

THE BRITISH COAL UTILISATION RESEARCH ASSOCIATION

Information Circular No. 42

Technical Applications of Mixtures and  
Products Prepared from Coal and Amine Solvents

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SUMMARY

This Circular summarises briefly a number of applications (which have been tried out in the laboratory) for solutions of coal in solvents, solid coal extracts, and coal-solvent mixtures. These materials can be employed as temporary and/or permanent binders in the manufacture of carbon bodies, refractories, highly porous refractory bricks, fuel briquettes, carbon blocks and reactive chars. A description of the techniques employed is prefaced by a general description of the extraction of coal with specific solvents, of which monoethanolamine is one of the most suitable for industrial applications.

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(1) Introduction

In 1946 B.C.U.R.A. discovered a new and powerful group of solvents for coal - principally primary aliphatic amines and diamines - which opened several fresh approaches to the study and utilisation of coal. Out of this have arisen three main lines of development:

- (a) The use of ethylene diamine as a means of assessing the nature and properties of coal, described in Information Circulars Nos. 14, 31 and 40.
- (b) The immediate development of industrially useful products and intermediates based upon the products of extraction.
- (c) A long term programme aimed at the production of chemical substances by direct reaction of the coal substance in solution.

The present report describes progress made towards the second objective.

It is important to make a clear distinction between the various forms in which extraction products may be used. For many purposes it