9]	Finke, A.; Kirmse, E. M. Z. Chem. 1965, 5, 193-4.
VARIABLES:	PREPARED BY:
One temperature: T/K = 298	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in tetrahydrofuran at 25°C was reported to be

1.0 mass %

The corresponding molality calculated by the compiler is

0.067 mol kg^{-1}

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Nothing specified. The compiler assumes that the method was similar to that described in ref (1).
The equilibrated solid phase was dried at reduced pressure and it was found to be $ScCl_3.2THF$ with $ScCl_3.3THF$ and $ScCl_3.2.5THF$ being intermediate products of drying.
IR spectra of the solution and the dry addition products are discussed. They indicate the formation of coordinate bonds of $ScCl_3$ with oxygen of THF.

SOURCE AND PURITY OF MATERIALS:

Nothing specified except that anhydrous components were used.

ESTIMATED ERROR:

Nothing specified.

REFERENCES:

1. Kirmse, E. M.
Z. Chem. 1961, 1, 332.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) Ethyl acetate; $C_4H_8O_2$; [141-78-6]	Finke, A.; Kirmse, E. M. *Z. Chem.* 1965, 5, 193-4.
VARIABLES:	PREPARED BY:
One temperature: T/K = 298	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in ethyl acetate at 25°C was reported to be

39.2 mass %

The corresponding molality calculated by the compiler is

4.26 mol kg^{-1}

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Not specified. The compiler assumes that the method was similar to that described in ref (1).
The equilibrated solid phase was dried at reduced pressure and it was found to be $ScCl_3.2S$ (S = ethyl acetate). IR spectra of the solution and the dry addition product are discussed. The spectra indicate the formation of coordinate bonds of $ScCl_3$ with oxygen of ethyl acetate.

SOURCE AND PURITY OF MATERIALS:

Nothing specified except that anhydrous components were used.

ESTIMATED ERROR:

Nothing specified.

REFERENCES:

1. Kirmse, E. M.
Z. Chem. 1961, *1*, 332.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) Amines	Kirmse, E.M. *Z. Chem.* 1961, *1*, 334-7
VARIABLES:	**PREPARED BY:**
One temperature: T/K = 298.2	Mark Salomon

EXPERIMENTAL VALUES:

solvent		solubility[a] mass %	solubility[a] mol kg^{-1}	solid phase Sc:amine ratio
diethylamine;	$C_4H_{11}N$; [109-89-7]	0.034	$2.2_5 \times 10^{-3}$	1:3
dipentylamine;	$C_{10}H_{23}N$; [2050-92-2]	0.157	1.04×10^{-2}	1:1
triethylamine;	$C_6H_{15}N$; [121-44-8]	0.012	7.93×10^{-4}	1:3
tri-n-octylamine;	$C_{24}H_{51}N$; [1116-76-3]	0.004	2.64×10^{-4}	---

[a] Molalities calculated by the compiler.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:
Isothermal method. $ScCl_3$ and amine placed in glass stoppered bottles (sealed with glycerine) and rotated in a thermostat at 25 ± 0.2°C for 20 days. Scandium was determined gravimetrically as Sc_2O_3.

Samples of the solid phases were dried in vacuum (10 mm Hg) over P_2O_5 to constant weight. Scandium was determined gravimetrically as Sc_2O_3 and chloride determined gravimetrically as AgCl. The nitrogen, carbon and hydrogen contents were determined by "usual microanalytical methods."

SOURCE AND PURITY OF MATERIALS:
Anhydrous $ScCl_3$ prepared by heating Sc_2O_3 and activated charcoal in a stream of chlorine at 900 - 1000°C (1). Source and purity of Sc_2O_3 not specified.

Comercially available amines were fractionated several times.

ESTIMATED ERROR:
Soly: nothing specified.

Temp: precision ± 0.2 K.

REFERENCES:
1. Petru, F; Hajek, B.; Prochazka, V.; Vit, J. *Collect. Czech. Chem. Comm.* 1957, *22*, 1534.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) Amines	Kirmse, E.M. *Tr. II Vses. Konf. po Teor. Rastvorov* 1971, 200-6.
VARIABLES: T/K = 298	**PREPARED BY:** T. Mioduski and M. Salomon

EXPERIMENTAL VALUES:

solvent	$ScCl_3$ solubility[a] mass %	mol kg^{-1}
2-butanamine; $C_4H_{11}N$; [13952-84-6]	3.2	0.218
di-isobutylamine; $C_8H_{19}N$; [110-96-3]	0.1	0.0066

[a]Molalities calculated by the compilers.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

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

Nature of the solid phases not specified.

SOURCE AND PURITY OF MATERIALS:

Nothing specified. Presumably the anhydrous chloride was 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) Scandium chloride; $ScCl_3$; [10361-84-9] (2) Dimethylformamide; C_3H_7NO; [68-12-2]	Finke, A.; Kirmse, E. M. *Z. Chem.* 1965, 5, 193-4.
VARIABLES:	PREPARED BY:
One temperature: T/K = 298	T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in $HCON(CH_3)_2$ at 25°C was reported to be

5.5 mass %

The corresponding molality calculated by the compiler is

0.385 mol kg^{-1}

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Not specified. The compiler assumes that the method is similar to that described in ref (1). The equilibrated solid phase was dried under reduced pressure and it was found to be $ScCl_3.2.5S$ (S = dimethylformamide). IR spectra of the saturated solution and of the equilibrated solid phase were studied. They indicate the formation of coordinate bonds of $ScCl_3$ with oxygen of C_3H_7NO.	Nothing specified except that anhydrous components were used.
	ESTIMATED ERROR:
	Nothing specified.
	REFERENCES:
	1. Kirmse, E. M. *Z. Chem.* 1961, *1*, 332.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Scandium chloride; $ScCl_3$; [10361-84-9] (2) Acetonitrile; C_2H_3N; [75-05-8]	Finke, A.; Kirmse, E. M. *Z. Chem.* 1965, *5*, 193-4.
VARIABLES: One temperature: T/K = 298	PREPARED BY: T. Mioduski

EXPERIMENTAL VALUES:

The solubility of $ScCl_3$ in acetonitrile at 25°C was reported to be

3.7 mass %

The corresponding molality calculated by the compiler is

0.254 mol kg^{-1}

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:
Not specified. The compiler assumes that the method was similar to that described in ref (1). The equilibrated solid phase was dried at reduced pressure and it was found to be unstable. No new IR bands found for the solution studied.

SOURCE AND PURITY OF MATERIALS:
Nothing specified except that anhydrous components were used.

ESTIMATED ERROR:
Nothing specified.

REFERENCES:
1. Kirmse, E. M.
Z. Chem. 1961, *1*, 332.