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USA

Your ref	Our ref	Tel ext	Date
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Dear Mr Seawell

PVC DUST

Thank you for the copy of your minutes of the meeting my colleagues and I attended on 28 November. We did enjoy our discussion with your VC Research Coordinators group and thank you for your friendly reception and hospitality.

Dr Adams had hoped to write to you concerning your PVC dust minute but regrettably he had to go off to Germany for a few days and he asked me to write and give you his views.

Getting to grips with this rather complex IOM study without previous immersion in it poses a number of problems for a secretary. I congratulate you on your write-up. Dr Adams, like myself, wonders whether a page of your notes has gone missing at the end of 4.0. You dealt in some detail with the "breathlessness" findings to which little importance is attached because the information is derived from a somewhat subjective examination by questionnaire. However you did not deal at all with the most important finding viz the effect of PVC dust on "lung function". While we in ICI are sceptical about the radiological findings, we accept fully the "lung function" results. Dr Adams did describe the lung function work in the following terms:

"FEV1 and FVC were inversely related to the index of PVC dust exposure. Dust effect was studied after standardization for age, height and weight by multiple regression. This demonstrated a small but significant dust effect on FEV and they were also able to demonstrate that the dust effect was most marked in cigarette smokers and not apparent in non-smokers. The magnitude of loss in FEV1 was small. After taking into account the effects of age, height and weight, the overall regression with dust index was - 0.0040 litres per dust index unit. This was equivalent to a loss of 52 ml of FEV1 for the mean dust index. An illustration of this would be equivalent to a loss for all men of 5.2 ml of FEV1 per year during exposure to the mean of the dust index over a period of 10 years. In cigarette smokers considered separately, this loss was 8.9 ml of FEV1 per year.

These figures may be compared with the mean losses in the group due to age or smoking. The mean loss due to age is 35 ml and loss due to smoking 20 cigarettes a day, 6.2 ml a year.

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FVC - This also showed a significant inverse relationship to dust index among currently exposed men.

Gas Transfer - No significant changes were noted in this test."

I realise you do revert to "lung function" in summary form at the end of 4.1 but you had not previously dealt with it at length whereas you do give an exhaustive report on the less significant breathlessness results. I hope the above comments will be helpful to you when you come to discuss confirmation of the minutes at your next meeting.

One small point which always amuses us. We are described as "IMPERICAL". More often IMPERIAL turns out as EMPIRICAL! Perhaps we are empirical and pragmatic in our approach and it does show through!! The word "imperial" is not popular these days and leads to many a psychological block and Freudian slip. (By the way in 6.0, the company name is VINATEX).

We hope you are well and look forward to meeting you again in the not too distant future.

With best wishes.

Yours sincerely



J Stafford
Division Manager
Health & Environment Protection

Cool reception for Carter's \$13 billion gasohol programme

PRESIDENT Carter's announcement of a plan to commit \$8.5-12.8 billion to the gasoline programme over the next ten years has been coolly received by the industry. Carter's intention to increase fermentation ethanol capacity sixfold to 2 billion litre/year by next year is seen as over optimistic and unrealistic, despite the fact that it is less ambitious than suggestions being made by government officials recently (see last week's *ECN*).

The gasoline programme contains a number of incentives, most of which were already known or suspected. The major new proposal is for making \$300m. year available for loans and loan guarantees for small and medium-sized ethanol and biomass projects over the next ten years. These plants are expected to be sited largely on farms and will generally produce less than 110m. litre year ethanol. The Energy Security Corp. will also make available a total of \$1 billion over the next ten years for the construction of fermentation ethanol plants. This is intended to encourage private investment in projects using feedstocks other than corn and with "significant potential to reduce imports."

The other incentives included in the programme are largely tax waivers and credits, most of which are already incorporated in the Senate's version of the windfall profits tax bill intended to reduce the profits made by the oil majors. The existing federal tax exemption on gasohol, for example, will be extended to the year 2000. This amounts to 1 cent/litre on gasohol, equivalent to 10 cent/litre on ethanol. The full exemption will be available to anyone who uses ethanol directly as a fuel, without blending with gasoline; an exemption largely aimed at farmers. Many states have also waived taxes on gasohol, amounting to a further subsidy of 2.5-22 cent/litre.

The crude oil entitlements programme has been revised to include ethanol produced from biomass. This will provide an incentive of around 1.3 cent litre until September 30, 1981 when the programme will be phased out, along with the crude oil price controls. This is probably intended to encourage manufacturers to start production as soon as possible in order to benefit from the subsidy.

