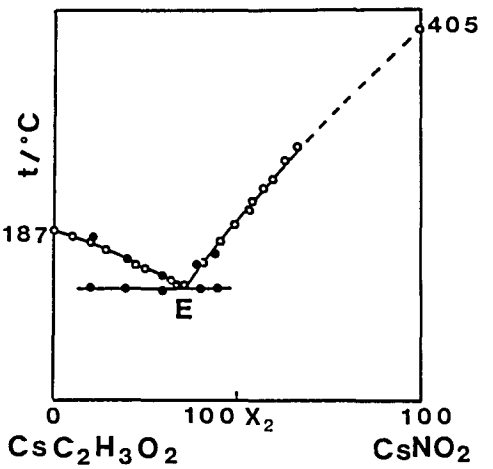
COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Cesium ethanoate (cesium acetate); $CsC_2H_3O_2$; [3396-11-0] (2) Cesium nitrite; $CsNO_2$; [13454-83-6]	Diogenov, G.G.; Morgen, L.T. **Nekotorye Vopr. Khimii Rasplavlen. Solei i Produktov Destruktsii Sapropelitov, Irkutsk, 1974**, 32-34.
VARIABLES: Temperature.	PREPARED BY: Baldini, P.

EXPERIMENTAL VALUES:



The results are reported only in graphical form (see figure).

Characteristic point(s):
Eutectic, E, at 125 °C and $100x_2$= 36 (authors).

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Visual polythermal analysis; temperatures measured with a Chromel-Alumel thermocouple and a 15 mV millivoltmeter. Supplementary measurements (filled circles in the figure) were performed by thermographical analysis.

NOTE:

Concerning component 1, the value of the fusion temperature by Diogenov and Morgen (460 K) is not far from that (463±1 K) listed in Preface, Table 1. For the same component, Nurminskii and Diogenov reported previously (Ref. 1) a solid state transition at 447 K whose existence, however, was not confirmed by any subsequent investigator (Ref. 2).

ESTIMATED ERROR:

Temperature: accuracy probably ±2 K (compiler).

SOURCE AND PURITY OF MATERIALS:

Not stated.
Component 1: $t_{fus}(1)/°C$= 187 (Fig. 1 of the original paper).
Component 2: $t_{fus}(2)/°C$= 405 (Fig. 1).

REFERENCES:

(1) Nurminskii, N.N.; Diogenov, G.G. **Zh. Neorg. Khim.** 1960, 5, 2084-2087; **Russ. J. Inorg. Chem. (Engl. Transl.)** 1960, 5, 1011-1013.
(2) Sanesi, M.; Cingolani, A.; Tonelli, P.L.; Franzosini, P. **Thermal Properties, in Thermodynamic and Transport Properties of Organic Salts**, IUPAC Chemical Data Series No. 28 (Franzosini, P.; Sanesi, M.; Editors), Pergamon Press, Oxford, 1980, 29-115.

COMPONENTS:	EVALUATOR:
(1) Cesium ethanoate (cesium acetate); $CsC_2H_3O_2$; [3396-11-0] (2) Cesium nitrate; $CsNO_3$; [7789-18-6]	Schiraldi, A. Dipartimento di Chimica fisica, Universita' di Pavia (ITALY)

CRITICAL EVALUATION:

This binary was studied with visual polythermal analysis by Nurminskii and Diogenov (as a side of the reciprocal ternary Cs, $K/C_2H_3O_2$, NO_3; Ref. 1), and by Gimel'shtein and Diogenov (as a side of the reciprocal ternary Cs, $Na/C_2H_3O_2$, NO_3; Ref. 2), with a substantially similar conclusion: the system is of the eutectic type, the invariant being at either 415 K (142 °C; Ref. 1), or 429 K (156 °C; Ref. 2), and $100x_2$= 25 (Refs. 1,2).

In Ref. 1 the authors claim also the existence of a phase transition of component 1 at 447 K (174 °C) whose existence, however, was neither mentioned in Ref. 2, nor confirmed by other investigators (Ref. 3).

The fusion temperature of component 1 reported in both papers, i.e., 455 K (182 °C) represents the third lowest value among those listed in Ref. 3, which range between 453 and 467 K. It seems then likely that some impurity (possibly water) was present in the material used by Diogenov et al.

