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## Use of Copper to Increase the Yield of Ethyl Bromide

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## USE OF COPPER TO INCREASE THE YIELD OF ETHYL BROMIDE

PHILIP HENDRIXSON

It has been discovered that the addition of copper punchings to small quantities of the reaction mixture of 95 per cent ethyl alcohol, sulfuric acid, water, and sodium bromide increases the yield of ethyl bromide from 57 per cent obtained without the copper to 80 per cent.

The copper reacts with the sulfuric acid producing sulfur dioxide which reduces any bromine formed back to bromide ion and thus prevents a loss of bromine and, of course, increases the yield. The presence of copper as a reducing agent prevents formation of free bromine.

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## THE AVAILABILITY OF TRYPTOPHANE DERIVATIVES FOR SUPPLEMENTING DIETS DEFICIENT IN TRYPTOPHANE

CLARENCE P. BERG AND H. EVERETT HANSON

The utilization of tryptophane for growth in the rat can be effectively prevented by benzylation, but not by acetylation or by esterification with ethyl alcohol.

For the purpose of extending these observations, the phenylacetyl, phenylpropionyl, and propionyl derivatives of tryptophane, as well as the phenyl and benzyl ester hydrochlorides, were prepared and fed as supplements in a diet deficient in tryptophane. Of these derivatives, only phenylacetyltryptophane failed to produce growth. Presumably all of the others undergo enzymatic cleavage and hence can be utilized as well as free tryptophane for purposes of growth.

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