

Ceryl alcohol, having the same percentage composition, has been obtained from flax,¹ wool,² cocoa leaves,³ etc.,^{4, 5} but with different properties. The dimyristyl carbinol obtained from alfalfa is insoluble in water, almost wholly insoluble in cold alcohol, acetone, methyl alcohol and petroleum ether, but dissolves more or less readily when these solvents are heated. It is fairly soluble in cold chloroform and very soluble in cold amyl alcohol. The solubilities of the ketone and its carbinol do not differ greatly. When one attempts to grind the ketone in a mortar, the particles become strongly electrified and fly out, making a ring of white powder on the table surrounding the mortar.

From the foregoing discussion it would appear that myristone is found combined with another substance or substances in the plant structure of alfalfa which can be extracted with hot 95 per cent. alcohol and isolated by weak nitric acid. Work is now in progress on various other substances obtained from alfalfa.

RENO, NEVADA.

NOTE.

An Improved Extractor.—Soon after beginning my alfalfa investigations it became apparent that the ordinary forms of extractor to be had on the market were inadequate for this work.

The alfalfa, being ground to a fine meal or powder, interfered with the siphoning arrangement in the Yocum extractor, which was then the most serviceable, and a new form had to be devised. The results are embodied in this note.

A glass tube 4 feet long and having an internal diameter of $2\frac{1}{2}$ inches was drawn out at one end to a diameter of $1\frac{1}{4}$ inches, the beginning of the constriction being about three inches from the end, thus making a space of about 2 inches having a uniform diameter of $1\frac{1}{4}$ inches, and upon which a large rubber stopper is fitted, which in turn is fitted into the mouth of the distilling flask as shown in the figure. Another glass tube $3\frac{1}{2}$ feet long having an internal diameter of 2 inches is ground at one end to fit into the small glass adapter also represented in the figure. The other end is flared and serrated so that it will just go into the large tube. The glass adapter is conical in shape, having an opening of only $\frac{1}{4}$ inch at the lower end and provided with three glass beads fused to the outside walls, which serve to support the adapter and inside tube by engaging the constriction of the outside tube, and still leaving space

¹ *J. Chem. Soc.*, 57, 198.

² *Ber.*, 29, 2895.

³ *Ann.*, 271, 224.

⁴ *Ber.*, 11, 2113.

⁵ *Z. physiol. Chem.*, 22, 409.

for the passage of the vapors of the solvent. A perforated porcelain disk placed inside the adapter serves to support the alfalfa meal, which is contained in the inside tube.

After the inside tube and adapter have been filled with the substance to be extracted, they are inserted in the outside tube while in a horizontal position and then connected with the distilling flask and clamped. Into the upper end of the outside tube is fitted a bulbed reflux condenser. When the solvent is brought to boiling on the water bath, the vapors pass up between the walls of the two glass tubes, and after being condensed drop on the material in the inside tube, saturating it, and are then returned to the distilling flask from the lower end of the adapter.

The special advantages of this form of extractor or percolator are: The large capacity coupled with its simplicity and cheapness of construction, the convenience of emptying and refilling, together with the fact that the material is extracted at practically the temperature of the vapor of the solvent. Only one liter of solvent is required to extract more than two liters of material. When used in extracting fine alfalfa meal with alcohol, four or five hours are required before the extraction is complete.

The extractor has been in almost daily use for over a year, with entire satisfaction. If the outside glass tube is clamped too tightly it may break when the hot vapors come in contact with it. This difficulty is obviated by using a copper tube of the same dimensions. It was found advantageous to surround the outside tube with a strip of felt cloth in order to conserve the heat during extraction.

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RENO, NEVADA.

NEW BOOKS.

Chemistry, an Elementary Textbook. By WILLIAM CONGER MORGAN AND JAMES A. LYMAN. The MacMillan Co., New York. Pp. xiv + 429. Price, \$1.25 net.

The ideal of the authors of this book is that "the student should never be allowed to get the idea that chemistry is a science that dwells inside of laboratories and acts chiefly in beakers and test-tubes. He should be conscious continually of its presence about him on every hand, in nature, in the home, and in the whirring world of industry." They "have tried to bring out the *humanistic* side of the science." In following these ideals the mistake has not been made of presenting chemistry as a descriptive science only. Much pains is taken to give in a clear and forcible manner the underlying theories and principles of our science. Rather more attention is given to reversible reactions and questions of equilibrium than is customary in an elementary textbook.

On p. 16 the authors follow a number of other authors in designating exothermic reactions as "spontaneous" and endothermic reactions as