UK sets up waste materials exchange

A UNITED Kingdom waste materials exchange is to be established by the UK Department of Industry. The service will be operated initially for two years by the Warren Spring Laboratory at Stevenage and will be free to participants.

The exchange, which has been set up following representations by a group of industrial environmental specialists on behalf of UK chemical companies, is expected to make a marked contribution to the conservation of resources and the prevention of pollution, according to the Department.

It should also help to reduce the costs of achieving acceptable disposal under the provisions of the Deposit of Poisonous Waste Act 1972 and the Control of Pollution Act 1974, the Department added.

Similar exchanges have been set up by West Germany, and Scandinavia at the instigation of Sweden, but little has been heard so far on how these have worked out in practice.

The UK exchange will be concerned with waste materials originating from manufacturing processes in general but excluding wastes from domestic sources and those scrap metals, second-hand equipment and other materials for which adequate commercial markets already exist. These could, for example, be referred to the National Industrial Materials Recovery Association, the Department of Industry noted.

Commercial confidentiality will be maintained throughout the operation of the exchange. A registry will be kept of the notification of waste and of materials required and a quarterly bulletin issued listing materials.

Forms for notifying waste arisings and requirements will be included with each copy. Inquiries for a particular material will then be forwarded on a confidential basis to the company originating the waste so that they can make their own commercial arrangements for disposing of it.

Companies disposing of material with the help of the exchange will be asked to inform the registry to help monitor performance.

Direct invitations to participate will be sent to some 25 000-30 000 organizations to assist with compiling an initial list of people wishing to receive the bulletin and to contribute materials for inclusion.

These will be addressed to the head office in the case of large organizations and these are being asked to ensure circulation to the individual production units within the large groups.

After this initial approach, firms that have not been contacted directly and who wish to participate will be asked to contact the exchange directly.

Daicel develops synthetic fatty amines

DAICEL of Osaka, Japan, has developed the first synthetic route to fatty amines to the commercial stage, according to Japanese reports. The company has already started experimental synthetic fatty amine production and expects to reach a production level of 5 000 ton/year in the near future.

Fatty amines, which are used in widely different fields such as textile processing aids and emulsifiers, are normally produced entirely from synthetic materials such as tallow and palm oil. These materials show the typical price cycles of natural products, and Daicel has high hopes that its new process will help to remove Japan's total dependence on imported raw materials in the fatty amines sector.

The process involves the use of Daicel's epoxidation technology which it uses to produce glycerine from propylene using peracetic acid. In an analogous reaction, in the fatty amines process, alpha olefines are epoxidized to alpha olefine oxides, which are reacted with ethylamine or a similar amine to give fatty amine.

Daicel states that the process is more simple to operate than the process based on the natural products and that it does not involve the use of chlorine or caustic soda, which could lead to the formation of pollution-causing by-products.

Bayer cyclamate licence

YOSHITOMI Pharmaceutical Industries is to provide Bayer with its sodium cyclamate manufacturing know-how, under a technological agreement which was recently signed. Bayer apparently intends to commercialize the artificial sweetener in West Germany, and has reportedly paid $100 000 for the know-how. The deal is raising eyebrows in the pharmaceutical industry as production of sodium cyclamate for sweeteners is prohibited in Japan because of its risks as a cancer-forming agent.

Shintech brings on new PVC plant

SHINTECH, the joint venture between Shin-Etsu Chemical and Robintech, has successfully started up its new 100 000 ton/year PVC facility at Freeport in Texas, USA. The plant, which was started up on schedule in mid-October, is based on Shin-Etsu's new PVC technology (*ECN*, April 27, 1973) and is expected to go into full operation during the course of this month. Official inauguration of the plant is set for December 6, 1974.

Shin-Etsu has licensed its PVC technology to a number of PVC manufacturers around the world, but Shintech is the first company outside Japan to begin production.

Robintech, the largest PVC pipe manufacturer in the USA, operates its *In Kettle Compound* process in its existing PVC plants in which the PVC is directly extruded from the reactors, thereby avoiding the need to periodically open them up.

Shin-Etsu's new technology has enabled the prevention of polymer deposits on reactor walls to be achieved, resulting in complete avoidance of the need for operators to enter the reactors for cleaning purposes. This breakthrough either alone or in combination with Robintech's *IKC* technology means that the plant will be able to meet the new stringent regulations on vinyl chloride levels in PVC plants.

Combined Technology

Shin-Etsu has stated to *ECN* that, although the new Shintech PVC plant has started operations utilizing only Shin-Etsu's technology, Shin-Etsu, in co-operation with the Robintech research and development department, are exploring the application of Robintech's *IKC* process to Shin-Etsu's new PVC technology. It is expected by Shin-Etsu that the combination of the two technologies will be completed in the near future.

Vinyl chloride monomer for the new Shintech PVC plant is being supplied on a 10-year contract by pipeline from the nearby Dow Chemical Oyster Creek plant, according to US reports. It has already been announced that the PVC plant is being expanded by 68 000 ton/year for completion by January, 1976. Robintech itself has 114 000 ton/year of PVC capacity in operation at its Painesville, Ohio, complex.

Shin-Etsu's PVC process is centred round giant reactors of 130m³ capacity and are described by the company as some of the largest in use commercially. Hüls is reported to have developed PVC reactors of 200m³ capacity and brought the first one of this size on stream earlier this year.