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Catalysts and Activated Magnesium in the Preparation of Grignard Reagents

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Glacial acetic acid	Amyl alcohol
Ethyl Acetoacetate	Iodine
Hydrochloric acid	Nitrobenzene

Those showing a deflection of less than one scale division are

75% acetic acid	Formic acid
Amylene	Bromine
Carbon tetrachloride	Mono brom benzene
Phenyl Chloride	Methyl Acetate

Those showing no deflection are

Benzene	Water
Methyl Alcohol	Ethyl Alcohol
Ammonia	Benzaldehyde
Toluene	Ethyl Bromide
Chloroform	Air

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CATALYSTS AND ACTIVATED MAGNESIUM IN THE PREPARATION OF GRIGNARD REAGENTS

HENRY GILMAN AND J. MERRIAM PETERSON

(*ABSTRACT*)

Many RX compounds enter sluggishly into reaction with magnesium in the preparation of organomagnesium halides. Furthermore, it is actually impossible to form RMgX compounds from some RX compounds. Accordingly, a study is in progress on catalysts and activated magnesium in order to extend the preparation of Grignard reagents. The results so far obtained show that when an alloy containing 12 $\frac{3}{4}$ % copper and the remainder magnesium is heated in an evacuated tube at 200° for one hour with about one-half its weight of iodine, the activated alloy thus obtained is superior to that described by Baeyer and used so extensively at present.

It has been used in a study of the polarity of polyhalogen compounds and the yields of di-p-bromomagnesium benzene obtained from p-dibromobenzene are in excess of those obtained by the use of any activated magnesium hitherto obtained.

The same principle is being successfully employed in the study

of organometallic compounds of beryllium, calcium, strontium and barium.

IOWA STATE COLLEGE,
AMES, IOWA.

THE UTILIZATION OF COB CHAR AS A CARBURIZING
AGENT

H. L. MAXWELL

(*ABSTRACT*)

It is shown that the char resulting from the distillation of corn cobs in the manufacture of furfural, may be substituted for the more expensive bone char now being used in the carburizing process. The distribution of the tri-ferro carbide, Fe_3C , in the carburized zone may be closely governed by time and temperature variations.

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THE PHOSGENO-ALUMINATES OF LITHIUM, MAGNESIUM, POTASSIUM, AND LEAD. MOLECULAR ASSOCIATION IN PHOSGENE SOLUTIONS

D. M. BIROSEL

(*ABSTRACT*)

The work of Germann and his students has definitely established that Phosgene is a Mother Solvent for a system of acids, bases, and salts. The acids are capable of reacting with metals and bases of this system to form salts. By neutralizing phosgenoaluminic acid with the anhydrous halides of Lithium, Magnesium, Potassium and Lead, their respective salts are obtained. The Potassium and Lead salts are difficult to work with because they form crusts at the end of the Faraday tubes. Lithium and Magnesium form $LiAlCl_4$ and $Mg_2Al_5Cl_{19}$, respectively. By a study of the pressure-concentration curves, these salts have been shown to be associated. Fourteen molecules of the sodium salt, twelve