In the evaluator's opinion, there is no reason to reject the assertion made in Refs. 1 and 2, that the diagram is of the eutectic type: however, due to the possibly inadequate purity of component 1, and to the large discrepancy in the eutectic temperature, a re-investigation of the system would be highly desirable.

REFERENCES:

(1) Nurminskii, N.N.; Diogenov, G.G.
Zh. Neorg. Khim. 1960, 5, 2084-2087; **Russ. J. Inorg. Chem. (Engl. Transl.)** 1960, 5, 1011-1013(*).

(2) Gimel'shtein, V.G.; Diogenov, G.G.
Tr. Irkutsk. Politekh. Inst., Ser. Khim., 1966, 27, 69-75.

(3) Sanesi, M.; Cingolani, A.; Tonelli, P.L.; Franzosini, P.
Thermal Properties, in **Thermodynamic and Transport Properties of Organic Salts**, IUPAC Chemical Data Series No. 28 (Franzosini, P.; Sanesi, M.; Editors), Pergamon Press, Oxford, 1980, 29-115.

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Cesium ethanoate (cesium acetate); $CsC_2H_3O_2$; [3396-11-0] **(2) Cesium nitrate;** $CsNO_3$; [7789-18-6]	Gimel'shtein, V.G.; Diogenov, G.G. **Tr. Irkutsk. Politekh. Inst., Ser. Khim.**, 1966, 27, 69-75.
VARIABLES:	PREPARED BY:
Temperature.	Baldini, P.

EXPERIMENTAL VALUES:

Characteristic point(s): Eutectic, E, at 156 °C and $100x_2$= 25 (authors).

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Visual polythermal analysis. Temperatures measured with a Chromel-Alumel thermocouple and a 17 mV millivoltmeter.	Not stated. Component 1: $t_{fus}(1)/°C$= 182 (Fig. 2 of the original paper). Component 2: $t_{fus}(2)/°C$= 407 (Fig. 2).
ESTIMATED ERROR:	REFERENCES:
Temperature: accuracy probably ±2 K (compiler).	

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Cesium ethanoate (cesium acetate); $CsC_2H_3O_2$; [3396-11-0] (2) Cesium nitrate; $CsNO_3$; [7789-18-6]	Nurminskii, N.N.; Diogenov, G.G. Zh. Neorg. Khim. 1960, 5, 2084-2087; Russ. J. Inorg. Chem. (Engl. Transl.) 1960, 5, 1011-1013 (*).
VARIABLES: Temperature.	PREPARED BY: Baldini, P.

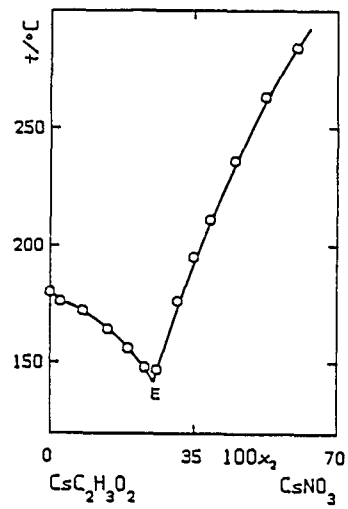
EXPERIMENTAL VALUES:

t/°C	T/K[a]	$100x_2$
180	453	0
176	449	2.5
172	445	8.0
164	437	14.0
156	429	19.0
148	421	23.0
147	420	26.0
176	449	31.0
195	468	35.0
211	484	39.0
236	509	45.0
263	536	52.5
284	557	60.0

[a] T/K values calculated by the compiler.

Characteristic point(s):

Eutectic, E, at 142 °C and $100x_2$= 25 (authors).



AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
Visual polythermal analysis. Temperatures measured with a Chromel-Alumel thermocouple and a 17 mV millivoltmeter.	Not stated. Component 1 undergoes a phase transition at $t_{trs}(1)/°C$= 174 and melts at $t_{fus}(1)/°C$ = 182 (Fig. 1 of the original paper), or 180 (table). Component 2 undergoes a phase transition at $t_{trs}(2)/°C$= 392 and melts at $t_{fus}(2)/°C$ = 407 (Fig. 1).
	ESTIMATED ERROR: Temperature: accuracy probably ±2 K (compiler).
	REFERENCES: