On sulphocyanuret and bisulphuret of ethyle

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come over at about 270° F. ; the temperature at which the last portion comes over may amount to 280° F.

The preparation of this product is difficult on account of the bumping of the liquid, which sometimes comes over. It must be heated slowly, and the retort should be ten times larger than required to contain the liquid.

Sulphocyanuret of methyle, after it has been purified by digestion over chloride of calcium and rectification, has the following properties : it is a colourless and very limpid liquid ; it has an alliaceous odour ; its vapour is unpleasant and it stupefies ; it boils steadily at about 270° F. Its density is 1·115 at about 61° F. Water dissolves a very small portion, but it nevertheless acquires its odour ; it combines with alcohol and æther in all proportions.

In diffused light chlorine acts very slowly upon it, producing fine crystals of chloride of cyanogen ; and at the same time there is formed a large quantity of a heavy yellow oil, which solidifies when in contact with ammonia.

Potash scarcely acts upon it in the cold. A solution when heated decomposes it, and there are formed ammonia and bisulphuret of methyle ; the residue contains cyanuret of potassium and carbonate of potash.

Solution of ammonia alters it readily, giving rise to a brown substance analogous to ulmine, and a small quantity of a crystallized white matter. Heated in an alcoholic solution, the sulphocyanuret of methyle is decomposed ; there are produced bisulphuret of methyle and sulphocyanuret of potassium, easily recognised by the persalts of iron. Moderately concentrated nitric acid dissolves it when heated, but it separates entirely on cooling.

By analysis it appears to consist of—

C ^s	300·0	or in 100	32·87
H ⁶	37·5	..	4·11
N ²	177·0	..	19·18
S ²	400·0	..	43·84
	<u>914·5</u>		<u>100·00</u>

The mean of two experiments gave 2·559 as the density of its vapour ; whereas, supposing its molecule to yield four volumes of vapour, calculation would give 2·537.—*Ann. de Ch. et de Ph.*, Novembre 1846.

ON SULPHOCYANURET AND BISULPHURET OF ETHYLE.

BY M. AUGUSTE CAHOURS.

Sulphocyanuret of Ethyle.—By distilling a mixture of sulphovinate of lime and persulphuret of potassium, both solutions being concentrated, a yellowish liquid is obtained, which after washing with water, digesting on chloride of calcium, and cautious rectification, becomes a colourless and very limpid liquid, the odour of which resembles that of sulphocyanuret of methyle. Its density is 1·020 at about 61° F. It is insoluble in water, but alcohol and æther dissolve it in

all proportions. It acts similarly to sulphocyanuret of methyle upon reagents.

Chlorine and bromine act energetically on the sulphur compounds of methyle and of ethyle. With bromine perfectly well-crystallized combinations are obtained.

By analysis this substance appears to be composed of—

C ¹²	450.0, or in 100 parts	41.38
H ¹⁰	62.5	5.74
N ²	177.0	16.09
S ²	400.0	36.79
	1089.5	100.00

By experiment the density of the vapour of this substance was found to be 3.018, while calculation would lead to 3.032, supposing the molecule represented four volumes of vapour.

Bisulphuret and Tersulphuret of Ethyle.—The former was obtained in considerable quantity by distilling a mixture of sulphovinate of lime and persulphuret of potassium; but towards the end of the rectification of the rough product there came over a yellowish and slightly volatile liquid, which gave by analysis results which tended to show that it was to be considered as a tersulphuret of ethyle.

M. Cahours analysed the bisulphuret of ethyle, and his results agreed precisely with those previously obtained by M. P. Morin, C⁸ H¹⁰ S². The density of its vapour was found by experiment to be 4.270, and by calculation 4.240, on the supposition that the molecule of this compound furnishes two volumes of vapour.

Chlorine vividly acts upon the two compounds above described; moderately concentrated nitric acid does the same, a portion of the sulphur being converted into sulphuric acid: there is also produced an acid susceptible of forming soluble and crystallizable salts with potash, barytes, and oxide of lead.—*Ann. de Ch. et de Phys.*, Novembre 1846.

ANALYSIS OF THE WHITE DIOPSIDE.

M. Hermann found this substance from Achmatowsk to consist of—

Silica	53.97
Lime	25.60
Magnesia.....	17.86
Protoxide of iron.....	2.00
Protoxide of manganese ..	0.57
	100.00

This analysis corresponds to the formula Si⁴ M⁴ O⁶: [Si⁴ (Ca² Mg²) O⁶].—*Journ. de Pharm. et de Ch.*, Novembre 1846.

ANALYSES OF THE NATIVE PHOSPHATES OF COPPER.

BY M. HERMANN.

The phosphates of copper do not occur more extensively anywhere than in the mines of Nischnotaglisk in the Uralian Moun-