A 10 per cent investment tax credit is available for plant equipment for ethanol production under the 1978 Energy Tax act, under which all gases and liquids produced from biomass receive a subsidy. An additional ten per cent credit is also available for alcohol production under another

All federal agencies have been told by the administration to promote the use of ethanol in their vehicle fleets whenever possible. It is hoped that by the end of 1981

gasohol will account for ten per cent of all US unleaded gasoline sales. Encouragement is to be given to "off-highway" consumers, such as farmers, to use pure alcohol as fuel. Money has also been earmarked to finance research into improved methods of alcohol production from biomass and to research alternative raw materials, such as municipal waste.

The production of corn and other feedstocks for ethanol production is to become "an important part" of the agricultural policy, and grain reserve targets, commodity price supports and similar policies are likely to be extended to cover ethanol feedstocks. No special subsidies will be introduced, however.

The proposals have been under consideration for 18 months, according to the Department of Energy, and their release is unconnected with the large supplies of corn now available in the US following the embargo on exports to the USSR. It is unlikely, in any case, that new demand for corn feedstocks for ethanol production will increase significantly this year. The corn could, however, be stored to help with the massive increase expected when new plants come on stream; an option some industry spokesmen expect the government to take.

Most of the major companies involved or interested in ethanol production for gasohol are doubtful about the success of the programme. Even with the subsidies, the economics of gasohol production are marginal when compared with gasoline.

Cost of gasoline programme	
-\$ billion	
1. Fuel tax increase	1.45
2. Reimbursing for input programme	1.00
3. Gasoline tax credit for motorists	1.00
4. Gasoline tax credit for trucks	1.00
5. Gasoline tax credit for boats	0.01
6. Gasoline tax credit for aircraft	0.02
Total	5.48

meanwhile . . .

Brazil also recently announced an expansion to its alcohol programme and now aims to produce 14 billion litre/year ethanol by 1986 and 16 billion litre/year by 1987 from sugar cane. The earlier target was 10.7 billion litre/year by 1985. The new programme has been described by one official as difficult but obtainable. The major problem facing the government is not the necessary increase in industrial capacity but the need to increase sugar cane production. Sugar production is to be maintained at present levels, with ethanol being made from surplus cane.

All government cars and taxis in Brasilia will shortly be running on 100 per cent ethanol and individuals are now running their cars on a variety of fuels ranging from orange peel essence to coal oil.

Casco reduces formaldehyde residues in board

FORMALDEHYDE residues in particle board can be reduced by 40-50 per cent using a new process developed by KemaNobel division AB Casco. A specially-treated wax solution is applied to the particles before the adhesive is added, reducing the amount of free formaldehyde and water proofing the board simultaneously.

Tests have been carried out on the new Swedish process, for which a patent is pending, at a number of factories. Casco claims that the process is environmentally safe, complying with all emission limits, including those recently introduced in Denmark which are currently the strictest in Europe.

Goodyear looks at butadiene-from-ethanol

GOODYEAR Tyre and Rubber is looking at the possibility of using ethanol to produce butadiene in an effort to reduce the oil requirement of the US tyre industry.

The research being carried out by the company is based on existing technology for converting ethanol to butadiene and for producing ethanol from agricultural feedstocks, according to a spokesman. The main priority is making the process more efficient.

In brief

□ The EEC Commission is to investigate the toxicity of the insecticide toxaphene (chlorinated camphene). Already banned in Belgium, Denmark, Italy, Luxembourg and the Netherlands, the product's use is strictly limited in the other member states, where it is used on rape and leguminous fodder crops, lawns and forestry plantations. The EEC investigation follows proposals from the US EPA to ban the product because of its suggested carcinogenicity. Residues of toxaphene on food crops are already limited under existing EEC legislation.

□ Carcinogenic and other toxic effects of vinyl chloride monomer and PVC are to be re-examined by the US Occupational Safety and Health Administration. Such action is appropriate, says the agency, because of the new information which has been obtained.

2) Half of the workers at Dow's Magnolia, Ark., plant who were found to be sterile after exposure to the pesticide DBCP (dibromochloropropane) now have sperm counts in the "fertile range". Tests carried out in 1977 showed that 24 per cent (29 men) of those exposed to the product had become sterile, while another 46 per cent had reduced sperm counts.

The Netherlands' government has made a formal application to the EEC asking for The Hague to be considered as a possible site for the European Patent Office.