

retain its water of crystallisation under these conditions, though a slow loss in weight continues, probably due to the giving up of two molecules of water of crystallisation by the manganous chloride mechanically mixed with the salt. The presence of this manganous chloride accounts for the lack of agreement between the percentage composition found and that calculated. As manganous chloride retains one molecule of water at 110° , the analysis of the salt could not be expected to give figures adding up quite to 100 per cent.

The method used for the determination of the potassium and manganese was as follows: The manganese was precipitated as carbonate by means of ammonium carbonate and then burned to manganous-manganic oxide, while the filtrate was evaporated and the potassium weighed as chloride, after subliming off the ammonium chloride. The same method was used in the case of the rubidium and caesium salts. Here it has the great advantage of giving the alkali metal back again in the desired form. The precipitation of manganese by ammonium carbonate was found to be almost absolutely complete. Where the filtrate containing the alkali chloride was evaporated in glass vessels, a blank experiment, performed under similar conditions, gave the amount of glass dissolved, which was then deducted.

0.4562 gram salt gave 0.1479 gram Mn_2O_3 (23.35 per cent. Mn), and 0.1415 gram KCl (16.27 per cent. K).

0.2969 gram salt gave 0.5388 gram AgCl (44.88 per cent. Cl).

0.2517 gram salt lost at 105° – 110° 0.0381 gram H_2O = 15.14 per cent. H_2O .

	Calculated.		Found.
K	39.03	16.55	16.27
3Cl	106.11	44.99	44.88
Mn	54.8	23.23	23.35
2H ₂ O	35.92	15.23	15.14
	<hr/> 235.86	<hr/> 100.00	<hr/> 99.64

The salt has therefore the formula $\text{KMnCl}_3 \cdot 2\text{H}_2\text{O}$. It has not been previously described. All efforts to obtain a salt containing a larger proportion of potassium chloride failed. No iodide or fluoride of manganese and potassium was obtained, nor was a bromide obtained by itself, though the substance described below may be regarded as containing a simple double bromide.