

The mechanism in the poisoning of anion-exchange resins by cobalt cyanide* by C. A. FLEMING and R. D. HANCOCK

Discussion of the above paper

by D. R. ARNOLD†

This paper is the result of an excellent piece of work performed as a service to hydrometallurgy in general and to the South African uranium industry in particular, and the authors are to be congratulated.

Mention is made in the paper of the poisoning of samples of so-called 'heavy' or high-density ion-exchange resins, along with 'conventional' resins containing comparable functional groups.

The high-density resins mentioned in this paper, namely BRS 76, WBR 1, and WBR 6, are laboratory samples produced under Sentrachem sponsorship by the National Institute for Metallurgy. These resins, of which only a few hundred grams of each were synthesized, have been discarded as viable commercial resins. They have been superseded by high-density Senbrix resins, which result from completely different manufacturing techniques and starting materials.

I wish to make it quite clear, therefore, that the properties assigned to laboratory samples BRS 76, WBR 1, and WBR 6 do not necessarily reflect the behaviour of current samples of Senbrix high-density resins being offered for exhaustive testing by Klipfontein Organic Products Corporation Limited. No evidence has been published that current Senbrix resins (designated ES 137 and SB 1220) are poisoned by cobalt to a greater or lesser degree than other commercially available resins. On the contrary, the performance of these resins under conditions of silica fouling (another polymerization-fouling mechanism) has been shown to be better than all commercially available conventional resins.

I hope therefore that the properties regarding cobalt poisoning of high-density resins inferred by Fleming and Hancock, however unintentional, have now been somewhat clarified.

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Authors' reply

Dr Arnold is correct in saying that the present Senbrix resins, which are based on the experimental heavy resins first developed at the National Institute for Metallurgy (NIM), need not necessarily show the same poor performance with respect to cobalt poisoning as the NIM prototypes. The current state of technology with respect to matrix synthesis and silica poisoning allows for modifi-

cations to be made to the matrix so as to minimize such poisoning, as in the development of the Senbrix resins. The similar polymerization mechanism associated with both silica and cobalt poisoning suggests, as pointed out by Dr Arnold, that cobalt-poisoning problems need not be regarded as inextricably associated with any particular type of resin.

Oceanology International

The next OI World Conference is to be held in Brighton, England, from 2nd to 7th March, 1980. The programme will concern technical advances in the offshore oil and gas industries, and is expected to include 140 papers from 20 countries.

The topics to be discussed include petroleum engineering, drilling, production, offshore structures, seabed pipelines, diving, submersibles, communications, and support craft. Special sessions will be held on alterna-

tive energy sources and pollution, navigation, oceanography, hydrography, and marine mining.

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Further information is available from the organizers, BPS Exhibitions Ltd, 18 Marine Parade, Brighton BN2 1TL, Sussex, England.